

RECLAMATION

Managing Water in the West

Environmental Assessment and Finding of No Significant Impact

Fruitland Irrigation Company Gould Canal Improvement Projects A & B



U.S. Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Western Colorado Area Office
Grand Junction, Colorado

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Mission Statements

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

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

FINDING OF NO SIGNIFICANT IMPACT

United States Department of the Interior
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GOULD CANAL IMPROVEMENT PROJECTS A & B

Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation (Reclamation) has conducted an environmental assessment (EA) for a Proposed Action authorizing the use of Federal funds to implement Fruitland Irrigation Company's (FIC's) Gould Canal Improvement Projects A & B in Delta and Montrose Counties, Colorado. Reclamation is providing the majority of the funding for the projects through the Colorado River Basinwide Salinity Control Program, and is therefore the lead agency for the purposes of compliance with NEPA for the Proposed Action. An EA was prepared to address the potential impacts to the human environment due to implementation of the Proposed Action.

Alternatives

The EA analyzed the No Action Alternative and the Proposed Action Alternative to authorize and fund the implementation of Gould Canal Improvement Projects A & B.

Decision and Finding of No Significant Impact

Based upon a review of the EA and supporting documents, Reclamation has determined that implementing the Proposed Action will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the area. No environmental effects meet the definition of significance in context or intensity as defined at 40 CFR 1508.27. Therefore, an environmental impact statement is not required for this Proposed Action. This finding is based on consideration of the context and intensity as summarized in the EA. Reclamation's decision is to implement the Proposed Action Alternative.

Context

The affected locality is the existing Gould Canal, located on Fruitland Mesa, in southeast Delta County and northeast Montrose County, Colorado. Affected interests include Reclamation, the U.S. Bureau of Land Management (BLM), FIC shareholders, and adjacent landowners. The project does not have national, regional, or state-wide importance.

Intensity

The following discussion is organized around the 10 significance criteria described in 40 CFR 1508.27. These criteria were incorporated into the resource analysis and issues concerned in the EA.

1. **Impacts may be both beneficial and adverse.** The Proposed Action will impact resources as described in the EA. Implementation of the Proposed Action will result in beneficial effects related to reduction of salt and selenium loading in the Colorado River basin.

Best Management Practices (BMPs) and mitigating measures were incorporated into the design of the Proposed Action to reduce impacts. The predicted short-term effects of the Proposed Action include impacts to wildlife and habitat due to noise and habitat disturbance during construction. The predicted long-term effects are adverse effects to irrigation structures as cultural resources eligible for listing in the National Register of Historic Places (NRHP); loss of the canal laterals' artificial wetland and riparian habitat; and water depletions to downstream critical habitat for Colorado River endangered fishes. The long-term effect on cultural resources is being mitigated by the preparation of archival documentation. The long-term loss of artificial wetland and riparian habitat is being mitigated with a habitat replacement project. Water depletions to critical habitat for Colorado River endangered fishes are mitigated by the Upper Colorado River Endangered Fish Recovery Program, as identified in the U.S. Fish and Wildlife Service's (FWS') 2009 *Final Gunnison River Basin Programmatic Biological Opinion* (PBO). To ensure the historic water depletions of the ditch system are covered under the umbrella of the PBO, FIC entered into a Recovery Agreement with the U.S. Fish and Wildlife Service (FWS) (FWS TAILS:06E24100-2019-F-0328). Implementation of the Proposed Action will result in beneficial effects related to the reduction of salt and selenium loading in the Gunnison and Colorado River basins.

As discussed in detail in the EA, none of the environmental effects are considered significant. None of the effects from the Proposed Action, together with other past, current, and reasonably foreseeable actions, rise to a significant cumulative impact.

2. **The degree to which the selected alternative will affect public health or safety or a minority or low-income population.** The Proposed Action will have no significant impacts on public health or safety. No minority or low income populations would be disproportionately affected by the Proposed Action.
3. **Unique characteristics of the geographic area.** There are no unique park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas that would be negatively affected by the Proposed Action.
4. **The degree to which the effects on the quality of the human environment are likely to be highly controversial.** Reclamation contacted representatives of other federal agencies, state and local governments, public and private organizations, and individuals regarding the Proposed Action and its effects on resources. Based on the responses received, the effects of the Proposed Action on the quality of the human environment are not highly controversial.
5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.** There are no predicted effects on the

human environment that are considered highly uncertain or that involve unique or unknown risks.

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.** Implementing the action will not establish a precedent for future actions with significant effects and will not represent a decision in principle about a future consideration.
7. **Whether the action is related to other actions which are individually insignificant but cumulatively significant.** Cumulative impacts are possible when the effects of the Proposed Action are added to other past, present, and reasonably foreseeable future actions as described under related NEPA documents or approved plans; however, significant cumulative effects are not predicted, as described in the EA in Section 3.12.
8. **The degree to which the action may adversely affect sites, districts, buildings, structures, and objects listed in or eligible for listing in the National Register of Historic Places.** The Colorado State Historic Preservation Officer (SHPO) has concurred with a determination of adverse effect to the irrigation structures involved in the Proposed Action. Reclamation has entered into a Memorandum of Agreement with the SHPO and FIC to mitigate the impacts to the affected structures.
9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.** Reclamation consulted with FWS regarding the effects on threatened or endangered species and critical habitat from the Proposed Action (FWS TAILS: 06E24100-2019-F-0328). FWS concurred that the Proposed Action may affect, and is likely to adversely affect, the four endangered Colorado River fishes: Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. The four endangered fishes occur downstream of the Proposed Action Area in the Gunnison and/or Colorado River basins, and they and their designated critical habitat are affected by historic water depletions caused by the consumptive use of water by irrigation systems. Consumptive loss of water in the Gunnison and Colorado River basins due to agricultural irrigation from the FIC system results in an average annual depletion of approximately 8,341 acre-feet from the Gunnison River watershed. Water depletions to critical habitat for Colorado River endangered fishes are mitigated by the Upper Colorado River Endangered Fish Recovery Program, as identified in the U.S. Fish and Wildlife Service's (FWS') 2009 *Final Gunnison River Basin Programmatic Biological Opinion* (PBO). To ensure the historic water depletions of the ditch system are covered under the umbrella of the PBO and comply with the Endangered Species Act, FIC entered into a Recovery Agreement with FWS (FWS TAILS: 06E24100-2019-F-0328). FIC's annual depletion rate is not expected to change as a result of the Proposed Action. Therefore, it is expected that the Proposed Action would not destroy or adversely modify designated critical habitat for the Colorado River endangered fishes. FWS concurred that the Proposed Action may affect but is not likely to adversely affect the Gunnison sage-grouse and its designated habitat. Reclamation consulted with FWS to establish construction timing restrictions and habitat planting

recommendations for the Proposed Action in order to protect Gunnison sage-grouse. The Proposed Action would have no effect to any other threatened or endangered species or critical habitat

10. **Whether the action threatens a violation of federal, state, local, or tribal law, regulation or policy imposed for the protection of the environment.** The Proposed Action does not violate any federal, state, local, or tribal law, regulation, or policy imposed for the protection of the environment. In addition, the Proposed Action is consistent with applicable land management plans, policies, and programs. State, local, and interested members of the public were given the opportunity to participate in the environmental analysis process.

Environmental Commitments

- BMPs shall be implemented, as specified in the EA, to protect water quality and soils; to minimize ground and vegetation disturbance; to protect wildlife resources; and to minimize the spread of weeds (BMPs described in the EA are incorporated herein by reference).
- Required permits, licenses, clearances, and approvals as described in the EA shall be acquired prior to implementation of the Proposed Action.
- If previously undiscovered cultural or paleontological resources are discovered during construction, construction activities must immediately cease in the vicinity of the discovery and Reclamation must be notified. In this event, the SHPO shall be consulted, and work shall not be resumed until consultation has been completed, as outlined in the Unanticipated Discovery Plan in the MOA.
- In the event that uninventoried threatened or endangered species are discovered during construction, construction activities shall halt until consultation is completed with the U.S. Fish and Wildlife Service and protection measures are implemented. Additional surveys shall be required for threatened or endangered species if construction plans or proposed disturbance areas are changed.

Approved by:

Ed Warner
 Ed Warner
 Area Manager, Western Colorado Area Office

9/12/19
 Date

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LIST OF ACRONYMS AND ABBREVIATIONS

a.k.a.	also known as
BLM	U.S. Department of the Interior Bureau of Land Management
BMP	Best Management Practice
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health & Environment
CFR	Code of Federal Regulations
cfs	cubic feet per second
CPW	Colorado Department of Natural Resources Division of Parks & Wildlife
CWA	Clean Water Act
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
ESA	U.S. Endangered Species Act
FIC	Fruitland Irrigation Company
FOA	Funding Opportunity Announcement
FONSI	Finding of No Significant Impact
FWS	U.S. Fish & Wildlife Service
GMU	Game Management Unit
HDPE	High-density polyethylene
HP	High-performance polypropylene
HQS	Habitat Quality Score
HUC	Hydrology Unit Code
iPaC	Environmental Conservation Online System Information for Planning and Conservation
LLC	Limited Liability Company
MBTA	U.S. Migratory Bird Treaty Act
MOA	Memorandum of Agreement
mi	Mile
NAAQS	National Ambient Air Quality Standards
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
OAHP	Colorado Office of Archaeology and Historic Preservation
OHV	Off-highway vehicle
PBF	Physical and biological feature (formerly primary constituent element)
PBO	Programmatic Biological Opinion
PIP	Plastic irrigation pipe
PL	Public Law
PM	Particulate matter
PUP	Pesticide Use Proposal
PVC	Polyvinyl chloride
Reclamation	U.S. Department of the Interior Bureau of Reclamation
RMP	Resource Management Plan
ROW	Right of Way
SHPO	State Historic Preservation Office
SMPW	Selenium Management Program Workgroup

SRMA	Special Recreation Management Area
TAILS	Advanced Tracking and Integrated Logging System
THV	Total Habitat Value
TMDL	Total Maximum Daily Load
UDP	Unanticipated Discovery Plan
UFO	Uncompahgre Field Office
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VRM	Visual Resource Management

1 INTRODUCTION

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) to disclose and evaluate the potential environmental effects of Fruitland Irrigation Company's (FIC's or "Applicant's") proposed Gould Canal Improvement Projects A & B (hereinafter, "Project" or "Proposed Action"). The Proposed Action is located in Montrose and Delta counties, Colorado (Figure 1 [Appendix A]).

Rare Earth Science, LLC prepared this EA on behalf of the U.S. Department of the Interior Bureau of Reclamation (hereinafter "Reclamation"), which is authorized by the Colorado River Basin Salinity Control Act to provide funding assistance for the Proposed Action. Reclamation awarded a financial assistance agreement to FIC for the Project under Funding Opportunity Announcement (FOA) BOR-UC-17-F003 and Funding Agreements R18AC00074 and R18AC00075. Funding assistance for construction costs for the Proposed Action has also been committed by the State of Colorado Water Conservation Board through the Water Supply Reserve Account and a Colorado Water Plan Grant. As the main funding agency, Reclamation is the lead federal agency for the NEPA analysis of the Proposed Action. Ongoing operation and maintenance of the constructed project would be funded through annual FIC water user assessments.

There are two classifications of land affected by the Proposed Action: Federal land and private land. The Federal land is public land administered by the U.S. Bureau of Land Management (BLM).

After a public review period for this EA, Reclamation determined that no further study and a Finding of No Significant Impact (FONSI) for the Proposed Action are warranted, and an Environmental Impact Statement is not required before the Proposed Action can be implemented.

1.1 Background

The threat of salinity loading in the Colorado River basin is a major concern in both the United States and Mexico (Reclamation 2017). Salinity affects water quality, which in turn affects downstream users, by threatening the productivity of crops, degrading wildlife habitat, and corroding residential and municipal plumbing. Irrigated agriculture contributes approximately 37 percent of the salinity in the system (Reclamation 2017). Irrigation increases salinity in the system both by depleting in-stream flows, and by mobilizing salts found in underlying geologic formations into the system, especially during flood irrigation practices.

In June 1974, Congress enacted the Colorado River Basin Salinity Control Act, Public Law 93-320, which directed the Secretary of the Interior to proceed with a program to enhance and protect the quality of water available in the Colorado River for use in the United States and Republic of Mexico. Public Law 104-20 of July 28, 1995, authorizes the Secretary of the Interior, acting through the Bureau of Reclamation, to implement a Basinwide Salinity Control Program. The Secretary may carry out the purposes of this legislation directly, or make grants, enter into contracts, memoranda of agreement, commitments for grants, cooperative agreements, or advances of funds to non-federal entities under such terms and conditions as the Secretary may require. PL 110-246 of June 18, 2008 amended the Salinity Control Act, establishing the Basin

States Program, and authorizing Reclamation to take advantage of new, cost-effective opportunities to control salinity anywhere in the basin.

Both the Basinwide Salinity Control Program and the Basin States Program fund salinity control projects with a one-time grant that is limited to an applicant's competitive bid. Once constructed, the facilities are owned, operated, maintained, and replaced by the applicant at their own expense.

Figure 2 [Appendix A] shows the locations of Program projects completed and/or recently funded in the vicinity of the Proposed Action.

1.2 Purpose & Need for the Proposed Action

The Proposed Action would eliminate ditch seepage loss thereby reducing salinity in the Colorado River basin by an estimated 5,697 tons of salt per year. An additional beneficial effect of the Proposed Action would be the reduction of selenium in the Colorado River basin (SMPW 2011), although the amount of selenium reduction has not been quantified.

The purpose of the Proposed Action is to comply with the Colorado River Basin Salinity Control Act (Reclamation's federal nexus), and to comply with the Federal Land Policy and Management Act of 1976 (BLM's federal nexus). The need for the Proposed Action is to reduce salinity concentrations in the Colorado River basin to address downstream natural resource concerns in the Lower Gunnison Basin and the Colorado River Basin. The Proposed Action will provide benefits for a broad spectrum of downstream water users, as explained in Section 1.1, above.

1.3 Overview of Proposed Action

The Proposed Action is to provide funding to FIC to complete the Gould Canal Improvement Projects A & B. Referred to collectively as "the project" throughout this EA, together Projects A and B would improve a total of approximately 12.4 miles of open, unlined Gould Canal with a combination of buried pipe and concrete (shotcrete) lining. Project A includes piping section 1 of the canal, piping of the upper tunnel, and installing a shotcrete liner on sections 3 and 4 of Gould Canal. Project B includes piping of the lower tunnel and installing a shotcrete liner on canal sections 2 and 5. The Proposed Action would also include activities at a proposed Habitat Replacement Site to mitigate for habitat losses which would result from implementation of the Project.

All components of the Proposed Action would be funded by Reclamation, except for the upper tunnel improvement, which would be funded by the Colorado Water Conservation Board.

The Proposed Action is described in detail in Section 2 and Figure 3 (Appendix A) included with this EA.

1.4 Alternatives Considered but Not Carried Forward

Several alternatives were considered during the conceptual design process for the Project but were not proposed to Reclamation because they were determined to be technically challenging, economically prohibitive, and/or potentially more destructive to existing habitat than the Proposed Alternative.

1.5 Setting & Location of the Proposed Action

The Proposed Action Area lies in the Smith Fork watershed in an area locally known as Fruitland Mesa, about 4 direct miles southwest of the Town of Crawford, and about 18 direct miles northeast of the City of Montrose. Most of the Proposed Action Area lies in northeast Montrose County, and some of the west part of the Proposed Action Area lies in southeast Delta County (Figure 1 [Appendix A]).

The general physical location of the Proposed Action includes, from west to east (Figure 3 [Appendix A]):

- Township 50 North, Range 6 West of the New Mexico Principal Meridian (NMPM), Sections 17 and 18, all in Montrose County: includes a habitat replacement site, access ways, a staging area, and borrow areas (Gould Reservoir area).
- Township 50 North, Range 7 West of the NMPM: Sections 1, 2, 12, and 13, all in Montrose County: includes a portion of the canal to be lined (canal section 1), the two tunnels to be improved (the upper tunnel and the lower tunnel), a portion of the canal to be piped (canal section 1), access ways, and a borrow area.
- Township 51 North, Range 7 West of the NMPM: Sections 19, 20, 27, 28, 30, 29, 34, 35, and 36, with portions lying in Delta County and portions lying in Montrose County: includes portions of the canal to be lined (canal sections 2, 3, 4 and part of section 5), access ways, and staging and borrow areas.
- Township 51 North, Range 8 West of the NMPM: Sections 23 and 24, with portions lying in Delta County and portions lying in Montrose County: includes portions of the canal to be lined (canal section 5) and access ways.

1.6 Relationship to Other Projects

Other salinity control projects in progress or recently implemented in the general vicinity include the following (Figure 2 [Appendix A]):

- Cattleman's Ditches Pipeline Project Phase I & II
- C Ditch Company's C Ditch/Needle Rock Pipeline Project
- Clipper Irrigation Salinity Control Project 4, Zanni Lateral Pipeline Project, and Center Lateral Pipeline Project
- Grandview Canal Piping Project
- Rogers Mesa Water Distribution Association's Slack and Patterson Laterals Piping Project
- Minnesota Canal and Minnesota L75 Lateral Piping Projects
- Lower & Upper Stewart Ditch Pipeline Projects
- Bostwick Park Water Conservation District's Siphon Lateral Salinity Control Project
- Forked Tongue/Holman Ditch Company's Salinity Control Project
- Fire Mountain Canal Piping Project

- North Delta Canal Phase 1 Salinity Control Project
- Uncompahgre Valley Water Users Association (UVWUA) East Side Laterals Piping Project Phase 9

1.7 Scoping, Coordination, & Public Review

Scoping for this EA was completed by Reclamation, in consultation with the following agencies and organizations, during the planning stages of the Proposed Action to identify the potential environmental and human environment issues and concerns associated with implementation of the Proposed Action and No Action Alternative:

- U.S. Bureau of Land Management, Uncompahgre Field Office, Montrose, CO
- Colorado Office of Archaeology and Historic Preservation, Denver, CO
- Colorado Parks & Wildlife, Grand Junction, CO
- U.S. Fish & Wildlife Service, Ecological Services, Grand Junction, CO
- U.S. Army Corps of Engineers, Colorado West Regulatory Branch, Grand Junction, CO
- Colorado Department of Transportation, Grand Junction, CO
- Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)

Concerns raised during similar projects (see Section 1.6) also helped identify potential concerns for the Proposed Action.

The Draft EA was available for public comment for a 30-day period (see Section 5). Public comments received on the Draft EA are summarized in Appendix B. Reclamation provided notice of the availability of the Draft EA to private landowners adjacent to the Proposed Action as well as the organizations and agencies listed in Appendix C.

Resources analyzed in this EA are discussed in Section 3. The following resources were identified as ***not present or not affected***, and are not analyzed further in this EA:

- Indian Trust Assets and Native American Religious Concerns (not applicable). No Indian trust assets have been identified within the Proposed Action Area. No Native American sacred sites are known within the Proposed Action Area. Neither the No Action Alternative, nor the Proposed Action, will have an effect on Indian trust assets or Native American sacred sites. To confirm this finding, Reclamation provided the Ute tribes with historic presence in the region with a description of the Proposed Action and a written request for comments regarding any potential effects on Indian trust assets or Native American sacred sites as a result of the Proposed Action. The Ute Mountain Ute Tribe and the Ute Indian Tribe (Uintah and Ouray Reservation) had no comments, and the Southern Ute Indian Tribe had no concerns regarding the Proposed Action due to the project largely occurring within the footprint of an existing irrigation canal.
- Environmental Justice & Socio-Economic Issues (not applicable). The Proposed Action Area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low-income populations. The Proposed Action would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. Therefore, neither the No Action Alternative, nor the Proposed Action, will have an environmental justice effect.

- Jurisdictional Wetlands and Other Waters of the U.S. (not applicable). The Proposed Action would affect surface and shallow subsurface hydrology supplied to wetland and riparian areas in the Proposed Action Area associated with the canal and canal seepage. Written confirmation from the U.S. Army Corps of Engineers verifies that the Clean Water Act (33 USC 1344) exemption for Farm or Stock Pond or Irrigation Ditch Construction or Maintenance is applicable to the piping and canal lining aspects of the Proposed Action (Appendix D).
- Wild and Scenic Rivers, Land with Wilderness Characteristics, or Wilderness Study Areas (not applicable). No Wild and Scenic Rivers, land with wilderness characteristics, or Wilderness Study Areas exist in the Proposed Action Area.

2 PROPOSED ACTION & ALTERNATIVES

As explained in Section 1.3, the alternatives evaluated in this EA include a No Action Alternative and the Proposed Action. The resource analysis contained within this document, along with other pertinent information, will guide Reclamation's decision about whether or not to fund the Proposed Action for implementation. The Proposed Action is analyzed in comparison to a No Action Alternative in order to determine potential effects.

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not provide funding to FIC for the Gould Canal Improvement Project.

2.2 Proposed Action Alternative

Under the Proposed Action Alternative, Reclamation would authorize funding to FIC to implement the Gould Canal Improvement Project and BLM would acknowledge an historic right-of-way to allow for implementation of the Proposed Action.

The specific location of the Proposed Action Alternative is provided in Section 1.3 and shown on Figure 3 (Appendix A). Table 1 provides a summary of project components broken out by land ownership.

Overall, approximately 12.4 miles of the open, earthen Gould Canal would be replaced with a total of approximately 2.1 miles of buried pipe (including piping through approximately 0.8 miles of existing tunnels) and approximately 10.3 miles of the canal would be lined. A total of 65 irrigation turnouts would be replaced with upgraded structures and fitted with measuring devices. Three turnouts delivering water to the existing Buck Canyon lateral would be consolidated into one turnout delivering water to the Buck Canyon lateral in a new 180-foot-long buried turnout pipeline. A total of 5 staging areas, 5 borrow areas, and approximately 14 miles of access ways have been identified to support the canal improvements. A habitat replacement project would occur on approximately 9 acres owned by FIC adjacent to Gould Reservoir in the southeast end of the Proposed Action Area.¹

¹ In accordance with the Colorado River Basin Salinity Control Act, habitat replacement would be required to mitigate for riparian and wetland habitat lost as a result of the Proposed Action.

BLM would acknowledge an historic right-of-way to allow for implementation of the Proposed Action on the total of approximately 1.1 miles of canal segments and 0.3 mile of access roads

Table 1. Summary of Project Components for the Proposed Action

Component	Total	On BLM	On Private Land	Comment
Existing canal to be piped	1.3 miles	0.3 miles	1.0 miles	Canal section 1
Existing canal tunnels to be improved (piped)	0.8 mile	0 miles	0.8 mile	Upper tunnel, Lower tunnel
Existing canal to be lined	10.3 miles	0.8 miles	9.5 miles	Canal sections 2, 3, 4, 5
Buck Canyon lateral turnout (buried pipe)	0.03 mile	0 miles	0.03 mile	Approximately 180 feet of buried pipe from canal section 3 to the existing Buck Canyon lateral (consolidating 3 existing turnouts)
Staging areas	24 acres	0 acres	24 acres	Total of 5 staging areas, west staging areas could have shotcrete mixing activities
Small borrow areas	4 acres	0 acres	4 acres	Total of 3 small borrow areas (old pond basins)
Borrow areas – Gould Reservoir	93 acres	0 acres	93 acres	Actual borrow area would be up to 2.15 acres within 2 areas on FIC land and other private land within the reservoir basin
Access ways	12.9 miles	0.3 miles	12.6 miles	0 miles of new road on BLM; 0.5 miles of new temporary road on private land
Habitat replacement site	7.2 acres	0 acres	7.2 acres	On FIC land adjacent to Gould Reservoir

which are located on BLM lands. There are no borrow sites, staging areas, or tunnel locations on BLM lands in the Proposed Action Area. For all aspects of the Proposed Action, Best Management Practices (BMPs) would be used to minimize impacts of the project on the human and ecological environments. BMPs and other protective measures are incorporated as part of



Example of pipe installation in an existing canal.



Canal section 1 in Iron Canyon, proposed for piping (view from Gould Reservoir dam).



Gould Canal section 3, proposed for lining.

the Proposed Action, are described and analyzed as part of the Proposed Action in Section 3 (Affected Environment & Environmental Consequences), and are summarized in Section 4 (Environmental Commitments).

The following paragraphs provide descriptions of the various aspects of the Proposed Action. No water storage, pump stations, compressor stations, or new irrigated areas would be associated with the project.

Pipeline Installation

Section 1 of the canal, between the measuring flume at the reservoir and the upper tunnel entrance (Figure 3 [Appendix A]), would be piped in place. This section is approximately 1.3 miles long and includes a total of 540 feet of canal currently lined with concrete. A concrete intake structure with a coarse trash rack would be installed at the inlet to the pipeline. The pipe would be 48-inch diameter gravity-flow HP Storm, DuroMaxx, or another similar pipe. Installation of the pipeline would involve using trackhoes and possibly a bulldozer to grub canal bank vegetation and fill and bed the existing canal. The pipe would be buried either with fill material from within the canal prism, or with fill obtained from one of the proposed borrow sites. An excavator would then trench in the prepared bed to place the pipe, and a trackhoe would position the pipe in the trench. The pipe would be buried and the alignment smoothed with trackhoes (without back-dragging the blade) to match the surrounding land contours and restore drainage patterns.

An approximately 180-foot-long buried pipe of 24 to 30 inches in diameter would be installed as a new turnout for the Buck Canyon lateral on canal section 3, consolidating three existing turnouts and resulting in the



Example of canal preparation for lining.



Example of a lined canal.



Outlet of the Gould Canal lower tunnel and beginning of canal section 2, proposed for lining.



Gould Canal section 5, proposed for lining.

abandonment of 0.7 mile of existing Buck Canyon lateral ditches. The buried pipe installation would be across an irrigated pasture and pinyon-juniper woodlands and installation methods would be the same as those described above.

There is the possibility of encountering large boulders or bedrock in pipe trenches that cannot be moved with excavating equipment. In this case, conventional blasting would be used to break rock into pieces manageable with heavy equipment. Blasting would be performed by a licensed blasting contractor with an approved blasting plan. Blasting would entail drilling a hole or holes in the (below grade) rock, placing a charge and detonator in each drill hole, and detonating the charge. The blasting activity would take place below grade entirely within the pipeline trench. The noise associated with such blasting would resemble a muffled “pop” from a firearm.

Tunnel Improvement

The upper tunnel is approximately 0.3-mile-long and the lower tunnel is approximately 0.5 mile long. Both tunnels would be slip-lined with non-pressurized 42-inch diameter fusion-welded HDPE pipe (or similar) fixed in place using cellular grout. Several existing supports inside the tunnels would first be relocated to allow adequate width for improvements, as well as grading and compaction of the tunnel floor. Pipe sections would be fused outside the tunnel and then pulled through the tunnel in one continuous piece. After the pipe is in place in the tunnel, the annulus space between the tunnel wall and the pipe would be grouted to permanently secure the pipe using grout holes drilled from the ground surface above the tunnels using a small conventional drill rig. Post-construction cleanup would



Gould Canal section 4, proposed for lining.



A private access road proposed for project access.



Proposed staging area south of canal section 5.

include smoothing of an access road along the tunnel alignments, trash pickup, and weed control.

Canal Lining

A canal liner would be installed in canal sections (sections 2, 3, 4, and 5) downstream of the tunnels. First, any existing riprap or sharp rocks would be removed or buried in the canal bed and vegetation would be grubbed from the canal banks and either hauled to a local county landfill or mulched or burned at one of the proposed staging areas. Soft, unstable soils in the canal would be excavated and replaced with borrow material obtained onsite within the canal prism or from one of the proposed borrow areas, in order to shape the canal to design dimensions. After the canal is shaped, it would be compacted using vibratory plates mounted to excavators, to specifications verified by a geotechnical engineer. The next step is to place the synthetic liner system on the prepared grade. The first layer consists of a non-woven geotextile that is intended to protect the impermeable layer (a polyvinyl chloride [PVC] membrane) from damage from any remaining sticks or sharp rocks in the subgrade. The PVC membrane (30 mil) is placed on top of the non-woven geotextile and seams between PVC panels are heat fused together. A final layer of non-woven geotextile is placed on the PVC membrane in order to provide a bonding surface for the shotcrete. A minimum of 3 inches of fiber reinforced shotcrete is then sprayed on top of the liner. After the shotcrete has been applied, the synthetic liner system is horizontally anchored into the canal banks a minimum of 2 feet, and the edges of the liner fabric are buried. There are no irrigation activities or significant water sources upgradient of the canal



A silted-in pond basin (one of several) proposed for borrow material for pipe bedding and canal shaping.



Gould Reservoir basin, selected areas are proposed for borrow material for pipe bedding and canal shaping.



Example of a portable shotcrete batch plant that could be located in a staging area and used for canal lining.

sections slated for lining, and therefore a drainage system under the liner would not be necessary.

Equipment required for the canal lining would be determined during the pre-construction bid process, and is anticipated to include some of the following: trackhoes with 18-inch and 24-inch buckets, an excavator with a 12 or 18-inch bucket, conventional loaders, a skid steer loader, a tamper, a grader, an end dump, haul trucks to transport bedding fill material, a concrete truck, and a pneumatic concrete pump for placing shotcrete. Due to the distance and travel time from local concrete sources, it is likely that the shotcrete would be mixed at one of the proposed staging areas near the canal sections proposed for lining rather than hauled in commercially. On-site shotcrete mixing would be accomplished using a portable batch plant, or a mobile mixer truck. Up to approximately 800 truckloads of shotcrete would be required over the course of the project. Water for mixing the shotcrete would be obtained locally from an irrigation well by agreement with an adjoining landowner and hauled in a water truck to the mixing location. Sand and cement required for shotcrete mixing would be purchased by FIC, hauled to the mixing location by a commercial provider, and stockpiled and/or siloed in a staging area. The portable batch plant or mobile mixer truck would require diesel fuel, which would be stored in bulk in the staging area (with appropriate spill containment). Fuel would be hauled and transferred to bulk storage by a licensed commercial provider.

Post-construction cleanup would include smoothing of the access road alongside the canal, smoothing access

roads as necessary, trash pickup, and weed control.

All 65 irrigation turnouts in the Proposed Action Area occur along the parts of the canal proposed for lining, and all turnout structures would be replaced as part of the Proposed Action. The existing turnout structures are in disrepair and typically consist of a submerged orifice in a concrete structure that discharges into an open channel. Most turnouts do not currently have a flow measurement device and rely on the orifice size to regulate water deliveries. The new turnouts will consist of a precast concrete structure with a control gate and punch-plate screen. A PVC pipe will carry water through the lined canal wall through a flow-measuring device that would discharge to the existing water delivery infrastructure at each turnout. Several existing structures may be combined for efficiency if possible. Nearly all turnouts would require a pipe of 12 inches in diameter or smaller.

Staging and Borrow Activities

Several construction borrow / staging areas have been identified for the Proposed Action (Figure 3 [Appendix A]). All staging activities would take place on previously disturbed ground or agricultural ground on private land, and all borrow activities would take place in old pond basins or in the basin of Gould Reservoir. Staging areas would be used to store pipe and other project supplies and equipment. Pipe arriving at the staging areas would be transported on 50-foot flatbed trucks. Front end loaders with pallet forks would likely be used to handle pipe in the staging areas.

Fill material may be necessary to complete the pipeline installation in canal section 1. Material would not be borrowed from the proposed borrow areas if adequate fill can be generated from within the construction footprint. A screen or crusher bucket may be used in the construction footprint to prepare the fill material. If material is borrowed from one of the proposed borrow sites, it would be transported in a dump truck or tandem dumps loaded with a trackhoe or loader. Approximately 3,000 to 7,000 cubic yards of material could be required to backfill the pipeline in canal section 1. Although material would only be borrowed from a total of approximately 2 acres in Gould Reservoir, a total of 93 acres would receive NEPA clearances in order to provide maximum flexibility for borrow locations for the Proposed Action.

Access

The sections of Gould Canal involved in the Proposed Action are in prescriptive easements on private and BLM lands. On private lands, all landowners in the footprint of the Proposed Action where activities would take place outside the historic prescriptive easement have agreed to allow the activities of the Proposed Action to be conducted on their lands. Access easement agreements would be executed with these landowners. BLM previously issued an historic ROW acknowledgment for Gould Canal and all work on BLM land would be taking place within this historic ROW.

The width of the construction area for the piping portion of the Proposed Action (section 1 and the tunnels) is anticipated to be 60 feet wide. The width of the construction area of the lined portions of the canal would be confined to the existing canal prism (less than approximately 60 feet wide). Construction footprints would be limited to only those necessary to safely implement the Proposed Action.

In the Proposed Action Area, the canal makes two crossings of public roads: Black Canyon Road, a Montrose County gravel road, and Black Sage Road, a maintained Montrose County

road of native material (Figure 3 [Appendix A]). The canal liner would be tied into the existing infrastructure at these road crossings in a manner approved by the Montrose County Public Works Department.

All access ways for construction of the Proposed Action would be on the existing lateral prisms, county roads, or existing private roads (Figure 3 [Appendix A]). Temporary construction access roads would be established along the lower tunnel alignment (0.46 mi) and between the southwest edge of the Gould Reservoir dam to the pipe inlet structure (0.08 mi). These temporary roads would be removed following construction. Some accessways may require minor grading, smoothing, and widening up to 15 feet wide to provide for truck travel to the canal alignment. Accessways and road crossings would be returned to the same or better condition than they were prior to construction. The BLM historic ROW and private land easements for the Proposed Action and their specific locations would be clearly marked on the construction drawings.

Post-Construction Revegetation & Weed Control

Restoration activities would occur on all surface disturbances caused by construction of the Proposed Action. Vegetation slash would be hauled off-site to one of the several identified proposed staging areas and chipped or burned at that location (none of these is on BLM land). Outside of pond basins used for borrow material, all non-irrigated disturbed areas would be seeded with a drought-tolerant seed mix approved by Reclamation and BLM, appropriate for the surrounding native vegetation, and monitored subject to BLM stipulations and agreements between FIC and individual land owners. Where irrigated lands are revegetated, the seed mix would be a weed-free hay mix acceptable to the landowner.

Noxious weeds would be controlled in disturbed areas according to right-of-way stipulations and county standards (Delta County 2010; Montrose County 2011). Woody noxious weeds within the Proposed Action Area would be mechanically removed during construction. After construction, FIC would control herbaceous noxious weeds as necessary for the life of the project through the use of herbicides mixed with surfactants. FIC would coordinate with BLM on the use of herbicides on lands managed by the BLM, and would obtain Pesticide Use Proposals (PUPs) prior to treatments.

Habitat Replacement

The habitat replacement project would occur on approximately 9 acres ("Habitat Replacement Site") of a private parcel owned by FIC (Figure 3 [Appendix A]). The Habitat Replacement Site is heavily grazed, gullied land adjacent to Gould Reservoir, with a preponderance of non-native vegetation. This site would be improved and enhanced as wildlife habitat in accordance with a Reclamation-approved Habitat Replacement Plan (ERO 2019). The goals of the plan would be to remove non-native shrubs (tamarisk), encourage native rose and willow regrowth via managed grazing, build several small rock structures (a.k.a. Zeedyk structures) in drainage patterns to control erosion and restore healthy soil conditions, and establish new riparian shrub plantings adjacent to the Zeedyk structures. FIC would be responsible for ongoing maintenance of the Habitat Replacement Site for 50 years after its establishment.

Native shrub plantings and Zeedyk structures would be installed by hand or with the assistance of a small tractor. Tamarisk would be removed mechanically and treated with aquatic-safe herbicides. Vegetation slash would be chipped and mulched onsite or removed and processed at one of the proposed staging areas. New shrub plantings would be irrigated as necessary and

protected from livestock and wildlife damage using webbing and wire cages. Fencing to control livestock grazing would be installed around the site.

The timing of the work at the Habitat Replacement Site would correspond with the most effective and appropriate times for seedings, plantings, weed control, irrigation, and other site maintenance, with the following exception: Removal of vegetation would be avoided during the migratory bird nesting season. Revegetation requirements and habitat replacement components would be designed to avoid adverse impacts to Gunnison sage-grouse critical habitat.

Schedule

Table 2 (below) summarizes the anticipated schedule for the Proposed Action. The bulk of the piping and lining components of the Proposed Action would occur incrementally across the Proposed Action Area during the period of August 1 through February 15. This period is proposed because it falls during the irrigation off-season when water is not flowing in the canal, and it lies outside periods of sensitivity for nesting migratory birds, big game production periods (calving and fawning), and breeding, nesting and brooding Gunnison sage-grouse. These sensitive periods are explained in Sections 3.8 and 3.9 and listed in the Environmental Commitments (Section 4).

Table 2. Anticipated Schedule for the Proposed Action

Component	Season 1	Season 2	Season 3	Comments/Restrictions
Pipe canal section 1	X			Construction from July 16 or end of irrigation season (whichever is later) through May 1 or beginning of water conveyance in this section (whichever is earlier), with the following restrictions: <ul style="list-style-type: none"> • No vegetation removal during April 1-July 15 (migratory bird nesting season). • Project activities within a golden eagle nest protective buffer (1/4 mile) shall not occur during the period of December 15 through July 15, except when the activity begins prior to December 15 and is conducted thenceforth on a daily basis during the restrictive period until outside the protective buffer.
Improve upper tunnel		X		
Improve lower tunnel		X		

Component	Season 1	Season 2	Season 3	Comments/Restrictions
Line canal section 2	X			<p>Construction from July 16 or end of irrigation season (whichever is later) through May 1 or beginning of water conveyance in this section (whichever is earlier), with the following restrictions:</p> <ul style="list-style-type: none"> • Construction from July 16 or end of irrigation season (whichever is later) through May 1 or beginning of water conveyance in this section (whichever is earlier), with the following restrictions: • No vegetation removal during April 1-July 15 (migratory bird nesting season). • Project activities within a golden eagle nest protective buffer (1/4 mile) shall not occur during the period of December 15 through July 15, except when the activity begins prior to December 15 and is conducted thenceforth on a daily basis during the restrictive period until outside the protective buffer. • Project activities within the protective buffer of other raptors nests shall not occur during the period of February 15 through July 15, except when the activity begins prior to February 15 and is conducted thenceforth on a daily basis during the restrictive period until outside the protective buffer. Protective buffer is 1/3 mile for red-tailed hawk and unknown nests and 1/4 mile for Cooper's hawk.
Line canal section 3 and install new Buck Canyon turnout pipeline	X			<p>Construction from July 16 or end of irrigation season (whichever is later) through May 1 or beginning of water conveyance in this section (whichever is earlier), with the following restrictions:</p> <ul style="list-style-type: none"> • No construction equipment may operate prior to 9 am during the period of March 15 through April 30 (Gunnison sage-grouse breeding season)
Line canal section 4		X		<ul style="list-style-type: none"> • No vegetation removal during April 1-July 15 (migratory bird nesting season).
Line canal section 5			X	<ul style="list-style-type: none"> • Project activities within the protective buffer of raptors nests shall not occur during the period of February 15 through July 15, except when the activity begins prior to February 15 and is conducted thenceforth on a daily basis during the restrictive period until outside the protective buffer. Protective buffer is 1/3 mile for red-tailed hawk and unknown nests and 1/4 mile for Cooper's hawk.

Component	Season 1	Season 2	Season 3	Comments/Restrictions
Habitat replacement activities	X	X		Activities (hardscape and fence installation, plantings, weed control, maintenance and monitoring) to occur year-round as appropriate, with the same restrictions as canal section 1 above (except irrigation of plantings would not be subject to the restrictions).

It is anticipated that the Proposed Action would be completed during three consecutive construction seasons. The first season would focus on piping canal section 1 and lining canal sections 2 and 3. The second season would focus on the upper and lower tunnel improvements and lining canal section 4. Canal section 5 would be lined during the third season. This progression may change depending on project progress.

Permits & Authorizations

If the Proposed Action is approved, the following permits, plans, and authorizations would be required prior to project implementation:

- BLM Historic ROW Acknowledgment.
- Nationwide Permit (NWP) 18 authorization, under Section 404 of the Clean Water Act (Appendix D).
- Stormwater Management Plan, to be submitted to Colorado Department of Public Health & Environment (CDPHE) by the construction contractor prior to construction disturbance.
- CWA Section 402 Storm Water Discharge Permit compliant with the National Pollutant Discharge Elimination System (NPDES), to be obtained from CDPHE by the construction contractor prior to construction disturbance (regardless of whether dewatering would take place during construction).
- Spill Response Plan, to be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.
- Utility clearances, to be obtained by the construction contractor prior to construction activities from local utilities in the area.

3 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This section discusses resources that may be affected by the Proposed Action and the No Action Alternative.

For each resource, the potentially affected area and/or interests are identified, existing conditions described, and potential impacts and environmental consequences predicted under the No Action and Proposed Action Alternatives. BMPs or other mitigative or protective measures described below are considered part of the Proposed Action and are taken into consideration when predicting environmental consequences. A summary of

impacts/environmental consequences of the Proposed Action is included at the end of this section.

3.1 Water Rights & Use

The Fruitland Irrigation System delivers irrigation water to Fruitland Mesa. Water is diverted from Crystal Creek and carried across a topographical divide through the 15.5-mile-long Highline Canal (aka Fruitland Mesa Ditch) into Gould Reservoir within the Smith Fork Basin. Water stored in Gould Reservoir is released to Gould Canal once spring runoff has subsided. Gould Canal has two major inverted siphons and the upper and lower tunnels (approximately 12.4 miles of Gould Canal, including the two tunnels, are involved in the Proposed Action).

The Fruitland Irrigation System irrigates approximately 5,144 acres. The average amount of water diverted by the system annually is 17,000 acre-feet but can range from a minimum of 4,000 to a maximum of 25,000 acre-feet. Gould Reservoir storage is typically depleted by August but can be exhausted as early as June in the worst drought years.

Water rights associated with the Fruitland Irrigation System are a total of 10,167.95 acre-feet of absolute decrees for Gould Reservoir storage, and a total of 537.14 acre-feet of absolute and 600 acre-feet of conditional decrees for the FIC canals (DCD 2002).

No Action: The No Action Alternative would have no effect on water rights and uses within the Gunnison River Basin. The water delivery system would continue to function as it has in the past.

Proposed Action: Under the Proposed Action Alternative, FIC would have the ability to better manage irrigation water with efficiencies gained from eliminating seepage by improving the system. The new turnout structures with adequate controls and measuring devices would further improve water management in the system. The Proposed Action would not include new water storage or the irrigation of new lands. The Habitat Replacement Site would be irrigated with wastewater from an upgradient irrigated pasture and with seasonal inundation by Gould Reservoir. No adverse effects on water rights in the Gunnison or Colorado River Basins would occur due to implementation of the Proposed Action. The Proposed Action would also create a significant risk reduction for FIC. The tunnels are eroding internally, and if they were to fail the primary water supply would be cut off for nearly the entire Fruitland Irrigation System. Section 1 of the canal is located on a steep hillside and requires a significant amount of maintenance to remove soil and rocks falling into the canal from above. In addition, the level of freeboard in several parts of canal section 1 is much lower than desirable. Piping canal section 1 would significantly reduce maintenance and risk of system failure.

3.2 Water Quality

Irrigation practices in the region and on Fruitland Mesa are contributing to elevated downstream salinity levels and create an adverse effect on the water quality of the Gunnison River and in the greater Colorado River Basin. In addition, selenium occurs in the region's soils in soluble forms such as selenate, which is leached into waterways by runoff and irrigation practices, and is toxic to living organisms when present beyond trace amounts.

No Action: Under the No Action Alternative, the estimated 5,697 tons of salt annually contributed to the Colorado River Basin from the Fruitland Irrigation System would continue. Current selenium loading levels would continue.

Proposed Action: In the long term, the Proposed Action would eliminate seepage from the earthen Gould Canal, reducing salt loading to the Colorado River Basin at an estimated rate of 3,137 tons per year for Project A and 2,560 tons per year for Project B, for a total salt reduction of 5,697 tons per year at a cost-effectiveness value of \$52.47 per ton (FIC 2017). The Proposed Action is also expected to reduce selenium loading into the Gunnison River basin, although the amount of selenium loading reduction that could result from the Proposed Action has not been quantified. Improved water quality would likely benefit downstream aquatic species by reducing salt and selenium loading in the Gunnison River, an important Colorado River Basin tributary. Maintenance or improvement of water quality in the Gunnison River is of importance to users and to wildlife.

Surface drainage in the vicinity of Gould Canal would remain unchanged following the Proposed Action.

The "irrigation exemption" from Section 404 of the Clean Water Act applies to the pipeline, canal lining, and material borrow aspects of the Proposed Action. FIC obtained verification of the irrigation exemption in writing by the U.S. Army Corps of Engineers (Appendix D). Nationwide Permit (NWP) 18 under Section 404 of the Clean Water Act has been authorized for implementing the Habitat Replacement Plan (Appendix D). A Section 401 Water Quality Certification was issued for NWPs in Colorado in 2017 (USACE 2018).

3.3 Air Quality

The Clean Air Act specifies limits for criteria air pollutants. If the levels of a criteria pollutant in an area are higher than National Ambient Air Quality Standards (NAAQS), the airshed is designated as a nonattainment area. Areas that meet the NAAQS for criteria pollutants are designated as attainment areas. Delta and Montrose counties are in attainment for all criteria pollutants (EPA 2018). Minor impacts to air quality from routine maintenance of Gould Canal include dust from occasional travel in light vehicles along the Proposed Action corridor.

No Action: There would be no effect on air quality in the Proposed Action Area from the No Action Alternative. The ditch system would continue to operate in its current configuration and dust and exhaust would occasionally be generated by vehicles and equipment conducting routine maintenance and operation.

Proposed Action: There would be no long-term impacts to air quality from the Proposed Action. Dust from construction activities would be minimized by BMPs, and any residual dust would have a temporary, short-term effect on the air quality in the immediate Proposed Action Area. Following construction, impacts to air quality from routine maintenance and operation activities along the pipeline and lined canal corridors would be similar in magnitude to those currently occurring for the existing canal.

3.4 Access, Transportation, & Construction Impacts

The Fruitland Irrigation System currently operates in prescribed rights-of-way on private land, BLM land, and on FIC-owned land (collectively, "right-of-way").

The major transportation route in the vicinity of the Proposed Action is State Highway 92, near Gould Reservoir and the location of the Habitat Replacement Site (Figure 3 [Appendix A]).

Private roads and county roads generally provide access and mobility for local residents traveling in and out of the Proposed Action Area. Black Canyon Road provides access to recreationists and other users of BLM lands south of the Proposed Action Area (see Section 3.5).

Various overhead or buried utilities may be present near the Proposed Action. The utility entities include Fruitland Mesa Domestic Water Company, Delta Montrose Electric Association, and TDS Telecom.

A low baseline level of noise and visual disturbance occurs in the right-of-way, associated with FIC's operation and routine maintenance of the Fruitland Irrigation System. Operation and maintenance involve the use of light-duty trucks and, occasionally, heavy equipment. Farming and ranching activities involving the use of farming equipment, light vehicles, all-terrain vehicles, and occasionally heavy equipment are ongoing in the immediate area and surroundings of the Proposed Action.

No Action: There would be no effect to public safety, transportation, or public access from the No Action Alternative.

Proposed Action: Short-term temporary impacts related to access, public transportation, and construction noise and visual disturbance would result from the Proposed Action. The majority of construction activities related to the Proposed Action would take place entirely in the Gould Canal prescriptive right-of-way, except for shotcrete batching, which would occur in staging areas. The Habitat Replacement Site, the Gould Reservoir borrow sites, the east staging area, and canal section 1 would be accessed from or off local County Road E81 off Highway 92. The upper and lower tunnel sections would be reached from canal sections 1 and 2, and from a private ranch road off Montrose County Road 7750. Canal sections 2 and 3 would be reached by private ranch roads off Montrose County Roads 7750. Access to canal section 4 would be from private ranch roads off Montrose County Roads 7750 and B76, and also directly from Black Canyon Road. Canal section 5 would be reached using private ranch roads off Montrose County Road A, from private ranch roads off Fruitland Mesa Road, from Delta County Road 3375, and from Black Sage Road.

There would be no need for construction of new access roads outside the canal right-of-way, except for a short road leading from the south end of the Gould Canal dam to the beginning of canal section 1. There are no known bridges with weight restrictions that would be used by construction vehicles. Implementation of the Proposed Action may cause brief delays along public roadways near the Proposed Action Area from construction vehicles. Appropriate traffic signage would be used to notify drivers of active construction ingress/egress. FIC and the construction contractor would coordinate with Delta and Montrose County Public Works Departments for construction road

crossings. FIC and the construction contractor would coordinate with the counties and sheriff departments when traffic or access would be delayed or significantly re-routed.

All utilities would be located and marked, and if necessary, relocated or raised, prior to any construction activities in the Proposed Action Area. Proposed Action construction activities would generate noise and visual disturbance to rural residents near the Proposed Action. These disturbances would occur during daylight hours (typically 7 am to 4 pm), Monday through Saturday, on a sequenced basis along the canal sections involved with the Proposed Action.

3.5 Recreational & Visual Resources

Public lands involved in the Proposed Action Area are lands administered by BLM's Uncompahgre Field Office as part of the Gunnison Gorge National Conservation Area planning area and managed under the Gunnison Gorge National Conservation Area (NCA) Resource Management Plan (RMP; BLM 2004). All BLM lands in the Proposed Action Area are characterized as "Other Public Lands," specifically within Management Zone MU6-2 "East and Southwest Common Lands" (BLM 2004). All BLM lands in the immediate Proposed Action Area are mixed with rural residential and agricultural lands (rangelands in native vegetation and irrigated hay meadows and pastures).

The BLM East and Southwest Common Lands are approximately 13,000 acres of "limited off-highway vehicle (OHV)" areas, allowing mechanized (motorized and non-motorized) travel on designated routes (BLM 2004). Uses are hiking, horseback riding, and hunting. The primary public access to large blocks of BLM lands and Black Canyon National Park south of the Proposed Action Area is via Black Canyon Road. Section 4 of the canal (a section proposed for lining) crosses Black Canyon Road in the location shown on Figure 3.

The RMP characterizes MU6-2 as VRM Class III (BLM 2004). Class III areas allow for visible changes that attract attention but are not dominant. The physical setting is "predominantly middle country with some sections of backcountry in Black Ridge and Green Mountain areas of NCA; motorized, largely unmodified and natural appearing; resource modifications evident but harmonious with surroundings" (BLM 2004).

No Action: The No Action Alternative would have no effect on recreational or visual resources on BLM lands. Recreation in the Proposed Action Area would continue as in the past, and visual resources would remain unchanged.

Proposed Action: Taking into account a 30-foot buffer on either side of the canal reaches involved with the Proposed Action, a total of approximately 8 acres of BLM land would be involved in the Proposed Action (Figure 3 [Appendix A]). Construction of the Proposed Action could disrupt recreational enjoyment on BLM land in the immediate Proposed Action Area, due to construction activities (noise, presence of heavy equipment, brief delays on county roads). However, these disruptions would be temporary, and take place incrementally throughout the Proposed Action Area, mostly during fall and early winter over the course of construction. Additionally, the BLM lands in the immediate Proposed Action Area have limited public accessibility (lack of public road access) and lie near the periphery of BLM-administered land. Traffic traveling on Black Canyon Road could be temporarily disrupted (slowed or paused) when construction activities are conducted in that area. Disruptions are not likely to last more than several minutes (see Section 3.4). To ensure public safety, pipe trenches left open

while unattended (e.g. overnight) would be covered. Upon completion of the Proposed Action, there would be no further impact to recreation or access to recreation in the Proposed Action Area.

Overall, the long-term level of change to the visual characteristics of the landscape in and around the Proposed Action Area during and following construction would be low (in canal section 1 and the tunnels area) to none (in canal sections 2 through 5), and not out of character with the surrounding landforms, or with the rural and agricultural character of the vicinity. The visual changes would be compatible with Class III area management guidance, in that the buried pipe alignments, once revegetated, would not lead to visible changes that dominate the landscape.

3.6 Livestock Grazing

The BLM lands within the Proposed Action Area fall within three BLM Grazing Allotments: Iron Canyon Allotment, Poison Spring Allotment, and Red Canyon Allotment. These allotments support spring and fall cattle grazing.

No Action: The No Action Alternative would have no effect on the grazing allotments or grazing on BLM lands. Livestock grazing in the Proposed Action Area would continue as in the past.

Proposed Action: Under the Proposed Action, temporary disturbance to less than a total of approximately 8 acres of BLM grazing allotments in the Proposed Action Area would occur during construction. A large portion of this acreage is the canal prism and canal itself. Surface disturbances would be revegetated as explained in other sections of this EA. No BLM lands currently capable of being grazed in the Proposed Action Area would be rendered permanently incapable of being grazed as result of the Proposed Action. The Proposed Action may result in a small increase (approximately 2 acres) of lands capable of providing livestock grazing within canal section 1 by filling and vegetating the canal prism following piping.

Livestock animals grazing in the allotments could be temporarily affected by construction; however, the grazing range in the Proposed Action Area represents less than 0.2 percent of the overall grazing allotments and in most locations lies near the periphery of the allotments. The allotment permittees would be notified of activities under the Proposed Action. During construction, pipeline trenches left open overnight would be kept to a minimum and covered to reduce potential for entrainment of big game or livestock and public safety problems. Covers would be secured in place and strong enough to prevent livestock or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps would be utilized.

3.7 Vegetative Resources & Weeds

In general, landcover surrounding the canal corridor, proposed access ways, and staging areas in the Proposed Action Area is predominantly native pinyon pine (*Pinus edulis*)-Utah juniper (*Juniperus osteosperma*) woodlands, irrigated grass or alfalfa hayfields, and irrigated or dryland pastures. All borrow areas are in seasonal pond basins in a mix of pinyon-juniper woodlands and open pastures, or in the unvegetated seasonally-flooded basin of Gould Reservoir. Surrounding the Habitat Replacement Site, landcover is generally irrigated pasture lands,

sagebrush (*Artemisia tridentata*) shrublands, cottonwood (*Populus angustifolia* and *P. deltoides*) stands, and coyote willow (*Salix exigua*) stands, and the seasonally-flooded Gould Reservoir basin. The condition of the native woodland and shrublands in the vicinity of the Proposed Action ranges from good (healthy native plant community with few invasive species) to poor (decadent native shrub layer with weedy understory). The condition of the hayfields and pastures ranges from excellent (productive) to fair (with a high percentage of weeds and intensive livestock grazing).

In the construction corridor of canal section 1 and the tunnel sections, which contour near or on the west side-slope of Iron Canyon, the pinyon-juniper woodlands have mixed mountain shrubs in the understory, including Gambel oak (*Quercus gambelii*), Utah serviceberry (*Amelanchier utahensis*), snowberry (*Symphoricarpos rotundifolius*), and mountain mahogany (*Cercocarpus montanus*) and sparse cover of cool season native grasses such as western wheatgrass (*Pascopyron smithii*), bottlebrush squirreltail (*Elymus elymoides*), and Indian ricegrass (*Achnatherum hymenoides*). In canal sections 2 through 5, the pinyon-juniper woodlands have occasional mixed mountain shrubs in the understory along with stands of big sagebrush (*Artemisia tridentata*) and rabbitbrush (*Ericameria nauseosa*). Fourwing saltbush (*Atriplex canescens*) and three-leaf sumac (*Rhus trilobata*) are also occasionally in the understory. Ground cover ranges from fairly sparse to moderately dense, and includes cool season grasses mentioned above, as well as the common pasture grass smooth brome (*Bromus inermis*) and the invasive annual cheatgrass (*Bromus tectorum*). The pinyon-juniper woodland canopy ranges from fairly open to dense and nearly closed across the Proposed Action Area.

Water flowing seasonally in the canal has created narrow margins of riparian and wetland habitat along the canal itself. These margins are vegetated intermittently with coyote willow, wild rose (*Rosa woodsii*), cattails (*Typha* sp.), sedges and rushes, and occasional small stands of mature cottonwoods. Vegetation along the canal corridor and access roads is routinely disturbed due to use and maintenance activities.

The canal corridor contains the nonnative weed trees Russian olive (*Elaeagnus angustifolia*) and tamarisk or salt cedar (*Tamarisk* sp.), and herbaceous weeds such as burdock (*Arctium* sp.), Russian knapweed (*Acroptilon repens*), cheatgrass (*Bromus tectorum*), field bindweed (*Convolvulus arvensis*), and whitetop (*Cardaria draba*). Additional weedy or invasive species observed include Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), curly dock (*Rumex crispus*), yellow sweetclover (*Melilotus* sp.), and common mullein (*Verbascum thapsus*) (ERO 2018). Flowing water in the canal is a vector for the continued spread of weeds. Vehicles, people, livestock, and wildlife traveling on the canal prism can also contribute to the spread of weeds. FIC manages noxious weeds on the canal prism by spot-spraying seasonally, as resources permit.

The north part of the Habitat Replacement Site is seasonally inundated by the reservoir, and contains a few cottonwoods, sparse stands of coyote willow, and wild rose. The east part of the site contains a sparsely vegetated eroded gulch and a terrace vegetated with dense sagebrush shrublands. The vegetation on the terrace would not be disturbed. The south part of the site is an irrigated grass pasture in poor condition. The site has approximately 20 percent cover of noxious weeds including tamarisk, Canada thistle, and Russian knapweed (ERO 2019). Weeds are currently not actively managed on the site.

No Action: There would be no change to existing vegetation or habitat from the No Action Alternative.

Proposed Action: Under the Proposed Action Alternative, construction activities would directly disturb native woodland vegetation, and dust from operating equipment and vehicles could also temporarily affect vegetation in the area. Construction could directly affect up to 107 acres of native pinyon-juniper woodlands and/or irrigated farmlands on or near the existing canal prism, approximately 6 acres of previously undisturbed pinyon-juniper woodlands above the lower tunnel and on the Buck Canyon turnout pipeline alignment, and up to approximately 45 acres of previously disturbed pastures or pond basins (staging and borrow areas) in the Proposed Action Area. Vegetation removal and construction footprints would be confined to the smallest portion of the canal prism or construction ROW necessary for safe completion of the work. Following construction, the woodland areas would be recontoured and reseeded with a BLM/Reclamation-approved drought-tolerant seed mix (Appendix E) appropriate for the habitat. Disturbed agricultural areas would be smoothed and reseeded with compatible hay or pasture seed mixes. Agricultural areas are expected to return to a condition similar to or better than their pre-construction condition within a year of construction. Although a mature pinyon pine and juniper overstory would require a few decades to become re-established, understory vegetation consisting of native shrubs and grasses is expected to become re-established within a few years following construction in revegetated woodland areas.

The Proposed Action would directly disturb and result in the permanent loss of approximately 6 acres of riparian and wetland vegetation associated with the open unlined canal and seepage from the canal. In canal section 1 (proposed for piping), the riparian and wetland areas and open water associated with the canal would be replaced by upland pinyon-juniper woodland-type vegetation community. The riparian and wetland vegetation along canal sections 2 through 5 (proposed for lining) would either be directly destroyed by installation of the liner or transition to upland vegetation after the liner eliminates seepage into and from the canal prism. Recognizing that the wetland and riparian vegetation associated with canal margins supports or contributes to the support of aquatic and terrestrial wildlife and migratory birds, the Colorado River Basin Salinity Control Act requires mitigation of its loss. An evaluation² was performed for the Proposed Action Area to quantify potential wetland and riparian habitat values that would be lost due to implementation of the Proposed Action (ERO 2018). Consistent with the Colorado River Basin Salinity Control Act, to compensate for the loss of habitat values that would result from implementation of the Proposed Action, FIC would implement a Habitat Replacement Plan (ERO 2019) at the Habitat Replacement Site shown on Figure 3 (Appendix A). Habitat replacement activities are described in Section 2.2 of this EA.

Revegetation would be implemented according to BLM right-of-way stipulations on BLM lands. To curtail the spread of noxious weeds, environmental commitments (such as cleaning vehicles and equipment prior to bringing them onsite—see Section 4 of this EA) would help minimize the risk of such infestations, and ongoing weed management efforts by FIC would be implemented during revegetation of construction alignments.

In the long-term, piping the canal laterals would remove an important vector of weed seed transport—open water. Seeps from the earthen canal that currently support

² The evaluation followed methodology outlined in Reclamation's *Basinwide Salinity Control Program: Procedures for Habitat Replacement* (April 2018). In accordance with the evaluation method, a Total Habitat Value (THV) is calculated for each affected wetland or riparian habitat area by multiplying its acreage by its habitat quality score (HQS), which is assigned based on a series of physical and biological criteria.

herbaceous and woody noxious weeds would be dried and the ability of the environment to support these weeds would be diminished.

3.8 Wildlife Resources

Vegetation supported by the canal laterals, in association with nearby irrigated land, and native woodlands and shrublands, provide nesting, breeding, foraging, cover, and movement corridors for an array of wildlife.

The Proposed Action Area falls within overall range of black bear and mountain lion (CPW 2018). Colorado Parks & Wildlife (CPW) describes the entire Proposed Action Area as mule deer summer range and winter range (CPW 2018). Apart from the Gould Reservoir borrow areas and the Habitat Replacement Site, the entire Proposed Action Area is in a CPW-mapped mule deer resident population area, meaning the area is used by mule deer all year. The Proposed Action also crosses a mule deer year-round concentration area, severe winter range, and a winter concentration area. The entire Proposed Action Area lies within elk winter range, and crosses an elk migration corridor, elk severe winter range, an elk winter concentration area, and an elk production area (occupied by females from May 15 to June 15 for calving). Overall, deer and elk concentration areas around the Proposed Action mostly correspond with irrigated hay meadows and pastures interspersed with pinyon-juniper woodlands. Big game in the Proposed Action Area experiences a baseline level of disturbance from residential activities, people and vehicles traveling on county and private roads, ranching and farming activities, and recreational hunting.

A variety of small mammals, reptiles, and amphibians also inhabit the general area. Those that would be likely to use the canal corridor or adjacent areas include small ground-dwelling mammals, such as badger, white-tailed prairie dog, several species of mice, voles, shrews, and cottontail rabbit. Also common in the area are striped skunk, raccoon, red fox, coyote, bobcat, western terrestrial garter snake, smooth green snake, Woodhouse's toad, western chorus frog, northern leopard frog (see Section 3.9) and tiger salamander.

No Action: Under the No Action Alternative, terrestrial and amphibian wildlife habitat would remain in its current condition, and no displacement of wildlife would occur. Salinity loading of the Colorado River Basin would continue at current rates, which will continue to affect water quality within the drainage, potentially affecting the wildlife using the area.

Proposed Action: Upland wildlife habitat impacted by the Proposed Action would result in minor temporary impacts to wildlife species within the Proposed Action Area. Impacts to big game would include short-term disturbances and periodic displacement while construction is underway. Disturbances to big game in their sensitive winter ranges (i.e. severe winter range, winter concentration areas) during harsh winter months would cause the greatest harm due to the lack of food availability and expenditure of energy. Given the existing level of anthropogenic disturbances, deer and elk in this area would be somewhat habituated to disturbances. Additionally, during times of extreme weather conditions (e.g. deep snow cover, extreme freezing temperatures, excessively muddy conditions), construction activities would be limited. The Proposed Action would create incremental disturbance in the Proposed Action Area, allowing mule deer and elk in concentration and resident population areas near the construction activity to find refuge and limit the amount of energy expended. FIC would request a waiver of BLM winter construction timing limitations for work on BLM lands during winter months. During

construction, pipeline trenches left open overnight would be kept to a minimum and covered to reduce potential for entrapment of big game or livestock and public safety problems. Covers would be secured in place and strong enough to prevent livestock or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps would be utilized. Elk calving would not be disturbed by the Proposed Action, since construction activities are not scheduled during elk calving season.

Direct impacts to small animals, especially burrowing amphibians, reptiles, and small mammals, could include direct mortality and displacement during construction activities, both in the irrigated pasture areas and the exiting ditch alignment. However, these species and habitats are relatively common throughout the area and population-level impacts would not be likely; therefore, impacts would be minor.

Bird and amphibian species dependent on wetland and riparian habitats would experience a long-term (greater than five years) loss of habitat as described in Section 3.7. In compliance with the Colorado River Basin Salinity Control Act, the wetland and riparian habitat value that would be lost due to implementation of the Proposed Action would be mitigated with a nearby Reclamation-approved Habitat Replacement Site (ERO 2019) to be created and maintained by FIC.

Improved water quality would likely benefit downstream aquatic species in the region (amphibians, birds, and fish) by reducing salt and selenium loading in the Gunnison and Colorado river basins.

3.9 Special Status Species

Migratory Birds

Migratory birds, including songbirds, waterbirds, and raptors (birds of prey), find nesting and/or other habitat in the Proposed Action Area. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) and bald and golden eagles are also protected under the Bald and Golden Eagle Protection Act of 1940. Birds of conservation concern with the potential to occur in the Proposed Action Area are Brewer's sparrow (breeding, migrating, wintering [year-round]), pinyon jay (year-round), Virginia's warbler (breeding, migrating), and golden eagle (year-round) (FWS 2019). Colorado State Species of Concern with the potential to occur in the Proposed Action Area are ferruginous hawk (wintering) and bald eagle (wintering and nesting) (CPW 2019). The most common raptor in the area is the red-tailed hawk. The most common waterbird in the Proposed Action Area is Canada goose, which forages around the edges of Gould Reservoir during migration seasons.

Nesting

A raptor survey was conducted for the Proposed Action. There is currently one active golden eagle nest in the south part of Iron Canyon and one potentially active golden eagle nest in the north part of Iron Canyon. Additionally, there is an active Cooper's hawk nest, and active American kestrel nest, and several unoccupied raptor nests (most likely red-tailed hawk nests) in the remainder of the Proposed Action alignment. The core nesting season for raptors in the area is April 1 through July 15; however, individuals—especially red-tailed hawk and great-horned owl—may begin courtship and nest construction as early as February 15 (CPW 2008). Bald eagles nest during the period between October 15 and July 31 and golden eagles nest during December 15 through July 15 (CPW 2008). Tall cottonwoods suitable for tree-nesting

raptors exist along the canal and around Gould Reservoir, as well as cliff nest sites in nearby Iron Canyon. Several songbird species are expected to nest in the Proposed Action corridor. The primary nesting season for migratory songbirds in the Proposed Action Area is April 1 through July 15. The Gould Reservoir basin is a CPW-mapped goose production and foraging area (CPW 2018). Canada geese may nest in the area of the Habitat Replacement Site during April, May, and June, although the site is not currently conducive to nesting given site conditions and the livestock grazing regime. A baseline level of disturbance in the area to migratory birds and raptors occurs from recreational, residential, and farming and ranching activities.

Wintering & Migrating

A dozen species of migratory songbirds are expected to migrate through or winter in the Proposed Action Area. Wintering and migrating raptors could include red-tailed hawk, rough-legged hawk, ferruginous hawk, and golden eagle. Bald eagles are common hunters during winter on the local mesas around the Proposed Action, especially on open and agricultural ground where ground-dwelling rodents provide prey. The entire Proposed Action Area lies within CPW-mapped bald eagle winter range and bald eagle winter foraging grounds (CPW 2018). Bald eagles often shelter in communal roosts. The nearest active bald eagle communal roost site is greater than 3 miles from the Proposed Action and outside the ½-mile CPW-recommended buffer distance (CPW 2008; CPW 2018). The Gould Reservoir basin is a CPW-mapped foraging area for geese (CPW). Canada geese could be expected to forage in the reservoir shallows in emergent and near-shore stands of wetland plants primarily during spring and fall migration periods.

No Action: In the absence of the Proposed Action, migratory songbird and raptor nesting and foraging habitat would remain unchanged from its current condition. Salinity and selenium loading in the Colorado River Basin would continue at current rates, which will continue to affect water quality within the drainage, potentially affecting the wildlife using the area.

Proposed Action: Direct impacts to migratory songbirds and raptors would include short-term disturbance and displacement from the Proposed Action Area during construction. Disturbance from construction would cause temporary displacement of wintering and migrating songbirds, raptors, and geese; however, effects would be minor because adult birds have the flexibility to move away to other suitable areas. Wintering foraging and migrating habitat for songbirds, raptors (including eagles), and geese in the vicinity of the Proposed Action is extensive, and foraging habitat is not unique or exceptional in the Proposed Action Area compared to surrounding areas.

There would be no direct effect to nesting songbirds since pre-construction vegetation grubbing would occur outside the primary nesting season (potential nesting habitat including scattered shrubs and a few trees lining the ditch would be grubbed and removed outside the period of April 1 through July 15). Some direct loss of potential raptor nesting habitat (a few tall trees established on or near the parts of the canal slated for piping) would occur as a result of the Proposed Action. In compliance with the Colorado River Basin Salinity Control Act, the wetland and riparian habitat value (potential nesting habitat for certain migratory birds) that would be lost due to implementation of the Proposed Action would be mitigated at the nearby Reclamation-approved Habitat Replacement Site (see Section 3.7).

Most activities planned for the Proposed Action take place outside raptor nesting seasons. Protective buffer areas for raptor nests would be clearly identified on construction drawings along with timing restrictions for construction within the protective buffers to avoid disturbing nesting raptors. Timing restrictions prohibit work within the nesting raptor protective buffer during the breeding season, except when construction activity begins prior to the breeding season and is conducted thenceforth on a daily basis during the restrictive period until outside the protective buffer.

Documented bald eagle roosts and nests in the region lie outside the recommended buffer distances for human encroachment (CPW 2008), therefore nesting or roosting bald eagles are not likely to be affected by the Proposed Action.

If a new active raptor nest is discovered within 1/3 mile of the Proposed Action during or prior to construction, or bald eagle roost site or nest site is discovered within ¼ mile of the Proposed Action during or prior to construction, construction would cease until Reclamation could complete evaluations and consultations with FWS and CPW.

Threatened & Endangered Species & Their Critical Habitats

The Endangered Species Act (ESA) of 1973 protects federally listed endangered, threatened and candidate plant and animal species (“T&E species”) and their critical habitats.

The following federally-listed species were determined to occur or have the potential to occur within or near the Proposed Action Area. These determinations were developed by reviewing published range maps and habitat requirements of each of the species on a list of potential species in the Proposed Action Area provided by FWS (FOW 2019) and through informal technical consultation with BLM-UFO Biologist Kenneth Holsinger.

Gunnison Sage-Grouse and Its Designated Critical Habitat

The Gunnison sage-grouse was listed as threatened and critical habitat was designated on November 20, 2014 (79 Federal Register (FR) 69191-69310 and 79 FR 69311-69363). The Gunnison sage-grouse is a sagebrush obligate species endemic to Colorado and Utah south of the Colorado River. Breeding grounds (leks) consist of open areas next to tall sagebrush. For nesting and rearing young, the species requires large contiguous patches of sagebrush (>200 acres) with an abundant and relatively tall herbaceous understory, interspersed with wet swales. Irrigated pastures adjacent to sagebrush can also provide alternate mesic brooding habitat. Wintering sage-grouse feed exclusively on sagebrush leaves. In the Crawford sage-grouse population area, declines are attributed to fragmentation of habitat components, encroachment of pinyon-juniper woodlands into sagebrush, not enough grass and forbs in the sagebrush understory, and low vegetative class diversity in the area's sagebrush (CGSGWG 2011). The Crawford area sage-grouse population was estimated at approximately 148 birds in Spring of 2016 (Seward/CPW, pers. comm.).

The entire Proposed Action Area lies in unoccupied/potentially occupied critical habitat for Gunnison sage-grouse. However, the affected habitat consists primarily of pinyon-juniper woodlands and agricultural areas adjacent to pinyon-juniper woodlands—areas which do not meet the physical and biological feature requirements (formerly called “primary constituent elements”) of Gunnison sage-grouse critical habitat described at 79 FR 69311-69363. Only the Habitat Replacement Site potentially meets the physical and biological feature requirements. The Habitat Replacement Site contains irrigated pasture adjacent to a large block of sagebrush

shrublands, which may serve as a “mesic habitat” during sage-grouse brooding periods. Telemetry studies have indicated that Gunnison sage-grouse do not use the area around Gould Reservoir (Holsinger, pers. comm).

Based on ongoing telemetry studies, the core occupied area of the Crawford population of Gunnison sage-grouse is on Fruitland Mesa to the southwest and west of the Proposed Action Area (Holsinger, pers. comm.). A 2013 telemetry study recorded isolated brief excursions of sage-grouse outside the core occupied area and near the Proposed Action Area (Holsinger, pers. comm.). The nearest lek to the Proposed Action is approximately more than 1.5 miles from any location involved with the Proposed Action. Lek observations of the Crawford population indicate strutting begins March 15 and ends by April 30, and strutting activity is finished by 9 am. Gunnison sage-grouse make relatively large movements on a seasonal basis, between lek sites and wintering areas, and data indicates birds could occasionally visit the Proposed Action Area.

Colorado River Endangered Fishes & Their Designated Critical Habitat

The Colorado River basin has four endangered fishes: the bonytail, the Colorado pikeminnow, the humpback chub, and the razorback sucker. Decline of the four endangered fishes is due at least in part to habitat destruction (diversion and impoundment of rivers) and competition and predation from introduced fish species. In 1994, the FWS designated critical habitat for the four endangered fish species at Federal Register 56(206):54957-54967, which in Colorado includes the 100-year floodplain of the upper Colorado River from Rifle to Lake Powell, and the Gunnison River from Delta to Grand Junction. None of the four endangered Colorado River fishes occurs in the Proposed Action Area and the Proposed Action Area does not occur within or adjacent to designated critical habitat. The closest designated critical habitat and the closest potential populations of the Colorado pikeminnow, and razorback sucker are in the Gunnison River near the Uncompahgre River confluence, west of the City of Delta. The bonytail has recently been stocked in the Gunnison River and humpback chubs have been recorded.

Because water depletions in the Gunnison Basin diminish backwater spawning areas for the Colorado River endangered fishes in downstream designated critical habitat, impacts to the endangered fishes are resulting from continuing irrigation practices in the Gunnison Basin. The historic depletion rate from FIC system operations is estimated as 8,341 acre-feet per year. Historic depletions by federal facilities in the Gunnison Basin are covered under the umbrella of the Gunnison Basin Programmatic Biological Opinion (PBO) (FWS 2009), which avoids the likelihood of jeopardy and/or adverse modification of critical habitat for the endangered fishes. Many private irrigation companies in the region have also executed Recovery Agreements with FWS to ensure that their historic depletions are covered under the PBO and they can continue to operate consistently with Section 7 of the ESA.

The potential reduction in selenium loading to the Colorado River and Gunnison River basins as a result of the cumulative efforts of the Colorado River Basin Salinity Control Program is improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado river and Gunnison river basins (SMPW 2011).

No Action: In the absence of the Proposed Action, historic water depletions would continue, and salt and selenium loading from the Proposed Action Area would continue at current rates, continuing to indirectly affect the endangered fishes and their

downstream critical habitat. Gunnison sage-grouse and its critical habitat would remain unchanged.

Proposed Action: Consultation with FWS in accordance with Section 7 of the ESA was completed by Reclamation for the Proposed Action (FWS TAILS: 06E24100-2019-F-0328 and Appendix F). The effects determinations are described below:

- *Gunnison Sage-Grouse.* Reclamation has made a preliminary determination as a result of discussion with BLM and an informal technical consultation with FWS that construction noise within canal sections 2 through 5 could potentially affect breeding Gunnison sage-grouse on nearby leks between March 15 and April 30. Given the current understanding of the distribution of sage-grouse in the area and the location of the sage-grouse core occupied area relative to the Proposed Action area, the marginal and unsuitable habitat characteristics of the Proposed Action Area, and restricting construction activities during the breeding season to occur after 9 am on canal sections 2 through 5, it is expected that the Proposed Action may affect, but is not likely to adversely affect Gunnison sage-grouse.
- *Gunnison Sage-Grouse Critical Habitat.* The Proposed Action lies in unoccupied/potentially occupied Gunnison sage-grouse designated critical habitat. Up to approximately 171 acres within unoccupied/potentially occupied critical habitat will be temporarily disturbed by the Proposed Action (estimated based on up to a 60-foot wide corridor of disturbance in canal and tunnel sections, up to a 30-foot wide corridor of disturbance along access roads, 24 acres of staging areas, and approximately 9 acres in the Habitat Replacement Site). However, the affected habitat in the Project Area consists primarily of pinyon-juniper woodlands and agricultural areas adjacent to pinyon-juniper woodlands. The affected habitat at the Habitat Replacement Site consists of livestock pasture and drainage patterns with sparse riparian shrub vegetation. Given that the habitat to be affected in the Proposed Action Area is not currently meeting physical and biological feature requirements of Gunnison sage-grouse critical habitat, and given that the impacts from construction of the Proposed Action would be relatively small in size and appropriately revegetated (with a Reclamation- and BLM-approved seed mixture beneficial to sage-grouse), it is expected that the Proposed Action may affect, but would not adversely affect critical habitat for Gunnison sage-grouse.
- *Colorado River Basin Endangered Fishes.* The Proposed Action Area does not lie within the ranges of the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. Based on previously issued biological opinions that all depletions (including historical) within the Upper Colorado River Basin may adversely affect the four fishes, the Proposed Action may affect, and is likely to adversely affect, the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail, due to historical depletions.
- *Colorado River Basin Endangered Fishes Critical Habitat.* Consumptive loss of water in the Gunnison and Colorado River basins due to agricultural irrigation practices from the canal involved with the Proposed Action results in depletions from the Colorado River Basin, affecting downstream critical habitat for the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. The estimated historic average annual depletion rate due to operation of the FIC system

is 8,341 acre-feet. This amount is not expected to change as a result of the Proposed Action. FIC executed a Recovery Agreement with FWS to ensure their activities are covered under the Gunnison Basin PBO and in compliance with the ESA. Therefore, in accordance with the Gunnison Basin PBO (FWS 2009), the Proposed Action will not destroy or adversely modify the designated critical habitat for the Colorado River endangered fishes. Additionally, potential reductions in selenium loading to the Gunnison basin as a result of the Proposed Action would contribute to the overall success of the Gunnison Basin Selenium Management Program (SMPW 2011).

BLM Sensitive Species

The Proposed Action is partially located on BLM lands, managed by the Uncompahgre Field Office (UFO). The total amount of potentially affected areas of BLM land is approximately 8 acres. BLM Sensitive species are designated by the BLM's state director by field office or management unit (BLM 2015). BLM Sensitive Species with the potential to occur in the Proposed Action Area and not already considered in the Migratory Birds or Threatened & Endangered Species discussions above are fringed myotis (a bat), Townsend's big-eared bat, big free-tailed bat, spotted bat, white-tailed prairie dog, midget faded rattlesnake, and northern leopard frog (see Appendix G for more detail and habitat descriptions for these species). Presence of these species were determined by reviewing published range maps and habitat requirements of each of the BLM Sensitive Species on the state director's list, and through informal technical consultation with BLM-UFO Biologist Kenneth Holsinger.

No Action: The No Action Alternative would have no effect on BLM Sensitive species or their habitats.

Proposed Action: Implementation of the Proposed Action would potentially result in temporary disturbance (from construction activities) to BLM Sensitive Species including fringed myotis (a bat), Townsend's big-eared bat, big free-tailed bat, spotted bat, and white-tailed prairie dog. The bats are expected to forage in the Proposed Action Area during summer and early fall and could be temporarily displaced by construction activities. Relatively little upland shrubs or woodlands serving as foraging habitat for bats would be lost as a result of the Proposed Action, and riparian and wetland foraging habitat loss would be mitigated in the Habitat Replacement Site. A few scattered prairie dog burrows may be present within the ditch prism, and would be destroyed during construction. Midget faded rattlesnake potentially present around the project area could be disturbed or harmed by project construction. Northern leopard frogs could be impacted by construction, and implementation of the Proposed Action would result in the loss of northern leopard frog breeding habitat. However, impacts to these BLM Sensitive Species would be localized and not lead to population-level declines. To the extent that the loss of riparian or wetland habitat would affect foraging opportunities for BLM Sensitive snakes, bats, or breeding and overwintering habitat for the northern leopard frog, these habitat losses would be mitigated by creation of a Habitat Replacement Site south of Gould Reservoir (see Section 3.7).

The reduction of salinity and selenium expected to occur downstream in the watershed due to the Proposed Action may provide some benefit for BLM Sensitive fish habitat in downstream waters (similar to the benefits provided to the downstream endangered fish habitat described above).

3.10 Cultural Resources

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

ERO conducted Class III cultural resource inventories of the Proposed Action Area. All canal reaches and pipe alignments involved with the Proposed Action were inventoried in a 100-foot-wide corridor and all proposed access routes were inventoried in a 50-foot-wide corridor. Proposed staging and borrow areas were examined, as well as the proposed Habitat Replacement Site. The inventories resulted in the documentation of several elements of the irrigation system involved with the Proposed Action that support its eligibility for listing in the NRHP as well as historic sites and pre-historic lithic scatters recommended as eligible for listing in the NRHP. No cultural resources were documented in the Habitat Replacement Site.

No Action: The No Action Alternative would have no effect on cultural resources.

Proposed Action: As a result of a Class III cultural resources inventories of the Proposed Action Area, and in consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation has determined that the Proposed Action would have an adverse effect on segments of the canal involved with the Proposed Action, which are resources that are eligible for listing in the NRHP. A Memorandum of Agreement (MOA) has been executed between Reclamation and the Colorado SHPO, with FIC participating as an invited party, to mitigate the adverse effects of the Proposed Action (Appendix H). The MOA stipulates that Level II documentation be completed prior to any earth disturbances for the Proposed Action and requires that any post-review discoveries trigger an Unanticipated Discovery Plan (UDP; Appendix B to the MOA). The UDP outlines procedures that would be followed in order to protect potential archaeological materials or cultural resources discovered during implementation of the Proposed Action. In addition, the MOA stipulates that the Level II documentation be made available to the public via the Reclamation Western Colorado Area Office's cultural resources webpage (<https://www.usbr.gov/uc/wcao/rm/cr/index.html>).

3.11 Soils & Farmlands of Agricultural Significance

The soils units mapped by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in the Proposed Action Area are generally clayey loams, stony loams, and rock outcrop complexes.

In accordance with the Farmland Protection Policy Act, NRCS characterizes several mapped soil units in the Proposed Action Area as farmlands of national and statewide significance. Part of the Habitat Replacement Site contains a mapped soil unit characterized as "Farmland of Prime Importance if Irrigated and Drained." The lower tunnel area contains a mapped soil unit characterized as "Farmland of Statewide Importance." Canal sections 3, 4, and 5 contain mapped soil units characterized as "Farmland of Statewide Importance" and "Farmland of Unique Importance."

No Action: The No Action Alternative would have no effect on soils characterized by NRCS as agriculturally significant. Farmlands in the Proposed Action Area would

continue to produce as in the past. Salinity loading from irrigation water contact with saline soils in the current Fruitland Irrigation System would continue as it has in the past.

Proposed Action: Under the Proposed Action Alternative, installation of the buried pipe would disturb soils in the previously-disturbed ditch prism and potentially disturb native soils several feet beyond the ditch prism. Installation of the buried pipe and the tunnel improvements would require construction of new temporary roads (one road leading from the Gould Reservoir dam to the beginning of canal section 1 and one road on the ground surface above the lower tunnel alignment). The new temporary roads would be one lane wide and of native surface materials. The canal lining component of the Proposed Action would disturb soils within the existing canal prism. Staging activities would take place on previously disturbed ground or pasture areas that contain ruderal or non-native vegetation. Proposed borrow sites are in seasonal pond basins or the Gould Reservoir basin. Each of these activities would cause temporary disturbance to soils that are either not in irrigated agricultural production, or soils directly adjacent to irrigated agricultural lands. Some of the irrigated agricultural lands are designated as agriculturally significant by NRCS (see description above). However, no farmlands would be permanently altered or removed from production as a result of the Proposed Action, and no interruption to agricultural production would occur. Gould Canal conveys irrigation water to agriculturally significant lands across Fruitland Mesa; however, no change in the configuration of FIC-irrigated lands would occur as a result of the Proposed Action. No part of the irrigation season is expected to be lost during implementation of the Proposed Action.

Overall, the Proposed Action would give FIC the ability to better manage the irrigation water with efficiencies gained from piping and lining the system. Efficiencies gained may result in a longer irrigation season, and potentially in increased agricultural productivity. Water contact with saline soils would be reduced in the system as a result of the Proposed Action, which would help reduce salinity and selenium loading in the Colorado River basin. Soil erosion from irrigation water conveyances would be significantly reduced where canal reaches are proposed for lining or for replacement with buried pipe. Therefore, no direct adverse effects on soils or agriculturally significant lands are expected to occur due to implementation of the Proposed Action.

3.12 Cumulative Impacts

Cumulative impacts are direct and indirect impacts on the resources potentially affected by the Proposed Action, which result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts can also be characterized as additive or interactive. An additive impact emerges from persistent additions from one kind of source, whether through time or space. An interactive—or synergistic—impact results from more than one kind of source.

The analysis of cumulative impacts for the Proposed Action considers both spatial (geographic) boundaries and temporal limits of impacts, on a resource-by-resource basis. Spatial and temporal analysis limits vary by resource, as appropriate (see Table 3 for the spatial and temporal limits of analysis for each resource). Spatial analysis limits were selected to be commensurate with the impacts on, and realm of influence of, each resource type. The temporal limits of analysis were established as 50 years for each resource type (a standard timeframe for

cumulative impacts analysis), except for resource types perceived to have only temporary impacts (impacts that end following construction of the Proposed Action or within a few seasons following construction).

The direct and indirect effects of past and ongoing (present) actions are reflected in the current conditions described in the affected environment above in each of the resource topics of Section 3. Reasonably foreseeable future actions are *specific* actions, and not speculative actions, in that they have approved NEPA documentation or approved plans with the potential to impact the same resources affected by the Proposed Action.

Table 3. Cumulative Impacts Analysis Spatial & Temporal Limits by Resource

Resource	Spatial Limits of Analysis	Temporal Limits of Analysis
Water Rights and Use	Fruitland Mesa	50 years
Water Quality	Fruitland Mesa	50 years
Air Quality	Proposed Action Area plus 1-mile buffer	Duration of Proposed Action Construction
Access, Transportation, and Construction Impacts	Proposed Action Area	Duration of Proposed Action Construction
Recreation	Public lands within the Proposed Action Area	Duration of Proposed Action Construction
Visual Resources	Public lands within the Proposed Action Area	50 years
Livestock Grazing	Public lands within the Proposed Action Area	Duration of Proposed Action Construction
Vegetative Resources and Weeds	Proposed Action Area plus 1-mile buffer	50 years
Wildlife Resources	Fruitland Mesa	50 years
Threatened and Endangered Species	Fruitland Mesa	50 years
BLM Sensitive Species	Fruitland Mesa	50 years
Cultural Resources	Proposed Action Area	50 years

Resource	Spatial Limits of Analysis	Temporal Limits of Analysis
Agricultural Resources and Soils	Proposed Action Area	50 years

Reasonably foreseeable future actions potentially affecting resources within the spatial and temporal limits of this analysis (Table 3) the Proposed Action are

- Recreation on public lands, as authorized under BLM’s current Resource Management Plan for the Gunnison Gorge NCA (BLM 2004) – with potential impacts to air quality, soils, vegetation, wildlife, and special status species.
- Livestock grazing on public lands (as authorized under BLM’s current RMP [BLM 2004]) – with potential impacts to soils, vegetation, and special status species. Grazing permit stipulations, grazing timing, and stocking rates minimize impacts.

Potential impacts from the Proposed Action on air quality; access, transportation, and public safety; wildlife; recreation; and livestock grazing are temporary and minor, lasting only for the duration of construction or until revegetation is complete. Therefore, the Proposed Action does not contribute an incremental impact to the effects, if any, of the ongoing or reasonably foreseeable future actions on these resources.

The Proposed Action would have no adverse effect on water rights and water use, or soils and agricultural resources. Therefore, the Proposed Action does not contribute an incremental impact to the effects, if any, of the ongoing or reasonably foreseeable future actions on these resources.

The Proposed Action would have a potentially adverse impact on certain special status species or their critical habitats, on wetland and riparian vegetation (generated by the canal), and on wildlife using wetland and riparian habitat generated by the canal. Each of these impacts would be minimized with BMPs, conservation measures, or other mitigative measures, including a Habitat Replacement Site. Therefore, none of these impacts rise to a level that would incrementally contribute to the effects, if any, of the reasonably foreseeable future actions on these resources.

3.13 Summary of Impacts

Table 4 summarizes the predicted impacts/environmental consequences of the No Action and Proposed Action Alternatives analyzed in this EA.

Table 4. Summary of Impacts of the Proposed Action

Resource Issue	Impacts	
	No Action Alternative	Proposed Action Alternative
Water Rights and Use	No Effect	No Effect or possible beneficial effect

Resource Issue	Impacts	
	No Action Alternative	Proposed Action Alternative
Water Quality	Salt and selenium loading from the Proposed Action Area would continue to affect water quality in the Colorado River Basin	An estimated salt loading reduction of 5,697 tons per year to the Colorado River Basin will result from implementation of the Proposed Action. The Proposed Action is also expected to reduce selenium loading into the Gunnison River (the amount has not been quantified). Improved water quality would likely benefit downstream aquatic species by reducing salt and selenium loading in the Gunnison and Colorado rivers.
Air Quality	No Effect	Minor short-term effects due to dust and exhaust created by construction equipment; no long-term effect or possible beneficial long-term effect due to reduction in maintenance vehicle trips.
Access, Transportation, and Construction Impacts	No Effect	Minor temporary disruptions to local public roadways from construction traffic entering and existing roadways. No long-term effects.
Recreation Resources	No Effect	Part of the Proposed Action lies on BLM lands in the Gunnison Gorge NCA. Temporary short-term disruption of recreational uses such as hunting on BLM lands in and near the Proposed Action Area may occur during construction. Safety measures such as trench covers would be implemented.
Visual Resources	No Effect	The public lands in the Proposed Action Area are classified by BLM as Visual Resource Management Class III. Short-term temporary effect during construction (i.e., presence of equipment and materials), with revegetation commencing following completion of the Proposed Action. Once vegetation is successfully re-established, the appearance and character of the Proposed Action Area would be similar to the appearance and character of the surrounding area prior to construction. Such visual change is compatible with BLM's Class III management guidance.
Livestock Grazing	No Effect	Temporary effect. No lands capable of providing grazing will be permanently lost. Project personnel would coordinate with the grazing permit holder(s) to avoid conflicts with grazing operations.

Resource Issue	Impacts	
	No Action Alternative	Proposed Action Alternative
Vegetative Resources and Weeds	No Effect	Impacts to vegetation where construction would occur in upland areas. Estimated long-term loss of riparian/wetland habitat due to elimination of seepage from the involved canal segments would be mitigated with a Habitat Replacement Plan. Weed control measures would be implemented as a part of the Proposed Action, and the piping of the canal section 1 and lining of other sections would remove open water and seepage from the Proposed Action Area—both important vectors for the spread of weeds.
Wildlife Resources	No Effect	Short-term temporary adverse effect to local wildlife during construction. Work during big game production season (elk calving and deer fawning times) would be avoided. A Habitat Replacement Plan would be implemented to mitigate for the long-term loss of riparian and wetland habitat due to the Proposed Action.
Migratory Birds, Raptors	No Effect	No impacts to nesting migratory birds since vegetation grubbing would take place outside the primary nesting season. Several active raptor nests near the Proposed Action would be buffered from disturbance with construction timing and distance restrictions clearly explained on construction drawings. Long-term impacts due to loss of nesting habitat for both migratory birds and raptors along the current canal would be mitigated with the Habitat Replacement Site.
Threatened and Endangered Species	Salt and selenium loading from the Proposed Action Area would continue to affect aquatic dependent species	The Proposed Action Area lies within range of Gunnison sage-grouse and within its designated critical habitat. Construction activities in canal sections 2 through 5 would not begin prior to 9 am during breeding season (March 15 through April 30) to protect breeding Gunnison sage-grouse from adverse impacts from noise. Gunnison sage-grouse critical habitat would not be adversely modified. Water depletions (irrigation water consumption) would continue at historic levels, and would continue to adversely affect downstream designated critical habitat for the four Colorado River federally endangered fishes. However, the Upper Colorado River Endangered Fish Recovery Program serves as mitigation for these impacts, and a Recovery Agreement was executed between FWS and FIC to ensure compliance with the ESA. The Proposed Action would improve water quality by contributing to the reduction of salt and selenium loading in the Gunnison and Colorado rivers.

Resource Issue	Impacts	
	No Action Alternative	Proposed Action Alternative
BLM Sensitive Species	Salt and selenium loading from the Proposed Action Area would continue to affect aquatic dependent species	The Proposed Action would affect breeding habitat for the BLM Sensitive northern leopard frog. It may also affect foraging habitat for BLM Sensitive snakes and bats that use riparian habitat in the Proposed Action Area. Impacts to these species would be localized and not result in population-level declines. Habitat losses would be mitigated at the Habitat Replacement Site. The Proposed Action would improve water quality by contributing to the reduction of salt and selenium loading in the Colorado River Basin, to the benefit of BLM Sensitive fishes downstream of the Proposed Action Area.
Cultural Resources	No Effect	The Proposed Action would have an adverse effect on NRHP eligible cultural resources. The adverse effect would be mitigated with a MOA between Reclamation and the Colorado SHPO.
Agricultural Resources and Soils	No Effect	The Proposed Action would temporarily disturb the ground surface in the Action Area. BMPs would conserve soils and minimize the potential for erosion in the Proposed Action Area. The Proposed Action would not permanently affect productive irrigated farm areas or soils of agricultural significance.
Cumulative Impacts	No Effect	None of the anticipated impacts of the Proposed Action rise to a level that would incrementally contribute to the effects, if any, of other past, present, and reasonably foreseeable future actions on these resources.

4 ENVIRONMENTAL COMMITMENTS

This section summarizes the environmental commitments to protect resources and mitigate adverse impacts from the Proposed Action to a non-significant level. The actions in the following environmental commitment checklist will be implemented as an integral part of the Proposed Action and shall be included in the contractor bid specifications. If the Proposed Action is approved, FIC shall use this checklist to document compliance with each environmental commitment. FIC shall submit the relevant component of the completed checklist to Reclamation immediately following each phase of the Project, i.e., Pre-Construction, During Construction, and Post-Construction, along with documents generated to meet environmental commitments.

Note that any construction activities proposed outside of the inventoried Proposed Action Area or the planned timeframes would first require additional review by Reclamation, and additional review by BLM if on public lands, to determine if the existing surveys and information are

adequate to evaluate additional impacts to special status plants and wildlife, including threatened, endangered, BLM-sensitive, or migratory bird species.

Table 5. Environmental Commitment Checklist

Environmental Commitment	Resource(s) that Benefit	Date of Compliance and Initials
<i>Pre-Construction</i>		
A Spill Response Plan shall be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.	Water Quality	
A Memorandum of Agreement (MOA) is in place to mitigate the Proposed Action’s adverse effects to cultural resources. The MOA commits Reclamation to complete historic resource documentation of the canal segments prior to construction activities in accordance with the guidance for “Level II documentation,” and to post this documentation on the Reclamation Western Colorado Area Office’s cultural resources webpage.	Cultural Resources	
Construction limits shall be clearly flagged onsite to avoid unnecessary plant loss or ground disturbance.	Vegetation, Weeds, Habitat, Wildlife	
The appropriate permit under Section 404 of the Clean Water Act shall be obtained prior to implementing regulated aspects of the Habitat Replacement Plan.	Wetlands and Water Quality	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance and Initials
<p>A special requirement area shall be indicated on the engineer drawings for the Proposed Action (this location is a cultural resource site and its location cannot be disclosed to the public). The area shall be off limits to project construction activity or ground disturbance, except for the old access road that passes through it. The old access road through this area can be used, but not graded or widened. If necessary, the large shrubs between the old road tracks may be mowed, and the slash shall be removed to a non-BLM staging / borrow area and chipped/mulched or burned or disposed at a county landfill. An appropriate barricade shall be placed on either side of the road through this "special requirements area" to ensure people and equipment avoid the special requirement area.</p>	<p>Cultural</p>	
<p>All equipment shall be cleaned before it is brought to the construction area, to minimize transport of new weed species to the construction area.</p>	<p>Vegetation, Weeds, Habitat, Wildlife</p>	
<p>A nesting raptor survey was conducted during May 2019 in the Proposed Action Area to identify active raptor nests with the potential to be disturbed by the Proposed Action. Active nest locations within CPW-recommended buffer distances were identified. Protective buffer areas for active raptor nests shall be clearly identified on construction drawings along with the following map note: "Project activities within Biologically Sensitive Area Type 1 shall not occur during the period of December 15 through July 15, and project activities within Biologically Sensitive Area Type 2 shall not occur during the period of February 15 through July 15, except when the activity begins prior to the restrictive period and is conducted thenceforth on a daily basis during the restrictive period until outside the protective buffer."</p>	<p>Special Status Species</p>	
<p>FIC shall hold a pre-construction orientation meeting with the contractor and Reclamation or contract biologist to familiarize the contractor with biologically and culturally sensitive areas and required conservation measures.</p>	<p>Special Status Species</p>	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance and Initials
<p>Prior to construction, vegetative material shall be removed by mowing or chopping, and either hauled to the County landfill or to a proposed staging area to be burned, chipped, and/or mulched. Stumps shall be grubbed and hauled to the County landfill or a proposed staging area to be burned. No burning activities shall occur on lands managed by the BLM.</p>	<p>Soil, Vegetation, Weeds, Habitat</p>	
<p>Vegetation removal shall be confined to the smallest portion of the Proposed Action Area necessary for completion of the work.</p>	<p>Soil, Vegetation, Weeds, Habitat</p>	
<p>Vegetation removal shall avoid the primary nesting season of migratory birds (April 1 – July 15), including vegetation removal at the Habitat Replacement Site. This timing restriction shall be noted on project construction drawings.</p>	<p>Special status species</p>	
<p>Construction activities shall not take place prior to 9 am during sage-grouse breeding season (March 15-April 30) in canal sections 2 through 5. This timing restrictions shall be noted on the construction drawings.</p>	<p>Special Status Species</p>	
<p>Topsoil shall be stockpiled and then redistributed after completion of construction activities.</p>	<p>Soil, Vegetation, Weeds, Habitat</p>	
<p>Notification to the public lands grazing permit holder(s) shall be made if construction is to occur during a grazing period.</p>	<p>Livestock Grazing</p>	
<i>During Construction</i>		
<p>Straw wattles, silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures shall be used to prevent erosion from entering water bodies during construction.</p>	<p>Water Quality, Soil</p>	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance and Initials
Any concrete pours shall occur in forms and/or behind cofferdams to prevent discharge into waterways. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing shall be contained and treated or removed for off-site disposal.	Water Quality	
The construction contractor shall transport, handle, and store any fuels, lubricants, or other hazardous substances involved with the Proposed Action in an appropriate manner that prevents them from contaminating soil and water resources.	Water Quality, Soil	
Portable secondary containment shall be provided for any fuel or lubricant containers staged on BLM land within the Proposed Action Area. Any staging of fuel or lubricants, or fueling or maintenance of vehicles or equipment, will not be conducted within 100 feet of any live water or drainage.	Water Quality, Soil	
Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.	Water Quality, Soil	
Construction equipment shall be parked, stored, and serviced only at an approved staging area.	Water Quality, Soil	
A copy of any report required or requested by any federal agency or state government as a result of a reportable release or spill of any toxic substances shall be furnished to BLM concurrent with the filing of the reports to the involved Federal agency or State government.	Water Quality, Soil	
Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Proposed Action.	Soil, Vegetation, Weeds, Habitat, Wildlife	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance and Initials
<p>Pipeline trenches left open overnight shall be kept to a minimum and covered to reduce potential for hazards to the public and to wildlife. Covers shall be secured in place and strong enough to prevent livestock or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be used.</p>	<p>Wildlife, Grazing, Recreation</p>	
<p>If previously undiscovered cultural or paleontological resources are discovered during construction, construction activities must immediately cease in the vicinity of the discovery and Reclamation must be notified. In this event, the SHPO shall be consulted, and work shall not be resumed until consultation has been completed, as outlined in the Unanticipated Discovery Plan in the attached MOA. Stipulations in the MOA with the SHPO are incorporated herein by reference. Additional surveys shall be required for cultural resources if construction plans or proposed disturbance areas are changed.</p>	<p>Cultural Resources</p>	
<p>In the event that uninventoried threatened or endangered species are encountered during construction, FIC shall stop construction activities until Reclamation has consulted with FWS to ensure that adequate measures are in place to avoid or reduce impacts to the species.</p>	<p>Special Status Species</p>	
<p>Construction activities for the canal piping, tunnel improvements, and canal lining shall take place only in accordance with the schedule and any timing restrictions in Table 2 of this EA.</p>	<p>Special Status Species</p>	
<p>If an active bald eagle nest or bald eagle roost site is discovered within ¼ mile of the Proposed Action during construction, or if any other active raptor nest is discovered within 1/3-mile of the Proposed Action Area during construction, construction shall cease until Reclamation could complete consultations with FWS and CPW.</p>	<p>Special Status Species</p>	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance and Initials
Post-Construction		
Following construction, all disturbed areas shall be smoothed with tracked equipment (without back dragging blade), shaped, and contoured to as near to their pre-project conditions as practicable.	Soil, Vegetation, Weeds, Habitat	
All drainage patterns that intersect that portion of the canal to be piped shall be shaped to their natural flow patterns.	Soil, Vegetation, Habitat	
All equipment shall be cleaned before it is transported to another job site, to avoid introducing weed species from the construction area to another job site.	Vegetation, Weeds, Habitat	
Re-seeding shall occur following project construction at appropriate times and with appropriate methods, using drought tolerant, weed-free seed mixes per Reclamation specifications and BLM stipulations. Specifically, a BLM-prescribed seed mix (EA Appendix E) shall be used to reseed all disturbances on BLM lands. On private lands, FIC shall coordinate with landowners to develop a seed mix compatible with the surrounding native vegetation and approved by Reclamation.	Soil, Vegetation, Weeds, Habitat	
Weed control shall be implemented by FIC or FIC’s contractor in accordance with BLM right-of-way stipulations and current County weed control standards (Delta County 2010; Montrose County 2011).	Soil, Vegetation, Weeds, Habitat	
Herbaceous noxious weeds shall be controlled as necessary after construction for the life of the project through the use of herbicides mixed with surfactants. FIC shall coordinate with BLM on the use of any herbicides on lands managed by the BLM, and shall obtain Pesticide Use Proposals (PUPs) prior to treatments.	Soil, Vegetation, Weeds, Habitat	

5 CONSULTATION & COORDINATION

Reclamation's consultation and coordination process presents other agencies, interest groups, and the general public with opportunities to obtain information about a given project and allows interested parties to participate in the project through written comments. The key objective is to facilitate a well-informed, active public that assists decision-makers throughout the process, culminating in the implementation of an alternative. This section explains consultation and coordination undertaken for the Proposed Action.

5.1 Agency Consultation

The following local, state, and federal agencies were contacted and consulted in the preparation of this EA. Additional entities were given the opportunity to comment during a public review period.

- U.S. Bureau of Land Management, Uncompahgre Field Office, Montrose, CO
- Colorado Office of Archaeology & Historic Preservation, Denver, CO
- Colorado Parks & Wildlife, Gunnison, CO
- U.S. Fish & Wildlife Service, Ecological Services, Grand Junction, CO
- U.S. Army Corps of Engineers, Colorado West Regulatory Branch, Grand Junction, CO
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)

5.2 EA Comments

Reclamation provided the public an opportunity to comment on the Draft EA and FONSI between July 22, 2019 and August 22, 2019. During this time, two comments were received. A summary of the comments and responses to the comments are provided in Appendix B, along with a copy of the comments.

5.3 Distribution

Notice of the public review period and availability of the Draft EA (posted on Reclamation's website) was announced through a press release. Notice was also distributed (via U.S. mail or electronic mail) to private landowners adjacent to the Proposed Action Area, and the organizations and agencies listed in Appendix C. This Final EA is also available on Reclamation's website. Publicly-available electronic versions of the Draft and Final EA meet the technical standards of Section 508 of the Rehabilitation Act of 1973, so that the documents can be accessed by people with disabilities using accessibility software tools.

REFERENCES

Armstrong, D.M., J.P. Fitzgerald, and C.A. Meany. 2011. *Mammals of Colorado*. 2nd Ed. Boulder, Colorado: Univ. Press of Co. 620 pp.

BLM. 2015 (U.S. Bureau of Land Management). BLM Colorado special status species list provided by Kenneth Holsinger, BLM Terrestrial Biologist.

- BLM. 2004. Gunnison Gorge National Conservation Area Approved Resource Management Plan and Record of Decision. Gunnison Gorge NCA Office, Montrose, Colorado. https://eplanning.blm.gov/epl-front-office/projects/lup/65261/97021/117177/GGNCA-RODRMP-Nov2004_web.pdf
- CGSGWG (Crawford Area Gunnison Sage-Grouse Working Group). 2011. Crawford Area Gunnison Sage-Grouse Conservation Plan. March 28. https://cpw.state.co.us/Documents/WildlifeSpecies/SpeciesOfConcern/GunnisonSageGrouse/GunnisonSageGrouseLocalPlan_Crawford.pdf
- CPW (Colorado Parks and Wildlife). 2018. Public SAM Data Layer accessed in ArcGIS from the ArcGIS online server. Last updated by CPW on November 8, 2018.
- CPW. 2008. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors. <https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf>
- DCD (Delta Conservation District). Fruitland Irrigation Company Water Management Plan. Prepared for Fruitland Irrigation Company. October. 87 pp.
- Delta County. 2010. Delta County Noxious Weed Management Plan. Adopted April 5, 2010. <http://www.deltacounty.com/DocumentCenter/View/1013>
- EPA (U.S. Environmental Protection Agency). 2018. Current nonattainment counties for all criteria pollutants. <https://www3.epa.gov/airquality/greenbook/ancl.html>.
- ERO (ERO Resources Corporation). 2019. Habitat Replacement Plan for the Gould Canal Improvement Project. Prepared for Fruitland Irrigation Company. In progress.
- ERO. 2018. Habitat Loss Assessment for Gould Canal Improvement Project. Prepared for Fruitland Irrigation Company. December.
- FIC (Fruitland Irrigation Company). 2017. Bureau of Reclamation Colorado River Basinwide & Basin States Salinity Control Programs 2017 FOA No. BOR-UC-17-F003 Project Proposals: Gould Improvement Project A and Gould Improvement Project B. November.
- FWS (U.S. Fish & Wildlife Service). 2019. List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project. Fruitland Irrigation Company-Gould Canal. Consultation Code: 06E24100-2019-SLI-0126.
- FWS. 2009. Gunnison Basin Programmatic Biological Opinion. December 4. Memorandum to Area Manager, Western Colorado Area Office, Bureau of Reclamation, Grand Junction, Colorado from Colorado Field Supervisor, Ecological Services, Lakewood, CO. http://www.usbr.gov/uc/wcao/rm/aspeis/pdfs/aspinallpbo_final.pdf
- FWS. 2007. National Bald Eagle Management Guidelines. <https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf>
- Montrose County. 2011. Weed Management Plan. Prepared by the Montrose County Weed Mitigation Department. April 18. <http://www.montrosecounty.net/162/Weed-Mitigation>

- OAHP (Office of Archaeology and Historic Preservation, History Colorado). 2013. Historic Resource Documentation Standards for Level I, II, and III Documentation. Publication 1595.
- Rare Earth (Rare Earth Science, LLC). 2019. Threatened & Endangered Species Inventory, Gould Canal Improvement Projects A & B, Delta & Montrose Counties Colorado. Prepared for the U.S. Bureau of Reclamation, Environmental Planning Group of the Western Colorado Area Office, Upper Colorado Region. In progress.
- Reclamation (U.S. Bureau of Reclamation). 2017. Quality of Water – Colorado River Basin. Progress Report No. 25. <https://www.usbr.gov/uc/progact/salinity/pdfs/PR25final.pdf>
- Reclamation. 2018. Basinwide Salinity Control Program: Procedures for Habitat Replacement. 14 pp. May.
- Sacco, Robert (Colorado Parks and Wildlife). Personal communication (email) with D. Reeder (Rare Earth Science). February 7, 2019.
- Seward, Nathan (CPW Area 16 Terrestrial Biologist). Personal communication (telephone and email) with D. Reeder (Rare Earth Science). September and October 2016, and June 2018.
- SMPW (Selenium Management Program Workgroup). 2011. Selenium Management Program: Program Formulation Document, Gunnison River Basin, Colorado. Compiled by U.S. Bureau of Reclamation. <http://www.usbr.gov/uc/wcao/progact/smp/docs/Final-SMP-ProgForm.pdf>
- SWReGAP (U.S. Geological Survey National Gap Analysis Program). 2004. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.
- USACE (U.S. Army Corps of Engineers). 2017. Special Public Notice: Nationwide Permit Reissuance and Colorado Regional Conditions. Albuquerque, Sacramento, and Omaha Districts. March 18. <https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll7/id/8248>
- USDA (U.S. Department of Agriculture) Natural Resources Conservation Service. 2007. Soil Survey Geographic (SSURGO) database for Paonia Area, Colorado, Parts of Delta, Gunnison, and Montrose Counties, publication co679.
- Wickersham, L. (Editor). 2016. Colorado breeding bird atlas (2nd ed). Denver, CO: Colorado Bird Atlas Partnership & Colorado Division of Wildlife. Online dataset retrieved from <http://cobreedingbirdatlasii.org/index.html>

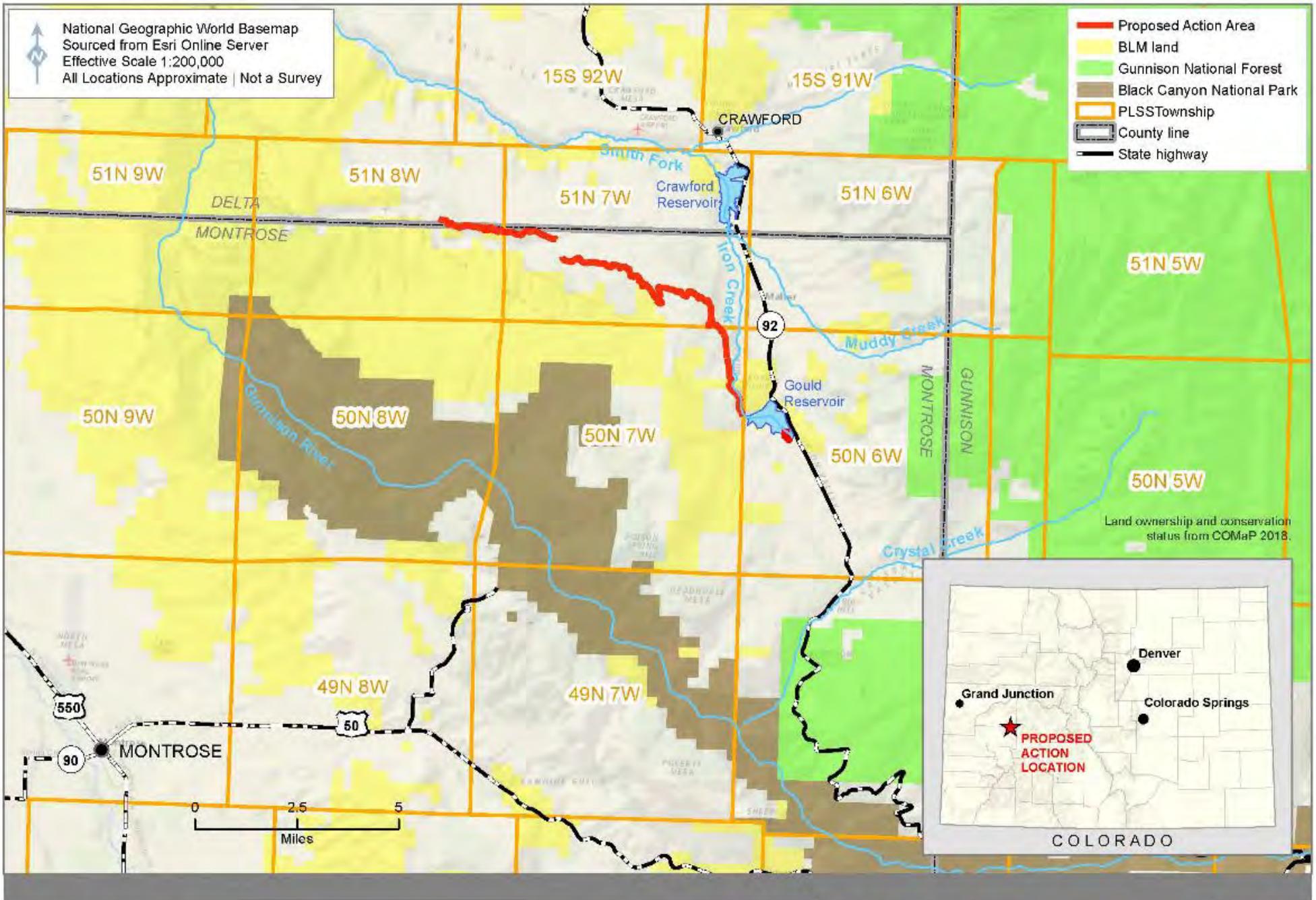
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APPENDIX A

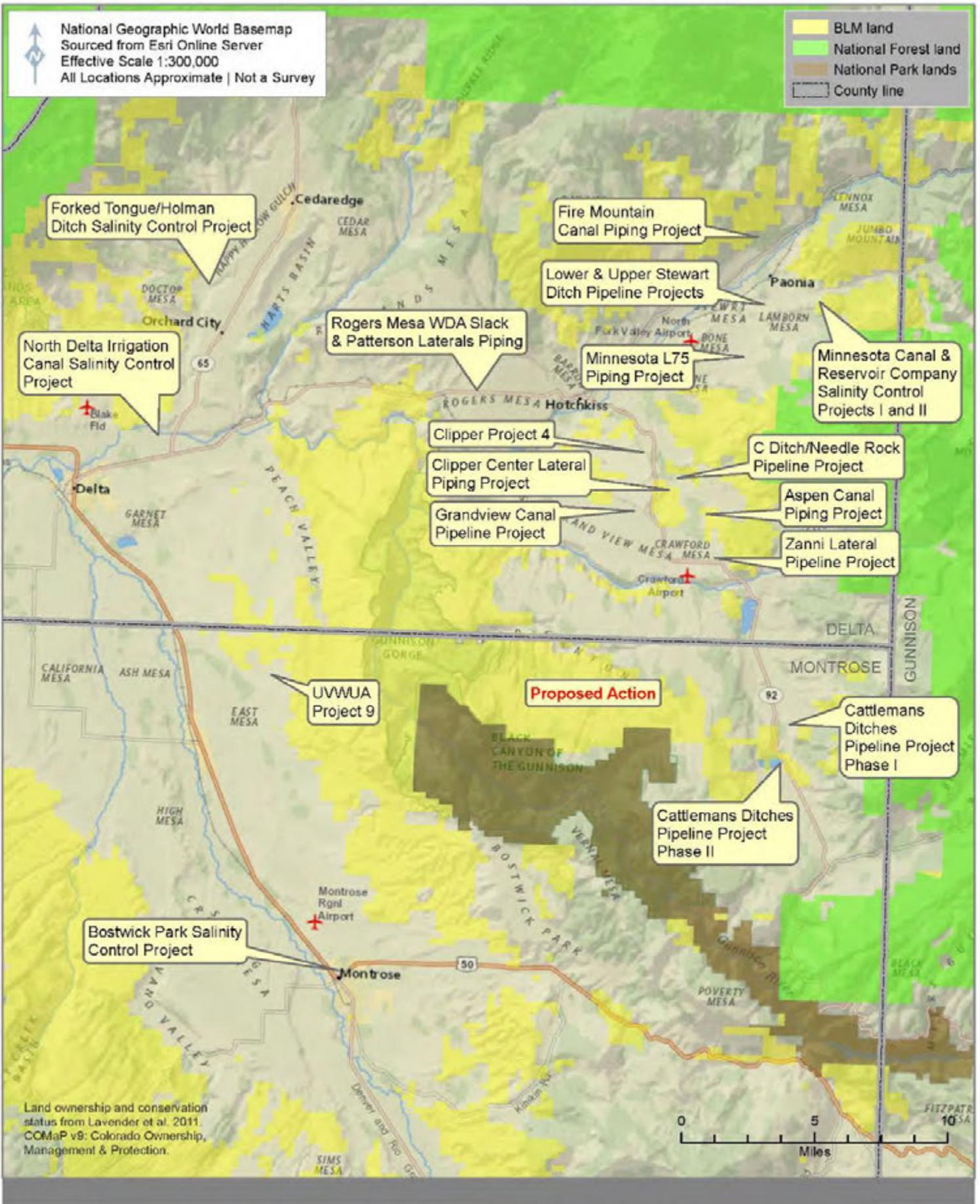
Figures

1. Regional & Local Locator Maps
2. Regional Salinity Control Projects
3. Project Configuration

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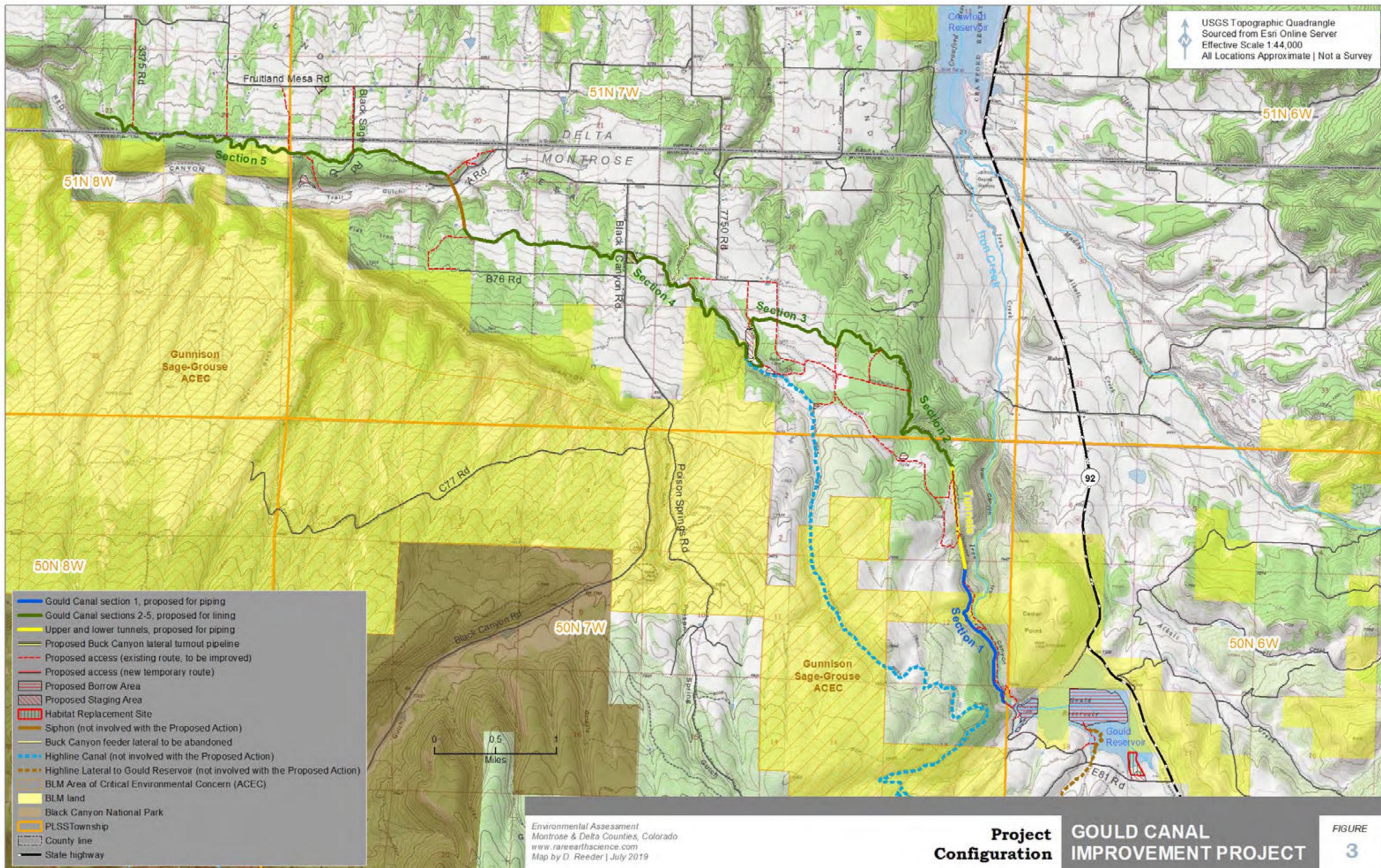


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USGS Topographic Quadrangle
 Sourced from Esri Online Server
 Effective Scale 1:44,000
 All Locations Approximate | Not a Survey



- Gould Canal section 1, proposed for piping
- Gould Canal sections 2-5, proposed for lining
- Upper and lower tunnels, proposed for piping
- Proposed Buck Canyon lateral turnout pipeline
- - - Proposed access (existing route, to be improved)
- Proposed access (new temporary route)
- Proposed Borrow Area
- Proposed Staging Area
- Habitat Replacement Site
- Siphon (not involved with the Proposed Action)
- Buck Canyon feeder lateral to be abandoned
- - - Highline Canal (not involved with the Proposed Action)
- - - Highline Lateral to Gould Reservoir (not involved with the Proposed Action)
- BLM Area of Critical Environmental Concern (ACEC)
- BLM land
- Black Canyon National Park
- PLSSTownship
- County line
- State highway

Environmental Assessment
 Montrose & Delta Counties, Colorado
 www.rareearthscience.com
 Map by D. Reeder | July 2019

Project Configuration
GOULD CANAL IMPROVEMENT PROJECT

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APPENDIX B

Summary of Comments on the DRAFT EA and Responses

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Comment Summaries and Responses

Two comment documents were received during the comment period containing 2 distinct, substantive comments. The comments are concerned with water quality. In compliance with 40 CFR 1503.4, possible responses to comments include:

- Modifying the alternatives or developing and evaluating new alternatives
- Supplementing, improving, or modifying the analyses
- Making factual corrections

Reclamation's summary of the comments and consolidated responses follow. Changes were made to supplement, improve, or modify the EA as a result of these comments and the reader is referred to the section of the EA where the changes occurred.

Comment Number: 1

Summary of comment: Commenter is concerned with large poultry facilities in the vicinity of canal section 4. The commenter described a drainage intercepted by Gould Canal which flows during storm events and may carry manure and chemicals from poultry facilities into Gould Canal.

Response: Waste management and pollution from poultry facilities are the responsibility of the poultry facility owner, and are regulated by the Colorado Department of Public Health & Environment and the Colorado Water Quality Control Commission. The lining of Gould Canal would not change surface drainage characteristics in the area the commenter is concerned about. Other than reducing naturally-occurring salt and selenium in the canal water, it is not within the scope of the Proposed Action to manage potential sources of water quality degradation that enter the canal. Clarification that surface drainage in the vicinity of the lined portions of Gould Canal would remain unchanged was added to Section 3.2 of the Final EA.

Comment Number: 2

Summary of comment: The proposed project would provide downstream benefits to farmers and consumers in California who receive Colorado River water.

Response: Comment noted.

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COMMENT NUMBER 1

From: **Ril Lri** <frunze117@outlook.com>
Date: Thu, Aug 1, 2019 at 1:10 PM
Subject: [EXTERNAL] Gould Canal Improvement Project Comment
To: lmcwhirter@usbr.gov <lmcwhirter@usbr.gov>
Cc: jliff@usbr.gov <jliff@usbr.gov>

Dear Ms. McWhirter,

I own 40a (Montrose County parcel R0021347) at 2984 Black Canyon Rd. in Crawford, CO. Approximately 1200ft of Gould Canal Section 4 (designated per your Draft Environmental Assessment) runs through my property. On my property and the adjacent property (Montrose parcel R0022128, 3054 Black Canyon Rd.) there is 3' to 6' deep dry canal that empties into the Gould canal at N38 degrees 39' 0.75", W107 degrees 38' 42.28". I have witnessed this nature made canal filling up with mud and water in a rainstorm. There is a 20,000 hen poultry house (Saddle Mountain Layers LLC) located in the vicinity of this nature made canal on Montrose parcel R0022128. The poultry house elevation is approximately 7300' above sea level or 80' above the location where the nature made canal empties into Gould canal. The manure and chemicals used to treat the manure seep into the nature made canal/underground aquafer and are carried/overflow into the Gould canal/adjacent wells. Lining Gould canal may not stop the surface overflow of the industrial waste flowing from the poultry company into Gould canal. There are two other much larger poultry facilities within 2mi. One of these two facilities (West of Black Canyon Rd.) is located almost at Gould canal.

I hope the above info helps your department to find ways to reduce/eliminate the contamination of Gould canal by the above described industrial waste that is presently carried into Colorado river. Please let me know how you are planning to mitigate the problem.

FYI: I don't own (or plan to acquire) any Gould canal water rights and have no water well on my property. I use Fruitland Domestic Water instead.

Sincerely,

Ruin Isaak Lerman
(907) 868-2828

COMMENT NUMBER 2

----- Forwarded message -----

From: **EarthSafe** <earthsafe@aol.com>

Date: Thu, Aug 15, 2019 at 6:22 PM

Subject: [EXTERNAL] Goulds Ditch Lining Project, Delta and Montrose County, Colorado

To: <lmcwhirter@usbr.gov>

Hello Bureau of Reclamation,

I support the project.

The Mancos Shale is an infinite source of salinity to the Colorado River. The Dakota Sandstone is exposed in the hills surrounding the project. The Mancos Shale was washed from the top of the sandstone forming the younger soil in the agricultural land. I was rinsed once during transport but there is still some salinity and selenium left.

Selenium concentrates in the food chain; please see the results of the Kesterson Project in California's Central Valley.

The cessation of the leakage from the unlined ditch will immediately reduce water tables down gradient from the ditch. Lower water tables will improve soil drainage for farmers.

Farmers will receive the same amount of water while less water goes into the ditch.

The current ditch requires maintenance. I imagine there is a local crew to repair breaches and clogs who traverse the length of the project. The reline project will be no more invasive.

This water derives from a drainage named Alkali Creek. Could that have a ring of truth? Fresh water should leave the area immediately.

I live in Los Angeles; Colorado River water is distributed to me. This project improves my prospects as well.

Christopher E. Wernicke
15027 Lashburn Street
Whittier, CA 90604

APPENDIX C

Distribution List

All landowners adjacent to the Proposed Action
Citizens for a Healthy Community
City of Delta
City of Montrose
Colorado Department of Transportation
Colorado Office of Archaeology and Historic Preservation
Colorado Parks and Wildlife
Colorado River Water Conservation District
Colorado Water Conservation Board
Delta Area Chamber of Commerce
Delta Montrose Electric Association
Delta County Planning & Development Department
Delta County Road & Bridge Department
Delta County Independent
Montrose Chamber of Commerce
Montrose County Planning & Development Department
Montrose County Public Works Department
Iron Canyon Allotment, Poison Spring Allotment, and Red Canyon BLM Grazing Allotment
Permit Holders
Montrose Daily Press
Trout Unlimited
U.S. Army Corps of Engineers
U.S. Bureau of Land Management
U.S. Department of Agriculture Natural Resources Conservation Service
U.S. Fish and Wildlife Service
Western Slope Conservation Center

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APPENDIX D

Section 404 Clean Water Act Compliance Documentation

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

July 8, 2019

Regulatory Division (SPK-2019-00372)

Fruitland Irrigation Company
Attn: Danny Todd, President
34918 Fruitland Mesa Road
Crawford, CO 81415
toddcattlecompany@gmail.com

Dear Mr. Todd:

This concerns your proposed Gould Canal Improvement Project, which would line 10.3 miles of the Gould Canal and convert approximately 2.1 miles of earthen canal to pipe. The approximate 12.4-mile project site is located in the Smith Fork Watershed in an area locally known as Fruitland Mesa, on an unlined, open irrigation canal system, in portions of Sections 17 and 18 of Township 50 North, Range 6 West; Sections 1, 2, 12, and 13 in Township 50 North, Range 7 West; Sections 19, 20, 27, 28, 29, 30, 34, 35, and 36 of Township 51 North, Range 7 West; and Sections 23 and 24 of Township 51 North, Range 8 West, N.M.P.M., west of State Highway 92, approximately 18 miles northeast of the City of Montrose, in portions of northeast Montrose County and southeast Delta County, Colorado.

Based on the information you have provided, we have determined that the proposed work is exempt from Section 404 of the Clean Water Act. Therefore, a Department of the Army Permit is not required for this work. Measures should be taken to prevent construction materials and/or activities from entering any waters of the United States. Appropriate soil erosion and sediment controls should be implemented onsite to achieve this end.

Our disclaimer of jurisdiction is only for this activity as it pertains to Section 404 of the Federal Clean Water Act and does not refer to, nor affect jurisdiction over any waters present on site. Other Federal, State, and local laws may apply to your activities. Therefore, in addition to contacting other Federal and local agencies, you should also contact state regulatory authorities to determine whether your activities may require other authorizations or permits.

Please refer to identification number SPK-2019-00372 in any correspondence concerning this project. If you have any questions, please contact me at the Grand Junction Regulatory Office, Colorado West Section, 400 Rood Avenue, Room 224, Grand Junction, Colorado 81501, by email at w.travis.morse@usace.army.mil, or telephone at (970) 243-1199, extension 1014.

-2-

For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx. We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Sincerely,



Travis Morse
Senior Project Manager
Colorado West Section
Regulatory Division

cc:

Dawn Reeder, Rare Earth Science, dawn@rareearthscience.com
Aleta Powers, ERO Resources, apowers@eroresources.com
Beth Karberg, Applegate Group Inc., bethkarberg@applegategroup.com
Jeanie McCulloch, Delta County, planning@deltacounty.com
Steve White, Montrose County, swhite@montrosecounty.net
Lesley McWhirter, U.S. Bureau of Reclamation, lmcwhirter@usbr.gov
Jennifer Ward, U.S. Bureau of Reclamation, jward@usbr.gov
Amanda Ewing, U.S. Bureau of Reclamation, aewing@usbr.gov
Jim Berkley, Environmental Protection Agency, berkley.jim@epa.gov



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

August 15, 2019

Regulatory Division (SPK-2019-00513)

Fruitland Irrigation Company
Attn: Mr. Danny Todd
34918 Fruitland Mesa Rd
Crawford, Colorado 81415-9133
toddcattlecompany@gmail.com

Dear Mr. Todd,

We are responding to your July 24, 2019, pre-construction notification for a Department of the Army permit for the Gould Habitat Site Improvement Project. The project site is located at the southeast corner of Gould Reservoir, within Section 17, Township 50 North, Range 6 West, New Mexico Principal Meridian, centered generally at Latitude 38.597070°, Longitude -107.572485°, approximately 8 miles south of the Town of Crawford, in Montrose County, Colorado.

Based on the information provided to this office, the Gould Habitat Site Improvement Project involves the discharge of fill material into waters of the United States for the purpose of constructing hand-built rock structures (i.e., Zeedyk structures) to restore the attributes and functionality of the neighboring wet meadow, subject to Section 404 of the Clean Water Act. These activities will result in temporary impacts to 0.1 acre of palustrine emergent wetland and permanent effects to 0.01 acre of palustrine emergent wetland. The project will address the incised channeling occurring as a result of upgradient storm and tailwater runoff. The project, as proposed, will provide conditions conducive to the establishment of native wet meadow vegetation.

We have determined that activities in waters of the United States associated with the project are authorized by Nationwide Permit (NWP) 18 – *Minor Discharges*. You must comply with all terms and conditions of the NWP and applicable regional conditions. Enclosed is information about the NWP terms and conditions and Sacramento District regional conditions for Colorado (Enclosure 1). Please note, you must sign the enclosed Compliance Certification and return it to this office within 30 days after completion of the work in waters of the United States authorized by this permit (Enclosure 2).

This verification is valid until March 18, 2022, when the existing NWPs are scheduled to be modified, reissued, or revoked. Furthermore, if you commence or are under contract to commence this activity before the date the NWP is modified, reissued, or revoked, you will have 12 months from the date of the modification, reissuance or revocation to complete the activity under the present terms and conditions. Failure to comply with the general and regional conditions of this NWP may result in the suspension or revocation of your authorization.

Please refer to identification number SPK-2019-00513 in any correspondence concerning this project. If you have any questions, please contact me at the Grand Junction Regulatory Office, 400 Rood Avenue, Room 224, Grand Junction, Colorado 81501, by email at tucker.j.feyder@usace.army.mil, or telephone at (970) 243-1199 ext. 1017.

We would appreciate your feedback on this permit action including your interaction with our staff and processes. For more information about our program or to complete our Regulatory Program national customer service survey, visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Travis Morse
Senior Project Manager
Colorado West Section

Enclosures

1. NWP – 18 and CO Regional Conditions
2. Compliance Certification

cc: (w/ encls)

Ms. Cassandra Shenk, ERO Resources, cshenk@eroresources.com

Ms. Aleta Powers, ERO Resources, apowers@eroresources.com

Ms. Jennifer Ward, U.S. Bureau of Reclamation, jward@usbr.gov

Mr. Steve White, Montrose County, swhite@montrosecounty.net

APPENDIX E

Seed Mix Required for Non-Irrigated Areas

(Provided by BLM)

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**Sagebrush and
Pinyon-Juniper Zone
Mid Elevations (6,000-8,000')**

Common	Cultivar	Genus	species	Seeds/Pound		Desired % of Planting
				(NRCS)	(Granite)	
BOTTLEBRUSH SQUIRRELTAIL	State Bridge	ELYMUS	elymoides	192000		30%
INDIAN RICEGRASS	rimrock	ACHNATHERUM	hymenoides	161920		26%
Slender Wheatgrass	White River	Elymus	trachycaulus	159000		26%
BLUESTEM PENSTEMON*	UP	PENSTEMON	cyanocaulis	656000		3%
Rocky Mtn Penstemon	Bandera	PENSTEMON	strictus	656000		2%
NORTHERN (UTAH) SWEETVETCH	TIMP	HEDYSARUM	boreale	46313		3%
LEWIS FLAX	Maple Grove	LINUM	lewisii spp. lewesii	170000		5%
Multil-lobed groundsel	UP	Senecio	multilobata	922000		3%
WESTERN YARROW	UP	Achillea	millefolium	2770000		1%
Showy Goldeneye	VNS	Heliomeris	multiflora	1055000		1%
				TOTAL		100%

PLS = Pure live seed

* If volumes not readily available, substitute Rocky Mtn Penstemon (Bandera)

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APPENDIX F

Endangered Species Act Compliance Documents

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Colorado Ecological Services



IN REPLY REFER TO:
AWS/RS/ES/CO

Front Range:
Post Office Box 35486
Mail Stop 65412
Denver, Colorado 80225-0486

Western Slope:
445 W. Gunnison Avenue
Suite 240
Grand Junction, Colorado 81501-5711

TAHLS 06124100-2019-J-0328

July 31, 2019

Memorandum

To: Arca Manager, Western Colorado Arca Office, Bureau of Reclamation, Grand Junction, Colorado

From: *J. Creed Clayton*
for Western Slope Supervisor, U.S. Fish and Wildlife Service, Ecological Services, Grand Junction, Colorado

Subject: Consultation under Section 7 of the Endangered Species Act for the Fruitland Irrigation Company's Gould Canal Improvement Projects; Salinity Control Program Funding Agreements: R18AC00074 and R18AC00075

In accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), the Fish and Wildlife Service (Service) transmits this correspondence to serve as the final biological opinion (BO) for the Fruitland Irrigation Company's (FIC) Gould Canal Improvement Projects. This responds to your July 12, 2019, request for formal consultation under section 7 of the ESA which included a Recovery Agreement, signed by the applicant July 10, 2019.

The FIC's proposed Gould Canal Improvement Projects (project) are located in northeast Montrose County and southeast Delta County, Colorado, approximately 4 miles southwest of the Town of Crawford. The project will replace the existing system of open, earthen irrigation ditches with a combination of buried pipe and concrete lined ditches. There are no new water depletions associated with this project and historic depletions of 8,341 acre-feet per year (AF/yr) will continue. The proposed project will eliminate ditch seepage and reduce salinity in the Colorado River Basin by an estimated 5,697 tons of salt per year.

The proposed project will require construction activities in unoccupied Gunnison sage-grouse (*Centrocercus minimus*) habitat, however some actions will take place within 1.5 miles of active leks. We concur with your determination that that proposed project may affect, but is not likely to adversely affect Gunnison sage-grouse due to conservation measures to avoid work-related noise during breeding activities. Additionally, we concur with your determination that the proposed project is not likely to adversely affect designated critical habitat because actions will occur in unoccupied habitat that is currently degraded due to encroachment of pinyon-juniper

and agricultural operations. The project proponent will also revegetate the disturbed areas with a seed mix beneficial to sage-grouse.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated on January 22, 1988. The Recovery Program was intended to be the reasonable and prudent alternative for individual projects to avoid the likelihood of jeopardy to the endangered fishes from impacts of depletions to the Upper Colorado River Basin. In order to further define and clarify the process in the Recovery Program, a section 7 agreement was implemented on October 15, 1993, by the Recovery Program participants. Incorporated into this agreement is a Recovery Implementation Program Recovery Action Plan (RIPRAP) which identifies actions currently believed to be required to recover the endangered fishes in the most expeditious manner.

On December 4, 2009, the Service issued a final Gunnison River Basin Programmatic Biological Opinion (PBO) (this document is available for viewing at the following internet address: <http://www.coloradoriverrecovery.org/documents-publications/section-7-consultation/GUPBO.pdf>). The Service has determined that projects that fit under the umbrella of the Gunnison River PBO would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts. The Gunnison River PBO states that in order for actions to fall within the umbrella of the PBO and rely on the RIPRAP to offset its depletion, the following criteria must be met.

1. A Recovery Agreement must be offered and signed prior to conclusion of section 7 consultation.
2. A fee to fund recovery actions will be submitted as described in the proposed action for new depletion projects greater than 100 acre-feet/year (AF/yr). The 2019 fee is \$21.61 per AF and is adjusted each year for inflation.
3. Reinitiation stipulations will be included in all individual consultations under the umbrella of this programmatic.
4. The Service and project proponents will request that discretionary Federal control be retained for all consultations under this programmatic

The Recovery Agreement was signed by the Service and the Water User July 24, 2019. The depletions associated with this project are historic depletions which do not make contributions to fund recovery actions. The Bureau of Reclamation has agreed to condition its approval documents to retain jurisdiction should section 7 consultation need to be reinitiated. Therefore, the Service concludes that the subject project meets the criteria to rely on the Gunnison PBO to offset depletion impacts and is not likely to jeopardize the continued existence of the species and is not likely to destroy or adversely modify designated critical habitat. The reinitiation criteria, outlined in the Gunnison PBO, apply to all projects under the umbrella of the PBO. Therefore, if the PBO is reinitiated, reinitiation of this biological opinion would follow as well.

The Service and the Recovery Program track all water depletions that are covered under the Gunnison PBO and other water depletion PBOs within the Upper Colorado River Basin on a quarterly basis. A summary of those depletions are available at: <http://www.coloradoriverrecovery.org/documents-publications/section-7-consultation/consultation-list.html>. Also, in accordance with the section 7, Sufficient Progress, and Historic Projects Agreement, the Service reviews cumulative accomplishments and shortcomings of the Recovery Program in the upper Colorado River basin. Per that Agreement, the Service uses the following criteria to evaluate whether the Recovery Program is making “sufficient progress” toward recovery of the four listed fish species:

- actions which result in a measurable population response, a measurable improvement in habitat for the fishes, legal protection of flows needed for recovery, or a reduction in the threat of immediate extinction;
- status of the fish populations;
- adequacy of flows;
- and magnitude of the impact of projects.

Through these bi-annual Sufficient Progress reviews, the Service evaluates the best available and current information to determine if the Recovery Program continues to offset depletion effects identified in existing section 7 consultations including the depletions covered by these PBOs. In the most recent assessment (dated December 19, 2018), the Service determined that sufficient progress is being made towards recovery. Sufficient Progress reports can be found at: <http://www.coloradoriverrecovery.org/documents-publications/section-7-consultation/sufficient-progress-letters.html>.

If you have any questions regarding this consultation or would like to discuss it in more detail, please contact Allison Vendramel of our Western Slope Field Office at (970) 628-7194, Email: Allison_vendramel@fws.gov.

Attachment: Recovery Agreement

cc: FWS/UCREFRP, Lakewood; Email: Kevin_McAbee@fws.gov

GUNNISON BASIN RECOVERY AGREEMENT

This RECOVERY AGREEMENT is entered into this 24 day of July, 2019, by and between the United States Fish and Wildlife Service (Service) and Fruitland Irrigation Company (Water User).

WHEREAS, in 1988, the Secretary of Interior, the Governors of Wyoming, Colorado and Utah, and the Administrator of the Western Area Power Administration signed a Cooperative Agreement to implement the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program); and

WHEREAS, the Recovery Program is intended to recover the endangered fish while providing for water development in the Upper Basin to proceed in compliance with state law, interstate compacts and the Endangered Species Act; and

WHEREAS, the Colorado Water Congress has passed a resolution supporting the Recovery Program; and

WHEREAS, on December 4, 2009, the Service issued a programmatic biological opinion (2009 Opinion) for the Gunnison River Basin and the operation of the Wayne N. Aspinall Unit concluding that implementation of specific operation of the Aspinall Unit, implementation of a Selenium Management Plan and specified elements of the Recovery Action Plan (Recovery Elements), along with existing and a specified amount of new depletions, are not likely to jeopardize the continued existence of the endangered fish or adversely modify their critical habitat in the Gunnison River subbasin and Colorado River subbasin downstream of the Gunnison River confluence; and

WHEREAS, Water User is the owner of Gould Reservoir (aka Onion Valley Reservoir aka Fruitland Reservoir) and Gould Canal (aka Fruitland Canal, including the highline and lowline branches) (Water Project), which causes or will cause depletions to the Gunnison River subbasin; and

WHEREAS, Water User desires certainty that its depletions can occur consistent with section 7 and section 9 of the Endangered Species Act (ESA); and

WHEREAS, the Service desires a commitment from Water User to the Recovery Program so that the Program can actually be implemented to recover the endangered fish and to carry out the Recovery Elements.

NOW THEREFORE, Water User and the Service agree as follows¹:

1. The Service agrees that implementation of the Recovery Elements specified in the 2009 Opinion will avoid the likelihood of jeopardy and adverse modification under section 7 of the ESA, for depletion impacts caused by Water Users Water Project. Any consultations under section 7 regarding Water Projects depletions are to be governed by the provisions of the 2009 Opinion. The Service agrees that, except as provided in the 2009 Opinion, no other measure or action shall be required or imposed on Water Project to comply with section 7 or section 9 of the ESA with regard to Water Projects depletion impacts or other impacts covered by the 2009 Opinion. Water User is entitled to rely on this Agreement in making the commitment described in paragraph 2.

2. Water User agrees not to take any action which would probably prevent the implementation of the Recovery Elements. To the extent implementing the Recovery Elements requires active cooperation by Water User, Water User agrees to take reasonable actions required to implement those Recovery Elements. Water User will not be required to take any action that would violate its decrees or the statutory authorization for Water Project, or any applicable limits on Water Users legal authority. Water User will not be precluded from undertaking good faith negotiations over terms and conditions applicable to implementation of the Recovery Elements.

3. If the Service believes that Water User has violated paragraph 2 of this Recovery Agreement, the Service shall notify both Water User and the Management Committee of the Recovery Program. Water User and the Management Committee shall have a reasonable opportunity to comment to the Service regarding the existence of a violation and to recommend remedies, if appropriate. The Service will consider the comments of Water User and the comments and recommendations of the Management Committee, but retains the authority to determine the existence of a violation. If the Service reasonably determines that a violation has occurred and will not be remedied by Water User despite an opportunity to do so, the Service may request reinitiation of consultation on Water Project without reinitiating other consultations as would otherwise be required by the Reinitiation Notice section of the 2009 Opinion. In that event, the Water Projects depletions would be excluded from the depletions covered by 2009 Opinion and the protection provided by the Incidental Take Statement.

4. Nothing in this Recovery Agreement shall be deemed to affect the authorized purposes of Water Users Water Project or The Service statutory authority.

5. This Recovery Agreement shall be in effect until one of the following occurs.

a. The Service removes the listed species in the Upper Colorado River Basin from the endangered or threatened species list and determines that the Recovery Elements are no longer needed to prevent the species from being relisted under the ESA; or

¹Individual Recovery Agreement may be changed to fit specific circumstances.

- b. The Service determines that the Recovery Elements are no longer needed to recover or offset the likelihood of jeopardy to the listed species in the Upper Colorado River Basin; or
 - c. The Service declares that the endangered fish in the Upper Colorado River Basin are extinct; or
 - d. Federal legislation is passed or federal regulatory action is taken that negates the need for [or eliminates] the Recovery Program.
6. Water User may withdraw from this Recovery Agreement upon written notice to the Service. If Water User withdraws, the Service may request reinitiation of consultation on Water Project without reinitiating other consultations as would otherwise be required by the Reinitiation Notice section of the 2009 Opinion.

Danny Todd
Water User Representative
Danny Todd, President
Fruitland Irrigation Company

7/10/2019
Date

J. Kent Clift
Acting Western Slope Supervisor
U.S. Fish and Wildlife Service

7/24/2019
Date

APPENDIX G

BLM Sensitive Species Analysis

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BLM Sensitive Species Potentially Occurring Near the Proposed Action

Common Name	Habitat Requirement Summary and Impacts Analysis	Habitat/Range on BLM Land in Project Area?
BIRDS		
American peregrine falcon <i>Falco peregrines</i>	Uses open country near cliff habitat, often near water. The nearest active CPW-documented peregrine falcon nest site lies more than 5 miles from Proposed Action Area in the Black Canyon (CPW 2017). May forage for passerine birds in the Proposed Action Area; however, more desirable foraging habitat exists closer to the nest sites.	Foraging only
Bald eagle <i>Haliaeetus leucocephalus</i>	See Section 3.9 (Migratory Birds) for analysis.	Winter foraging habitat only
Burrowing owl <i>Athene cunicularia</i>	Prefers level to gently-sloping grasslands and semi-desert grasslands. Prairie dog colonies are commonly used for shelter and nesting. Several recent breeding records exist in the Uncompahgre River valley (Holsinger pers. comm.). BLM considers any prairie dog burrows to be potential nest sites for burrowing owl across the UFO. Nesting occurs between April and July. No prairie dog burrows or burrowing owls were observed on BLM land in the Proposed Action Area during the raptor survey.	Potential
Brewer's sparrow <i>Spizella breweri</i>	See Section 3.9 (Migratory Birds) for analysis.	Yes
Ferruginous hawk <i>Buteo regalis</i>	See Section 3.9 (Migratory Birds) for analysis.	Winter foraging habitat only
Golden eagle <i>Aquila chrysaetos</i>	See Section 3.9 for analysis.	Foraging habitat only
Gunnison sage-grouse <i>Centrocercus minimus</i>	See Section 3.9 (Threatened & Endangered Species) for analysis	No, but occupied habitat is nearby
FISHES		
Bluehead sucker <i>Catostomus discobolus</i>	Large rivers and mountain streams, rarely in lakes; variable from cold clear mountain streams to warm, turbid streams; moderate to fast-flowing water above rubble-rock substrate; young prefer quiet shallow areas near shoreline. Although no habitat is present within the Proposed Action Area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water by irrigation. This species benefits from mitigation measures for the Colorado River endangered fishes.	No, but habitat is downstream

Common Name	Habitat Requirement Summary and Impacts Analysis	Habitat/Range on BLM Land in Project Area?
Flannelmouth sucker <i>Catostomus latipinnis</i>	Warm moderate- to large-sized rivers, seldom in small creeks, absent from impoundments; pools and deeper runs often near tributary mouths; also riffles and backwaters; young usually in shallower water than adults. Although no habitat is present within the Proposed Action Area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water by irrigation. This species benefits from mitigation measures for the Colorado River endangered fishes.	No, but habitat is downstream
Roundtail chub <i>Gila robusta</i>	Rocky runs, rapids, and pools of creeks and small to large rivers; also large reservoirs in the upper Colorado River system; generally prefers cobble-rubble, sand-cobble, or sand-gravel substrate. Although no habitat is present within the Proposed Action Area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water by irrigation. This species benefits from mitigation measures for the Colorado River endangered fishes.	No, but habitat is downstream
MAMMALS		
Fringed myotis <i>Myotis thysanodes</i>	Feeds in semi-desert shrublands, coniferous woodlands, and oakbrush; associated with caves, mines, and buildings as day and night roosts. No nursery colonies have been reported in Colorado. Individuals may forage in the area during summer months, especially near water. Foraging bats could be displaced during construction. Long-term effects of foraging habitat loss (riparian habitat) would be mitigated at the Habitat Replacement Site.	Foraging only
Spotted bat <i>Euderma maculatum</i>	In Colorado, spotted bats have been observed or captured in ponderosa pine woodlands, montane forests, pinyon-juniper woodlands, semi-desert shrublands, riparian vegetation, and over open sandbars. Individuals forage alone for moths, grasshoppers, beetles, katydids, and other insects. Lactating females have been captured in Colorado, but nursery sites have not been located. Rocky cliffs and buildings are used for roosts. Foraging bats could be displaced during construction. Long-term effects of foraging habitat loss (riparian habitat) would be mitigated at the Habitat Replacement Site.	Foraging only
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Feeds in semi-desert shrublands, pinyon-juniper woodlands, and open montane forests; frequently associated with caves and abandoned mines for day roosts, nursery colonies, and hibernacula, but will also use crevices on rock cliffs and abandoned buildings for summer roosting. Individuals may forage in the area during summer months, especially near water. Foraging bats could be displaced during construction. Long-term effects of foraging habitat loss (riparian habitat) would be mitigated at the Habitat Replacement Site.	Foraging only

Common Name	Habitat Requirement Summary and Impacts Analysis	Habitat/Range on BLM Land in Project Area?
White-tailed prairie dog <i>Cynomys leucurus</i>	Occurs in northwestern and west-central Colorado, and prefers level to gently sloping grasslands and open semi-desert shrublands from 5,000 to 10,000 feet in elevation, although most records are from below 8,500 feet (Armstrong et al. 2011). Live in loosely organized colonies and their burrows and mounds may be present in the margins of irrigated lands, and in dams and irrigation ditch banks, adjacent to and near semi-desert shrublands and grasslands. This species (including a few active burrow areas) was observed in the Proposed Action Area during a biological survey, but not on BLM land.	Yes
HERPTILES		
Midget faded rattlesnake <i>Crotalus viridis concolor</i>	Prefers rocky outcrops for refuge and hibernacula, often near riparian, upper limit of 7,500 to 9,500 feet in elevation. The species may use the Proposed Action Area incidentally. There are several documented occurrences in southcentral Delta County (Hammerson 1999). Individual snakes could be harmed during construction, especially during the hibernation period.	Yes
Northern leopard frog <i>Rana pipiens</i>	Springs, slow-moving streams, marshes, bogs, ponds, canals, floodplains, reservoirs, lakes; in summer, commonly inhabits wet meadows and fields; may forage along water's edge or in nearby meadows or fields. Leopard frogs may breed in ditch alignments, especially those with year-round sluggish water. Individual frogs may be harmed during construction. Long-term effects of foraging habitat loss (riparian habitat) would be mitigated at the Habitat Replacement Site.	Yes

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APPENDIX H

Cultural Resource Compliance Documents

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**MEMORANDUM OF AGREEMENT
AMONG
THE WESTERN COLORADO AREA OFFICE, BUREAU OF RECLAMATION,
BUREAU OF LAND MANAGEMENT, UNCOMPAHGRE FIELD OFFICE,
THE FRUITLAND IRRIGATION COMPANY,
AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING THE
GOULD CANAL PIPING PROJECT,
COLORADO RIVER BASIN SALINITY CONTROL PROGRAM,
LOCATED IN DELTA AND MONTROSE COUNTIES, COLORADO**

WHEREAS, the Bureau of Reclamation (Reclamation) and the Fruitland Irrigation Company (FIC) plan to do a combination of piping and concrete lining 12.4 miles of the Gould Canal (Project); and

WHEREAS, Reclamation plans to fund FIC to line and pipe the Gould Canal, as authorized by the Basinwide Program under the Colorado River Basin Salinity Control Program, thereby making the Project an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. § 306108, and its implementing regulations, 36 CFR Part 800; and

WHEREAS, the Bureau of Land Management (BLM) has participated in the consultation, and has chosen to participate in the MOA as a Signatory; and

WHEREAS, Reclamation has defined the undertaking's area of potential effect (APE) as contained within a 100-foot-wide corridor centered on the Gould Canal, a 50-foot wide buffer on 14 miles of access routes, five staging areas, and five borrow areas, totaling 15.75 acres on BLM-managed land and 330.38 acres on private land, as described in Attachment A; and

WHEREAS, Reclamation as lead Federal agency has determined, in consultation with the Colorado State Historic Preservation Officer (SHPO), that the Gould Canal (5DT2146.1/5MN10747.4) is eligible for listing on the National Register of Historic Places (NRHP) under Criteria A, B, and C, and that the Project will result in an adverse effect to historic properties; and

WHEREAS, the FIC as the sponsor of the Project, has participated in the consultation, and has been invited to participate in the Memorandum of Agreement (MOA) as a Signatory; and

WHEREAS, the FIC has conducted presentations on the history of FIC's canal system throughout the years, and has previously developed and displayed an interpretative poster containing historic records and photographs regarding the history of FIC's canal system at the Hotchkiss-Crawford Historical Museum; and

WHEREAS, Reclamation consulted with the Southern Ute Indian Tribe, Ute Indian Tribe – Uintah and Ouray Reservation, and the Ute Mountain Ute Tribe via a January 8, 2019 letter to invite the tribes to participate in the proposed undertaking, and the Ute Indian Tribe and Ute Indian Tribe – Uintah and Ouray Reservation have not responded as of the signing of this

document, and the Southern Ute Indian Tribe requested additional information and has chosen not to participate in the consultation; and

WHEREAS, Reclamation consulted with the Delta County Commissioners and the Montrose County Commissioners via a January 8, 2019 letter, and the Delta County Historical Society, the City of Delta, the Delta County Historic Landmarks Board, the County of Montrose Historic Landmark Advisory Board, the Montrose County Historical Society, and the City of Montrose via a January 14, 2019 letter to invite the local government to participate in the proposed undertaking, and they did not respond as of the signing of this document; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), Reclamation has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination providing the specified documentation, and the Council has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

NOW, THEREFORE, pursuant to Section 106 of the NHPA, Reclamation and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect on historic properties.

STIPULATIONS

Reclamation shall ensure that the following measures are carried out:

I. MITIGATION

Prior to any modification of the Gould Canal, Reclamation will ensure that the canal (SDT2146.1/5MN10747.4) shall be recorded in accordance with the guidance for Level II Documentation found in "Historic Resource Documentation, Standards for Level I, II, and III Documentation" (Office of Archaeology and Historic Preservation Publication 1595, March 2013). The documentation will be of archival quality, and will include a detailed narrative history, plan mapping of the property and photographic documentation of the portions of the historic property to be included in the project. Photographs will be black and white archival quality (4" x 6") prints. Features will be plotted on the maps with GPS waypoints and will be extensively described and indexed in the report. Representative design drawings consisting of six (6) cross section maps will be prepared.

Stipulation I shall be satisfied prior to construction and/or any earth disturbances within the APE.

FIC will continue to hold presentations on the history of FIC's canal system as FIC has done in the past, and will ensure the interpretative poster regarding the history of FIC's canal system is displayed at the Hotchkiss-Crawford Historical Museum during 2020.

II. GENERAL REQUIREMENTS AND STANDARDS

Reclamation will submit a copy of the Level II Documentation to the SHPO within two (2) years of the execution of this MOA. The SHPO shall review and provide comments

within thirty (30) calendar days of receipt. Once accepted by SHPO, SHPO shall receive a minimum of one archivally stable copy of the final recordation for its files and provide documentation of acceptance. The activities prescribed by the stipulations of this MOA shall be carried out by or under the direct supervision of a person or persons meeting, at minimum, the Secretary of the Interior Professional Qualifications Standards (48 FR 44738-39) (PQS) in the appropriate discipline. This does not preclude the use of properly supervised persons who do not meet the PQS.

III. INFORMATION ACCESSIBILITY

A Rehabilitation Act Section 508 compliant copy of the Level II Documentation will be placed on the Reclamation Western Colorado Area Office's cultural resource webpage (webpage). The SHPO shall receive notification once the document is placed on the webpage.

IV. DURATION

This MOA will expire if its terms are not carried out within two (2) years from the date of its execution. Prior to such time, Reclamation may consult with the other signatories to reconsider the terms of the agreement and amend it in accordance with Stipulation VIII below.

V. POST-REVIEW DISCOVERIES

If potential historic properties are discovered or unanticipated effects on historic properties found, the FIC on behalf of Reclamation shall implement the discovery plan included as Attachment B of this MOA.

VI. MONITORING AND REPORTING

No later than June 30th of each year following the execution of this MOA until its stipulations are carried out, it expires, or is terminated, FIC on behalf of Reclamation shall provide all parties to this MOA a summary report detailing work carried out pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FIC's efforts to carry out the terms of this MOA.

The signatories may monitor activities pursuant to this MOA, and the Council will review such activities if so requested by a party to this MOA. Reclamation will cooperate with the signatories in carrying out their review and monitoring responsibilities.

VII. DISPUTE RESOLUTION

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

- a. Forward all documentation relevant to this dispute, including Reclamation's proposed resolution, to the ACHP. The ACHP shall provide Reclamation with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, Reclamation shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. Reclamation will then proceed according to its final decision.
- b. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, Reclamation may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, Reclamation shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- c. Reclamation's ability to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VIII. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

IX. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation VI, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, Reclamation must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. Reclamation shall notify the signatories as to the course of action it will pursue.

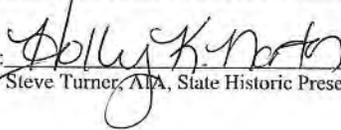
Execution of this MOA by FIC, BLM, Reclamation and SHPO and implementation of its terms evidence that Reclamation has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

LIST OF ATTACHMENTS

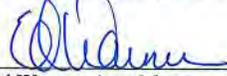
Attachment A: Area of Potential Effect and Site Locations
Attachment B: Unanticipated Discovery Plan

SIGNATORIES:

Colorado State Historic Preservation Office

By:  Date: 8/15/19
Steve Turner, AIA, State Historic Preservation Officer

Bureau of Reclamation, Western Colorado Area Office

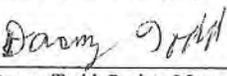
By:  Date: 8/2/19
Ed Warner, Area Manager

Bureau of Land Management, Uncompahgre Field Office

By:  Date: 7/30/2019
Greg Larson, Field Office Manager

INVITED SIGNATORIES:

Fruitland Irrigation Company

By:  Date: 7/10/2019
Danny Todd, Project Manager

ATTACHMENT A – AREA OF POTENTIAL EFFECT

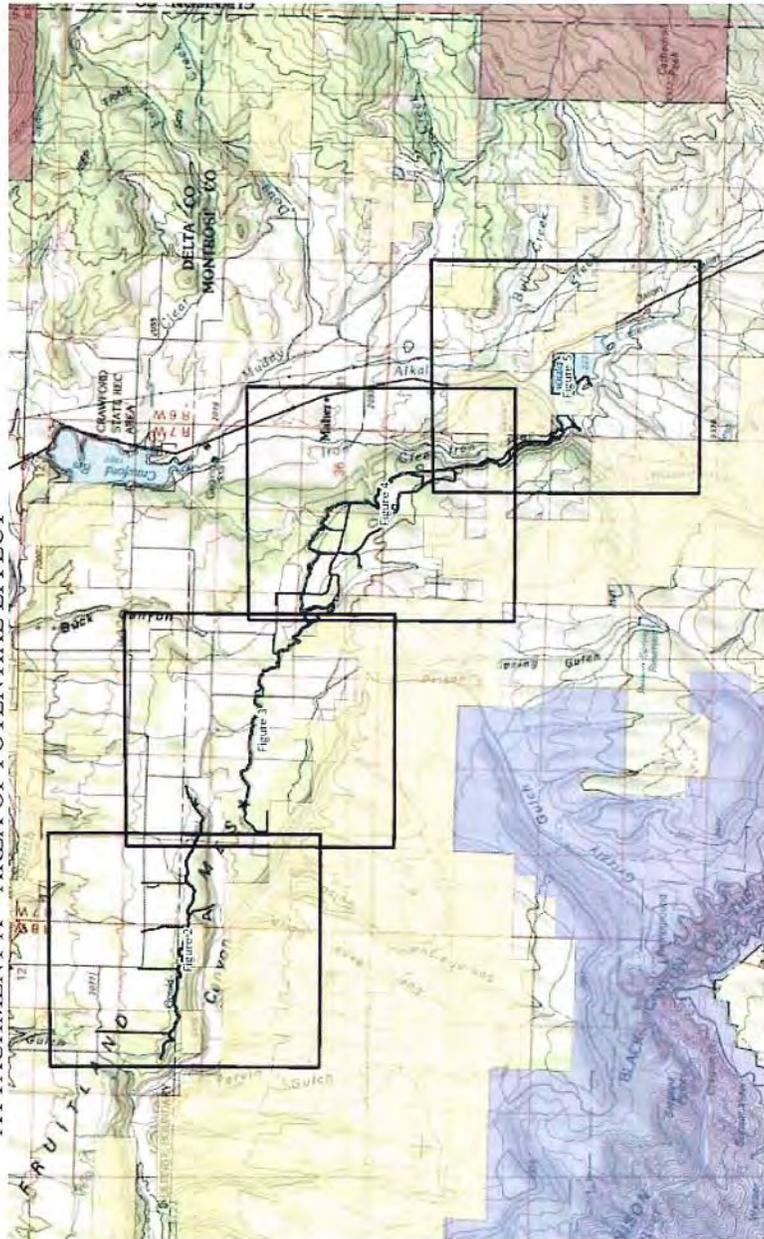


Figure 1
Project Location Index

Legend: Survey Area

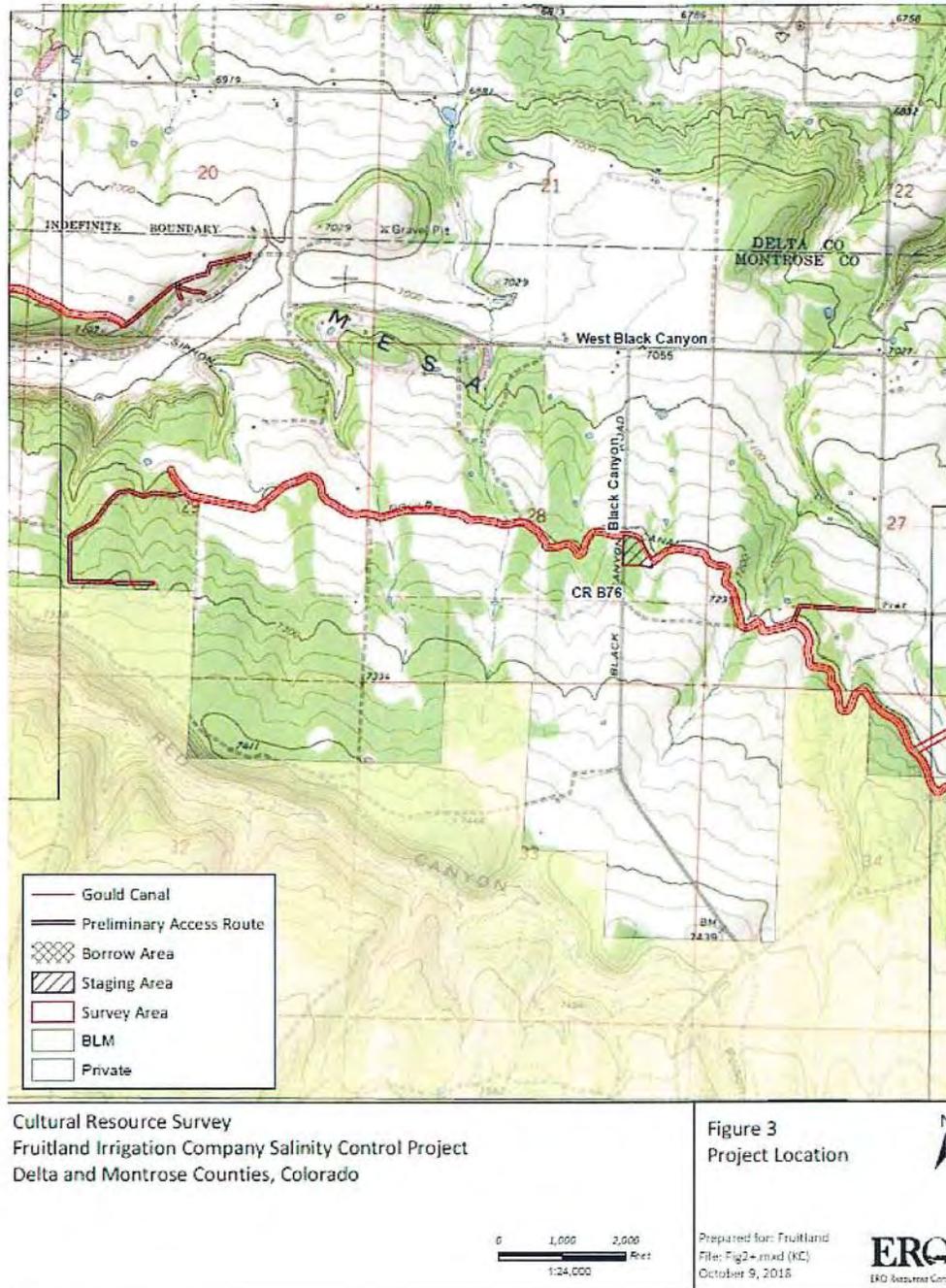
Cultural Resource Survey
Fruitland Irrigation Company Salinity Control Project
Delta and Montrose Counties, Colorado

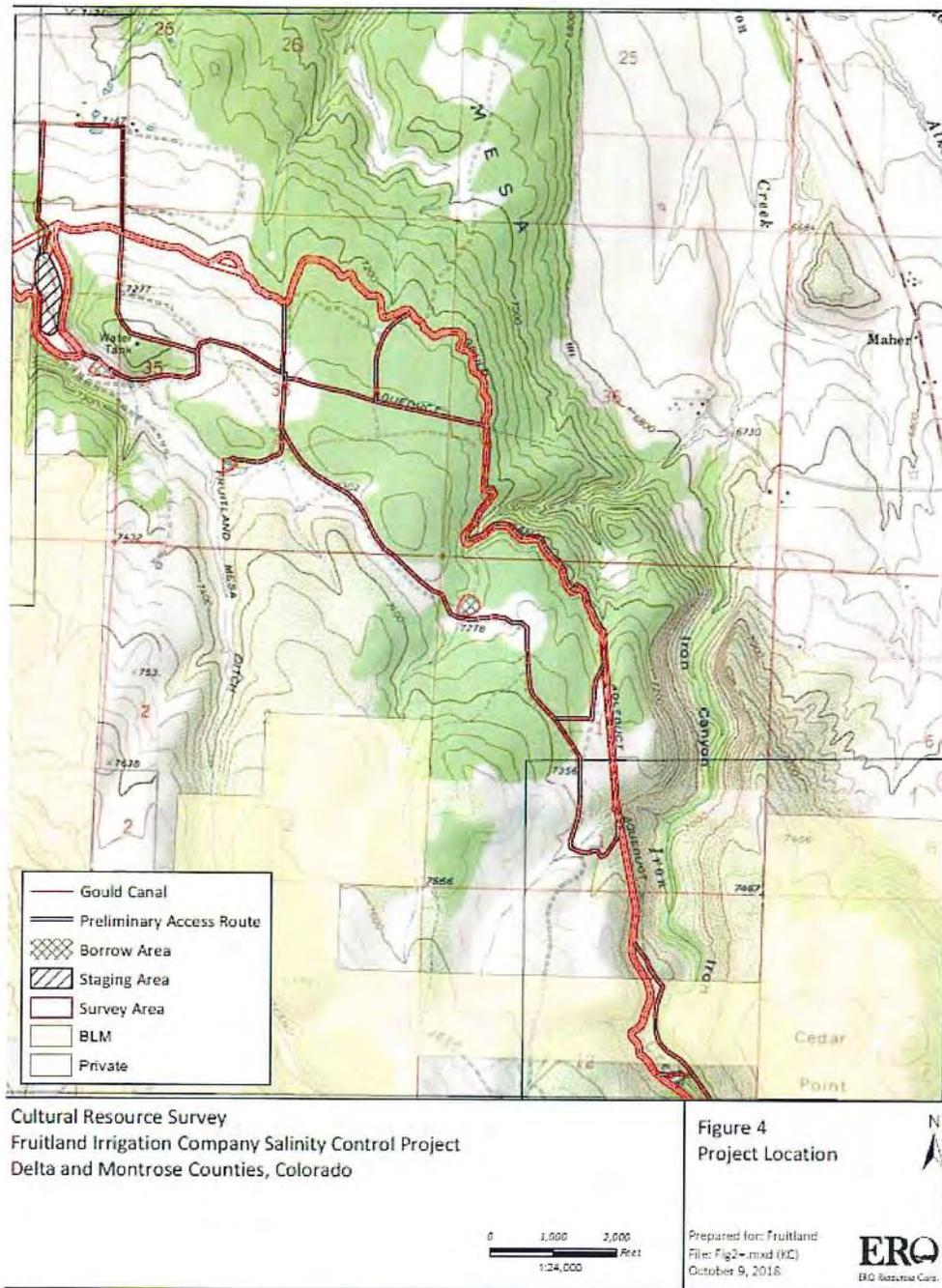
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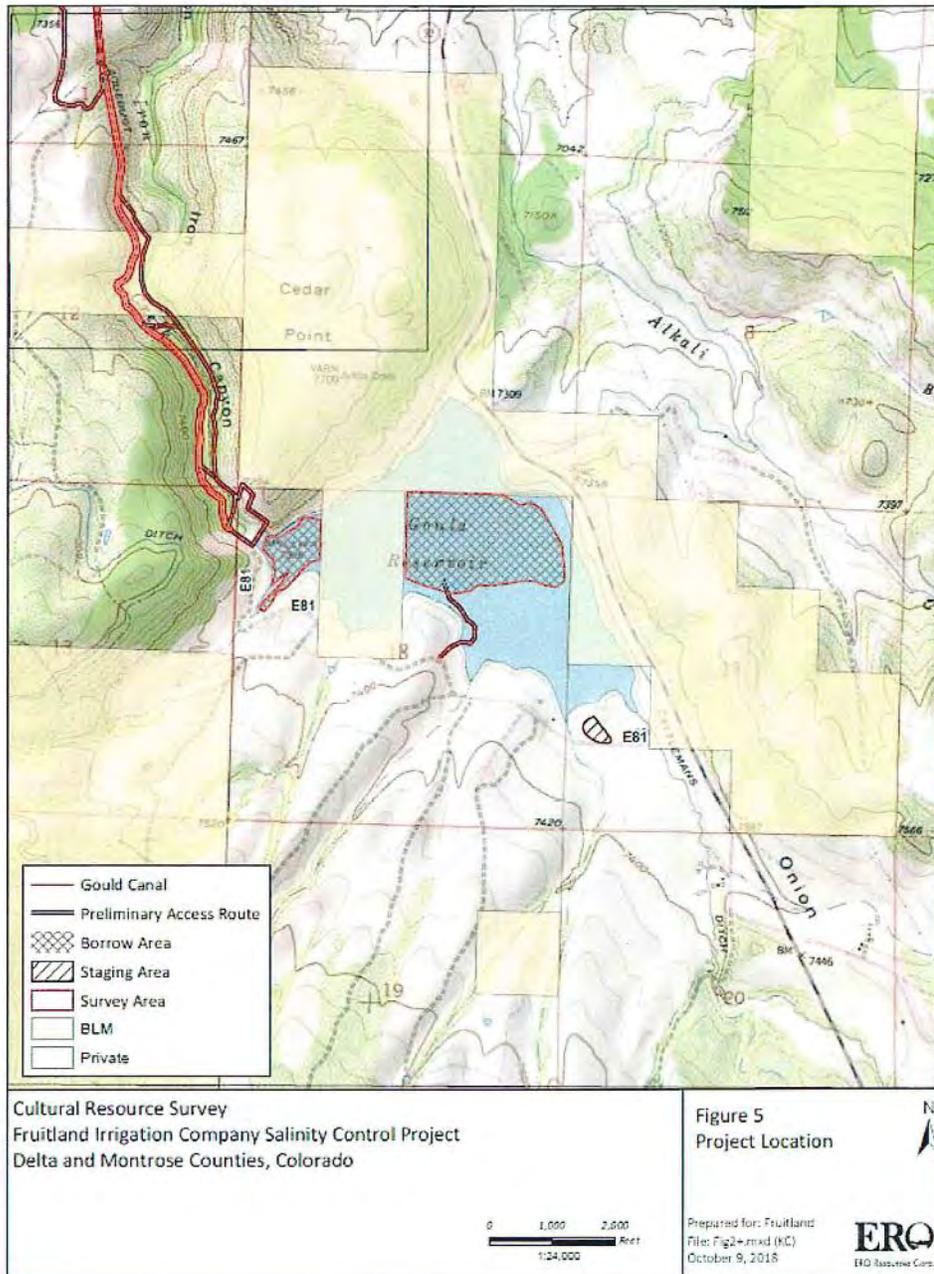
Prepared for: Fruitland
File: Fig1.mxd (KOC)
August 28, 2013

ERC
EEO Resource Corp.









ATTACHMENT B – UNANTICIPATED DISCOVERY PLAN

PLAN AND PROCEDURES FOR THE UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

THE FRUITLAND IRRIGATION COMPANY
GOULD CANAL PIPING PROJECT
SALINITY CONTROL PROGRAM,
DELTA AND MONTROSE COUNTIES, COLORADO

1. INTRODUCTION

The Fruitland Irrigation Company (FIC) plans to do a combination of piping and concrete lining approximately 12.4 miles of the Gould Canal. The purpose of this project is to reduce the salt load in the Colorado River Basin. The following Unanticipated Discovery Plan (UDP) outlines procedures to follow, in accordance with state and federal laws, if archaeological materials are discovered.

2. RECOGNIZING CULTURAL RESOURCES

A cultural resource discovery could be prehistoric or historic. Examples include, but are not limited to:

- An accumulation of shell, burned rocks, or other food related materials
- An area of charcoal or very dark stained soil with artifacts,
- Stone tools or waste flakes (i.e. an arrowhead, or stone chips),
- Clusters of tin cans or bottles, logging or agricultural equipment that appears to be older than 50 years,
- Abandoned mining structures and features (i.e. mine shafts or adits, head frames, processing mills, or tailings and waste rock piles),
- Buried railroad tracks, decking, or other industrial materials.

When in doubt, assume the material is a cultural resource.

3. ON-SITE RESPONSIBILITIES

STEP 1: STOP WORK. If any FICC employee, contractor or subcontractor believes that he or she has uncovered a cultural resource at any point in the project, all work adjacent to the discovery must stop. The discovery location should be secured at all times.

STEP 2: NOTIFY MONITOR. If there is an archaeological monitor for the project, notify that person. If there is a monitoring plan in place, the monitor will follow its provisions. If there is not an archaeological monitor, notify the project manager.

STEP 3: NOTIFY BUREAU OF RECLAMATION. Contact the Project Overseer at the Bureau of Reclamation:

<u>Project Manager:</u>	<u>Reclamation Project Overseer:</u>
Danny Todd	Jennifer Ward
970-921-7051	970-248-0651
toddcattlecompany@gmail.com	jward@usbr.gov

The Project Manager or the Reclamation Project Overseer will make all other calls and notifications.

If human remains are encountered, treat them with dignity and respect at all times. Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection in place and to shield them from being photographed. Do not call 911 or speak with the media.

4. FURTHER CONTACTS AND CONSULTATION

A. Project Manager's Responsibilities:

- **Protect Find:** The FIC Project Manager is responsible for taking appropriate steps to protect the discovery site. All work will stop in an area adequate to provide for the total security, protection, and integrity of the resource. Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the discovery site. Work in the immediate area will not resume until treatment of the discovery has been completed following provisions for treating archaeological/cultural material as set forth in this document.
- **Direct Construction Elsewhere On-site:** The FIC Project Manager may direct construction away from cultural resources to work in other areas prior to contacting the concerned parties.
- **Contact CR Manager:** If there is a CR Program Manager, and that person has not yet been contacted, the Project Manager will do so.
- **Contact Project Overseer:** If the Project Overseer at the Bureau of Reclamation has not yet been contacted, the Project Manager will do so.
- **Identify Find:** The Project Manager will ensure that a qualified professional archaeologist examines the find to determine if it is archaeological.
 - If it is determined not archaeological, work may proceed with no further delay.

- If it is determined to be archaeological, the Project Manager will continue with notification.
- If the find may be human remains or funerary objects, the Project Manager will ensure that a qualified physical anthropologist examines the find. If it is determined to be human remains, the procedure described in Section 5 will be followed.

B. Project Overseer's Responsibilities

- Notify BLM Archaeologist: If the discovery is determined to be located on BLM-managed land, the project overseer will contact the BLM archaeologist within 48 hours of the discovery.

BLM Archaeologist:

Shane Rumsey
970-240-5303
srumsey@blm.gov

- Notify SHPO: The Project Overseer will notify the Colorado State Historic Preservation Office (SHPO) within 48 hours of the discovery.

Colorado State Historic Preservation Office:

Mr. Steve Turner, AIA
State Historic Preservation Officer
History Colorado
1200 Broadway
Denver CO, 80203
(303)866-3355

C. Further Activities

- Archaeological discoveries will be documented as described in Section 6.
- Construction in the discovery area may resume as described in Section 7.

5. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect.

The project is located on both federal and private lands, and the requirements under the Native American Graves Protection and Repatriation Act (NAGPRA) apply (43 CFR Part 10). For all discoveries, the kinds of objects considered and referred to as NAGPRA items as defined in 43 CFR 10.2 (d) include: human remains, funerary objects, sacred objects, and objects of cultural patrimony. The requirements under State Law Colorado Revised Statute (CRS) 24-80 part 13 also apply. The Unmarked Human Graves Colorado Statute (CRS 24-

80-1301-1305) applies if the human remains are Native American and/or determined to be of archaeological interest.

In the event possible human skeletal remains are discovered, work in that portion of the project shall stop immediately. The remains shall be covered and/or protected in place in such a way that minimizes further exposure of and damage to the remains, and Reclamation shall immediately notify the Delta and Montrose County Coroners and the Delta and Montrose County Sheriffs. If the remains are found to have no forensic value, the coroner shall notify the SHPO, in accordance with applicable law. A plan of action shall be developed by SHPO in consultation with appropriate federally recognized Indian tribes, the Colorado Commission of Indian Affairs and the landowner following the Process for Consultation, Transfer, and Reburial of Culturally Unidentifiable Native American Human Remains and Associated Funerary Objects Originating from Inadvertent Discoveries on Colorado State and Private Lands. If the remains are discovered on BLM-managed land, BLM will develop and implement a NAGPRA Plan of Action in consultation with the appropriate Indian tribes. If the remains are not Native American, and are otherwise unclaimed, the appropriate local authority shall be consulted to determine final disposition of the remains. Avoidance and preservation in place is the preferred option for treating human remains.

FIC will comply with the procedures outlined, and will coordinate with the following contacts:

Reclamation CR Manager (970) 385-6500	BLM Archaeologist (970) 240-5303
Delta County Sheriff (970) 874-2000	Delta County Coroner (970) 874-5918
Montrose County Sheriff (970) 252-4023	Montrose County Coroner (970) 249-7755
Colorado Deputy State Historic Preservation Officer and State Archaeologist Holly Norton (303) 866-2736	

A. Further Activities:

When consultation and documentation activities are complete, construction in the discovery area may resume as described in Section 7.

6. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS

Archaeological deposits discovered during construction will be assumed eligible for inclusion in the National Register of Historic Places under Criterion D until a formal Determination of Eligibility is made.

The Project Manager will ensure the proper documentation and assessment of any discovered cultural resources in cooperation with Reclamation, BLM, SHPO, affiliated tribes, and a contracted consultant (if any). All prehistoric and historic cultural material discovered during project construction will be recorded by a professional archaeologist in accordance with all state and federal laws and Stipulation II above.

7. PROCEEDING WITH CONSTRUCTION

Project construction outside the discovery location may continue while documentation and assessment of the cultural resources proceed. A professional archaeologist must determine the boundaries of the discovery location. In consultation with BLM, SHPO, and affiliated tribes, the Project Manager and Project Overseer will determine the appropriate level of documentation and treatment of the resource.

Construction may continue at the discovery location only after the process outlined in this plan is followed and FIC, Reclamation, BLM, and SHPO determine that compliance with state and federal laws is complete.