BUREAU OF RECLAMATION

Finding of No Significant Impact and Environmental Assessment for Gould Canal Improvement Projects A & B – Upper Tunnel Bypass

Basinwide Salinity Control Program
Upper Colorado Basin: Interior Region 7
Western Colorado Area Office

U.S. Department of the Interior November 2024

Mission Statements

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

Finding of No Significant Impact and Environmental Assessment for Gould Canal Improvement Projects A & B – Upper Tunnel Bypass

Basinwide Salinity Control Program
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Prepared for the Bureau of Reclamation by
Rare Earth Science, LLC

November 2024

FINDING OF NO SIGNIFICANT IMPACT

United States Department of the Interior
Bureau of Reclamation
Upper Colorado Basin: Interior Region 7
Western Colorado Area Office
Grand Junction, Colorado

Gould Canal Improvement Projects A & B – Upper Tunnel Bypass

Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Council on Environmental Quality's (CEQ) NEPA regulations at 40 CFR Parts 1500 – 1508 (2022), the Bureau of Reclamation (Reclamation) has completed an environmental assessment (EA) for the Proposed Action of authorizing the use of federal funds to implement the Gould Canal Improvement Projects A & B – Upper Tunnel Bypass (Project) in Montrose County, Colorado. Under the authority of the Colorado River Basin Salinity Control Act, Reclamation will fund the Project and is the lead agency for purposes of compliance with the NEPA for this Proposed Action.

The EA was prepared by Reclamation to address the potential impacts to the human environment due to implementation of the Proposed Action. The EA is attached to this Finding of No Significant Impact (FONSI) and is incorporated by reference.

Alternatives

The EA analyzes the No Action Alternative and the Proposed Action Alternative (the Project) to authorize federal funding to implement the Gould Canal Improvement Projects A & B – Upper Tunnel Bypass.

Decision and Finding of No Significant Impact

Reclamation's decision is to implement the Proposed Action Alternative. Based upon a review of the EA, Reclamation has determined that implementing the Proposed Action will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not required for this proposed action. This finding is based on consideration of the degree of effects of the Proposed Action on the potentially affected environment, as analyzed in the EA.

Potentially Affected Environment

The Project is located in northeastern Montrose County, Colorado. The affected locality is the upper tunnel of the Gould Canal irrigation system. Affected interests include Reclamation, Fruitland Irrigation Company, Colorado Parks and Wildlife, Colorado Open Lands, the underlying landowner, and adjacent landowners. The EA evaluates the effects on the potentially affected environment, which includes physical, ecological, and socioeconomic factors.

Degree of the Effects

In determining the degree of effects of the Proposed Action, Reclamation has considered the following criteria as described in 40 CFR 1501.3(b)(2). These criteria were incorporated into the resource issues and analyses described in the EA.

1. **Short and Long Term Effects.** The Proposed Action would have minor impacts on resources as described in the EA Section 3.2. Environmental commitments were incorporated into the design of the Proposed Action to further reduce impacts. The predicted short-term and long-term effects of the Proposed Action are fully analyzed in Section 3.2 and are incorporated by reference here.

2. **Beneficial and Adverse Effects.** The Proposed Action would have a minor impact on resources as described and analyzed in the EA. Environmental commitments were incorporated into the design of the Proposed Action to further reduce impacts. The beneficial and adverse effects of the Proposed Action are fully analyzed in Section 3.2 of the EA, and incorporated by reference here.

3. **Effects on Public Health and Safety.** The Proposed Action will have minimal impacts on public health or safety. A full analysis can be found in Section 3.2.2 of the EA, and is incorporated by reference.

4. **Effects that would violate Federal, State, Tribal, and local law protecting 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. Federal, State, and local agencies and stakeholders were provided an opportunity to comment on the environmental analysis.

Environmental Commitments

The environmental commitments in Chapter 4 of the Final EA are an integral part of the Proposed Action and were considered when analyzing the Proposed Action's impacts. Chapter 4 also states the authority for any environmental commitments adopted and any applicable monitoring or enforcement provisions. Chapter 4 of the Final EA is incorporated by reference.

Approved by:

Ed Warner
Area Manager, Western Colorado Area Office

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CHAPTER 1 - INTRODUCTION

This Environmental Assessment (EA) has been prepared to explain and evaluate the potential environmental effects of Fruitland Irrigation Company's (Applicant's) proposed Gould Canal Improvement Projects A & B – Upper Tunnel Bypass ("Project" or "Upper Tunnel Bypass"). The Gould Canal Improvement Projects A & B ("Original Project") was authorized by the Colorado River Basin Salinity Control Act's Colorado River Basinwide Salinity Control Program under Funding Opportunity Announcement (FOA) BOR-UC-17-F003 and Funding Agreements R18AC00074 and R18AC00075. The U.S. Department of the Interior Bureau of Reclamation (Reclamation) issued a Final Environmental Assessment (the "Original EA") and Finding of No Significant Impact (FONSI) (WCAO-GJ-FONSI-19-03) for the Original Project in September 2019. The U.S. Department of the Interior Bureau of Land Management (BLM) was a cooperating agency for authorization of the Original Project, since parts of the Original Project were conducted on BLM lands. No part of the proposed Upper Tunnel Bypass would take place on BLM lands.

The Original Project improved a total of approximately 12.4 miles of the open, unlined Gould Canal with a combination of buried pipe and concrete (shotcrete) lining, proposed to pipe two tunnels (the upper tunnel and lower tunnel) in situ, and developed a Habitat Replacement Site to conserve habitat values lost in the construction footprint. Since the time of the Original Project authorization in 2019, the design process has revealed that in situ piping of the upper tunnel is not viable from both construction safety and cost standpoints. As a result, the Applicant is now proposing to construct an Upper Tunnel Bypass. The Upper Tunnel Bypass is a change in the design of the upper tunnel aspect of the Gould Canal Improvement Projects A & B and not a stand-alone salinity reduction project.

The Federal action ("Proposed Action") evaluated in this EA is whether Reclamation would provide funding assistance to the Applicant for the Upper Tunnel Bypass. Reclamation has prepared this EA in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's (CEQ's) NEPA regulations at 40 Code of Federal Regulations (CFR) Parts 1500 – 1508 (2022). Reclamation decided that an EA is warranted for the Proposed Action rather than a Documentation of NEPA Adequacy (DNA), since the Proposed Action involves a new activity with aspects that are sufficiently different from those activities that were subject to NEPA analysis for the Original Project.

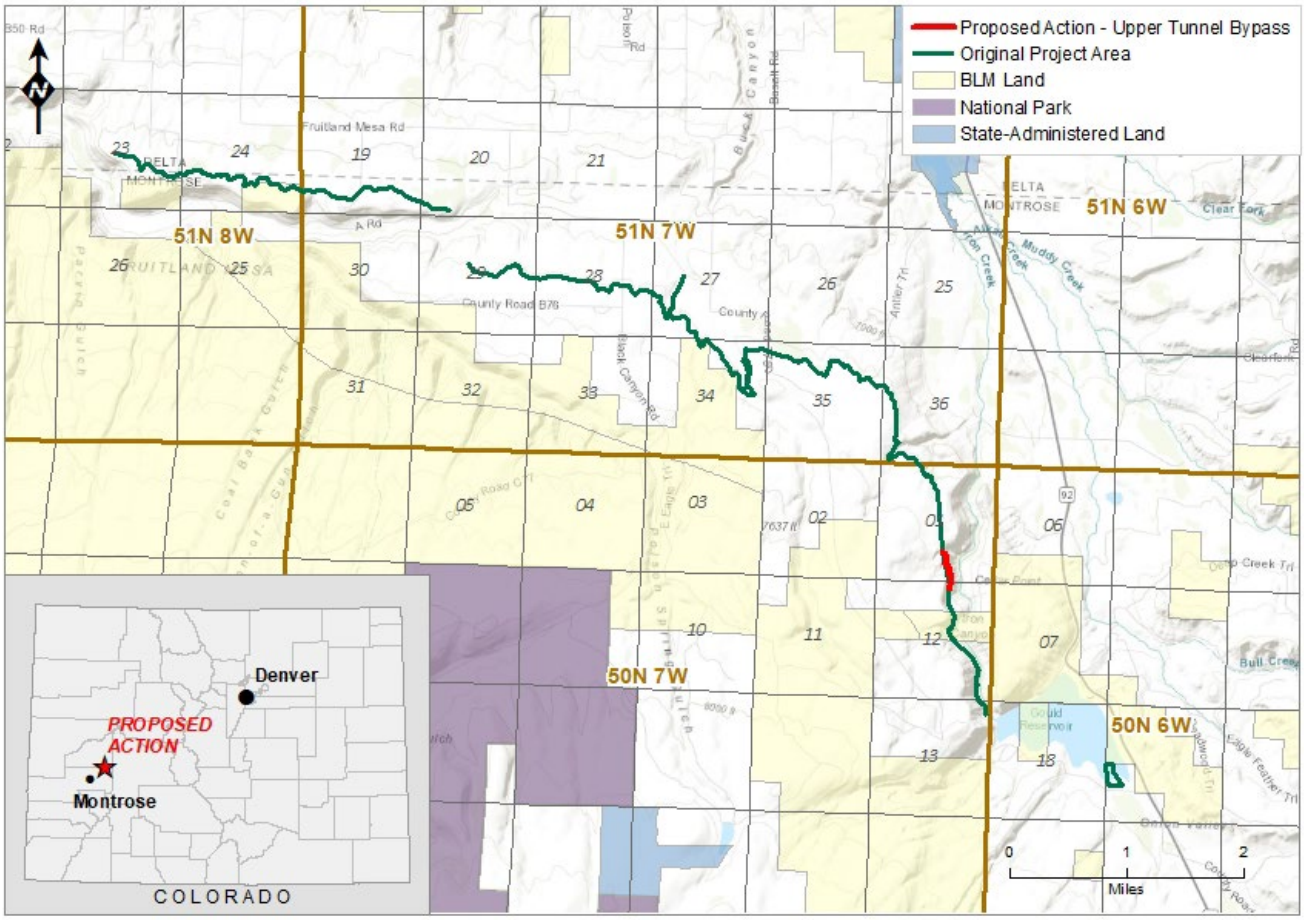
This EA incorporates by reference those parts of the Original EA that remain applicable to the Proposed Action. The Original EA and FONSI are available here: https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20190900-FruitlandIrrigationCompanyGouldCanalImprovementProjectsAandB-FinalEAandFONSI-508-WCAO.pdf.

After a public review period for of the Draft EA, Reclamation determined that a Finding of No Significant Impact (FONSI) for the Proposed Action is warranted.

1.1 – Project Location and Legal Description

The Project is in the northeastern part of Montrose County, Colorado, in the southeast part of the Original Project area (see Figure 1). The Project area is on private land held by a single landowner (Figure 1), and encumbered by a Conservation Easement held by Colorado Open Lands. The general physical location of the Project is Township 50 North, Range 7 West (50N 7W) of the New Mexico Principal Meridian: the southwest quarter of the southeast quarter of Section 1 and the northwest quarter of the northeast quarter of Section 12. Section 1.5 of the Original EA provides further information about the setting and location of the Original Project.

Figure 1. Map of project location.



1.2 – Need for and Purpose of the Proposed Action

The need and purpose for the Proposed Action is to reduce salinity concentrations in the Colorado River basin, in compliance with the Colorado River Basin Salinity Control Act of 1974, 43 U.S.C. §§ 1571, et seq., as amended).

1.3 – Decision to be Made

Reclamation will decide whether to provide funding to the Applicant to implement the Project.

1.4 – Background

1.4.1 – Salinity Control Program

The threat of salinity loading in the Colorado River basin is a major concern in both the United States and Mexico (Reclamation 2019). 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 2019). 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.

The Basinwide Salinity Control Program funds salinity control projects with a one-time grant that is limited to an applicant's competitive bid. Salinity control projects are awarded based on applications received on Funding Opportunity Announcements (FOAs) issued by Reclamation. As part of the FOAs, applicants are evaluated individually according to the following criteria: cost effectiveness, the ability to enable on-farm salinity control features, risk assessment, detailed project plan, costs & capability to implement the project, future operation & maintenance and management capabilities for the project, past performance, and Department of the Interior goals. Applications are ranked by an Application Review Committee made up of multiple disciplines, and high ranking projects are recommended to the Salinity Control Program Manager for consideration. The Salinity Control Program Manager then provides recommendations to the Grants Officer for award. Once constructed, the facilities are operated, maintained, and replaced by the applicant at their own expense.

The cost effectiveness value of a proposed project is quantified as the estimated total annual salt load (in tons) reduced in the Colorado River basin divided by the project cost amortized over 50 years. Estimated salinity reduction is calculated based on measured total dissolved solids loads in basin streams, geographic information system (GIS)-based model calculations to determine subbasin loads, and ditch mapping data that include average flows, ditch lengths, and average annual days of use. Richards et al. (2014), Schaffrath (2012), and Linard (2013) provide more detailed information on salt loading estimate methodology.

Earthen irrigation ditch water seepage and the resultant deep percolation through saline soils is one way that salts are mobilized and transported into regional streams and rivers. Piping such ditches removes a source of deep percolation and salt mobilization to regional streams and rivers from the system. The Original Project eliminated water seepage from approximately 12.4 miles of earthen ditches, reducing salinity loading by an estimated 5,697 tons per year in the Lower Gunnison Basin and the Colorado River Basin.

While the Project is not a selenium reduction project, it is anticipated that an unquantified reduction in selenium loading in the Colorado River basin would also be associated with the Project. The U.S. Geological Survey (USGS) monitors dissolved selenium loads in rivers and tributaries immediately downstream of the Project Area. There has been a 47.7 percent decrease in selenium levels in the Gunnison River near Whitewater between 1986 and 2020 (Henneberg 2021). The Gunnison Basin Selenium Management Program (SMP), a private/public partnership of concerned parties working together to identify and implement solutions to reduce selenium concentrations in the Gunnison and Colorado rivers, attributes a portion of the reduction in selenium throughout the area to the reduction of deep percolation from seeping irrigation ditches due to the implementation of salinity control projects (Reclamation 2022a).

1.4.2 – The Applicant

Fruitland Irrigation Company is a mutually-owned non-profit corporation established in 1901 and serving dues-paying shareholders across Fruitland Mesa consistently since that time.

1.5 – Relationship to Other Projects

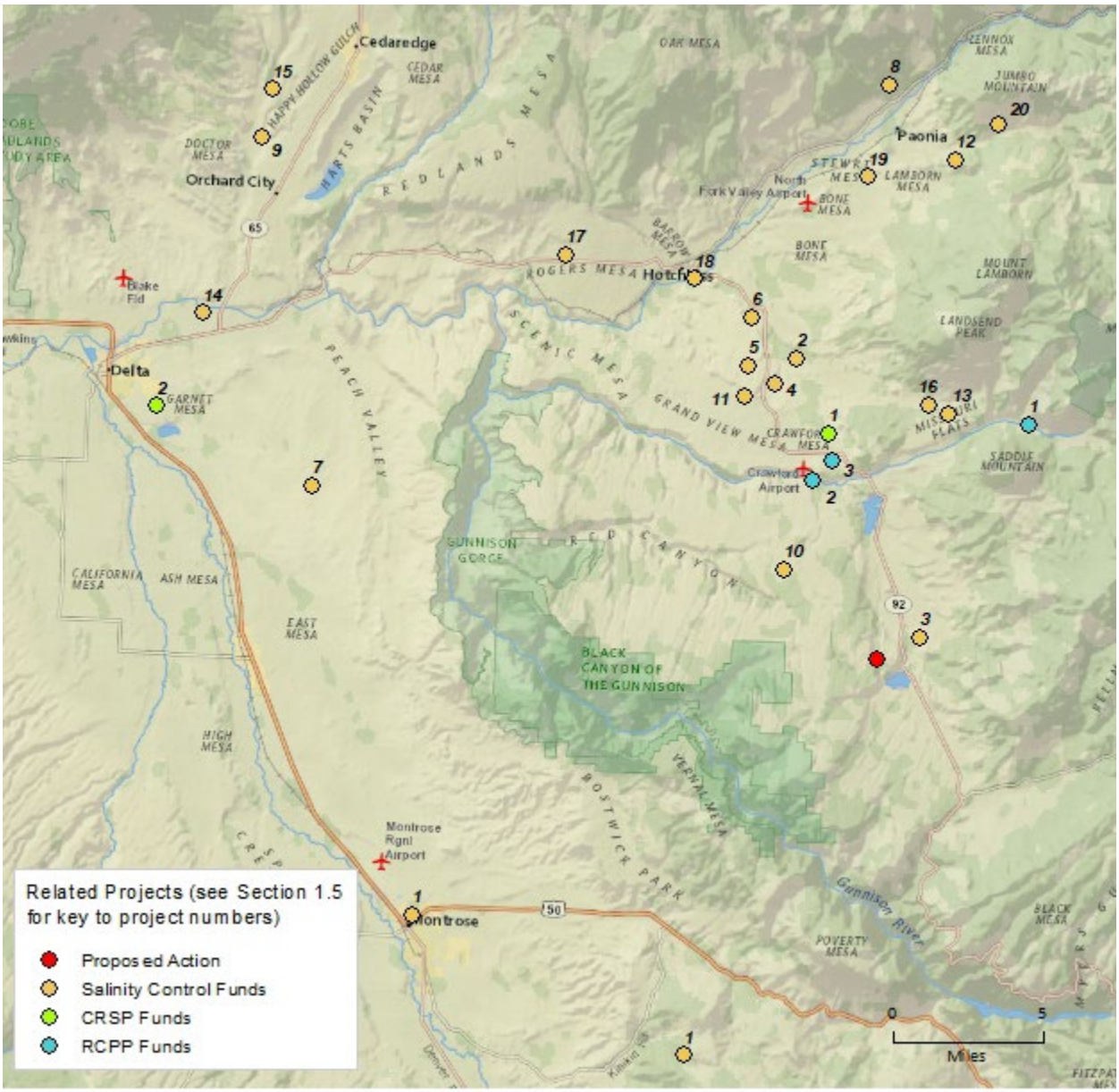
1.5.1 – Salinity Control Program

Reclamation, under the authority of the Colorado River Basin Salinity Control Act of 1974 provides funding through the Basinwide Salinity Control Program and the Basin States Program to implement cost-effective salinity control projects in the Colorado River Basin. Reclamation's Western Colorado Area Office is in the process of or has recently utilized Salinity Control Program funds for the following salinity control projects in the vicinity of the Project (Figure 2, below).

1. Bostwick Park Siphon Lateral and Waterdog & Shinn Park Laterals Piping Projects
2. C Ditch/Needle Rock Piping Project
3. Cattleman's Ditches Piping Project Phases I and II
4. Crawford Clipper Center Lateral Piping Project
5. Crawford Clipper Jerdon, West, Hamilton Piping Project
6. Crawford Clipper Spurlin Mesa (Clipper 4) & Zanni Lateral
7. Eastside Laterals Piping Projects, Phases 1 through 10, including GE, DK Laterals and Phase 9 Mod
8. Fire Mountain Canal Piping Project
9. Forked Tongue/Holman Ditch Piping Project
10. Gould Canal Improvement Projects A & B
11. Grandview Canal Middle and Lower Piping Projects
12. Minnesota Canal Piping Project Phase I and II, and Minnesota L75 Piping Project
13. Needle Rock/Lone Rock Piping Project
14. North Delta Canal Piping Project – Phase I and Phase I Extension

15. Orchard Ranch Ditch Piping Project
16. Pilot Rock Ditch Piping Project
17. Rogers Mesa Slack and Patterson Lateral Piping Project
18. Short Ditch Extension Piping Project
19. Stewart Ditch – Upper, Middle & Lower Piping Projects
20. Turner and Lone Cabin Ditches Piping Project

Figure 2. Regional salinity control projects & other related projects.



1.5.2 – CRSP Basin Funds

Reclamation's Western Colorado Area Office recently utilized Colorado River Storage Project (CRSP) Basin Funds to implement the following projects(see Figure 2 for general locations):

1. Aspen Canal Piping Project
2. GK Lateral Piping Project

1.5.3 – RCPP Funds

The U.S. Dept. of Agriculture Natural Resources Conservation Service (NRCS) issued a Regional Conservation Partnership Program (RCPP) grant administered by the Colorado River Water Conservation District under the Lower Gunnison Watershed Plan. RCPP irrigation infrastructure improvement projects planned in the vicinity of the Project include (see Figure 2 for general locations):

1. Needle Rock Diversion Project
2. Upper Grandview Canal Piping Project
3. Crawford Clipper Ditch Upper West Lateral Master Plan Projects (various)

1.6 – Scoping

Scoping for the Original EA is provided in Section 1.7 of the Original EA. Additional scoping for this EA was completed by Reclamation, in consultation with the following agencies and organizations during the planning stages of the Project to identify the potential environmental and human environment issues and concerns associated with implementation of the Project and No Action Alternatives:

- U.S. Bureau of Land Management, Uncompahgre Field Office, Montrose, CO
- Colorado State Historic Preservation Office, Denver, CO
- U.S. Fish & Wildlife Service, Ecological Services, Grand Junction, CO
- Colorado Open Lands, Lakewood, CO

Concerns raised during public comment periods on recent similar projects and related informal consultations with local CPW wildlife managers also helped identify potential concerns for the Project.

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

Table 1. Resources or Potential Issues Eliminated from Further Analysis

Resource or Potential Issue	Rationale for Elimination from Further Analysis
Indian Trust Assets and Native American Religious Concerns	No Indian trust assets or Native American sacred sites were identified within the Project Area as a part of the Original EA drafting process. To confirm this finding, Reclamation provided the Ute Mountain Ute Tribe, the Ute Indian Tribe (Uintah and Ouray Reservation), and the Southern Ute Indian Tribe with a description of the Project and a written request for comments regarding any potential effects on Indian trust assets or Native American sacred sites. No comments were received.
Environmental Justice & Socioeconomic Issues	The Project Area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low-income populations. The Project would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. Therefore, neither the No Action Alternative nor the Project, would have an environmental justice effect.
Wild & Scenic Rivers, Land with Wilderness Characteristics, or Wilderness Study Areas	No Wild and Scenic Rivers, land with wilderness characteristics, or Wilderness Study Areas exist in the Project Area. Therefore, neither the No Action Alternative nor the Project, would have an effect on these resources.
Desertification	Desertification is a type of land degradation in which fertile areas become arid. Biological and agricultural productivity are diminished due to drought, deforestation, overexploitation of soil and grasslands, or a combination of factors. No change to irrigated areas or farming practices would occur as a result of the Project. The purpose of the Project is to prevent deep percolation of the canal water from the tunnel proposed for piping, and this conserved water would be delivered to irrigated crops, which would continue to return water to the atmosphere through evapotranspiration, and return water to the aquifer through deep percolation. No water resources would be removed from the basin. Therefore, this potential issue was eliminated from further analysis.

Resource or Potential Issue	Rationale for Elimination from Further Analysis
Slope Stability	FIC consulted with a professional geotechnical engineer to evaluate potential concerns with the Project design and execution (including blasting). Based on the geotechnical engineer's site observations and professional experience, the engineer recommended construction methods to address slope stability and the overall stability of the pipeline. A professional geotechnical engineer would be on site and/or available for consultation to further identify and address potential slope stability and risk factors during construction. Therefore, this potential issue was eliminated from further analysis.

1.7 – Alternatives Considered But Not Carried Forward

The Applicant considered, but dismissed, several construction options for improving the upper tunnel when it became apparent that the alternative authorized in the original NEPA analysis (in situ piping, grouted in place) would be unviable. Other improvement options considered for the upper tunnel which were determined to be impractical or too expensive included the following:

- Boring a new upper tunnel for an estimated 3 million dollars. This far exceeds the budget and resources of the Applicant. This option would also generate a large amount of material that would need to be disposed of on-site.
- Installing cast-in-place pipe (CIPP) inside the upper tunnel to better adapt to the existing structure of the tunnel. CIPP installation contractors were not confident that this option could be constructed due to difficulties with installing a CIPP liner inside a tunnel with high variation in height and width, and the potential for large wrinkles in the finished product.
- Installing shotcrete inside the existing tunnel. Shotcrete contractors determined this was not a viable option due to the tight working conditions which would not allow for proper application of the shotcrete.
- The unsupported condition of the upper tunnel coupled with recent rockfall and movement of the tunnel flow are a serious risk to worker safety.

CHAPTER 2 - ALTERNATIVES

Alternatives evaluated in this EA include the No Action Alternative and the Proposed Action Alternative (aka "Project," the Preferred Alternative).

2.1 – No Action Alternative

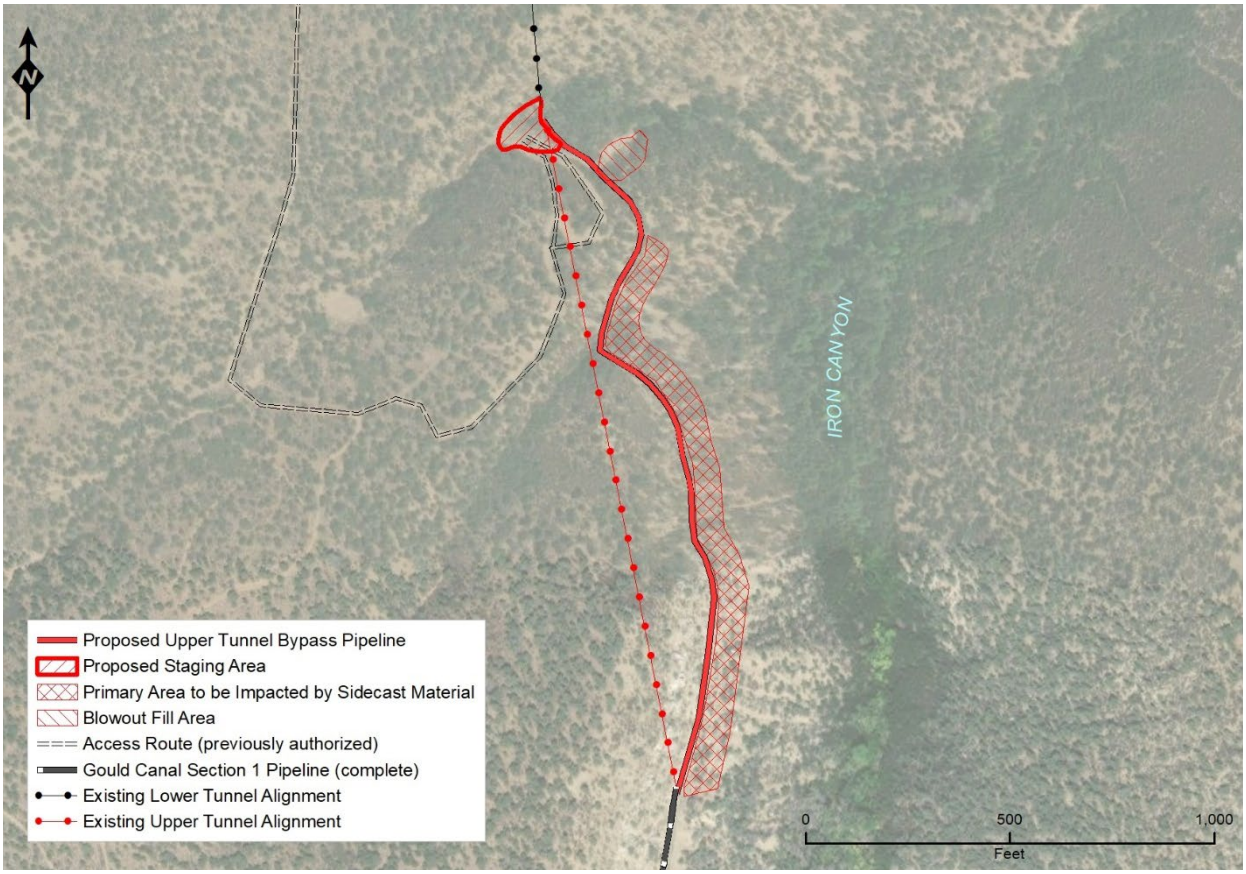
Under the No Action Alternative, Reclamation would not approve funding for the Upper Tunnel Bypass Project. Since the time that the original design was contemplated, there has been movement within the upper tunnel which increases the risk of working underground. This movement has dramatically increased water loss from the upper tunnel which has further destabilized the tunnel. Under the No Action Alternative, the upper tunnel would continue to operate with significant water loss, significant risk of landslides below the tunnel, and would likely lead to a complete tunnel failure.

2.2 – Project Alternative – Preferred Alternative

Under the Proposed Action, Reclamation would authorize funding to the Applicant to implement the proposed Upper Tunnel Bypass Project (Figure 3). The Project would consist of approximately 2,000 feet of pipeline installed near the alignment of the existing upper tunnel, on the east-facing slope of Iron Cayon. The alignment of the proposed bypass pipeline would generally follow an old wooden surface flume that contours between two cliff bands on the side slope of Iron Canyon. The flume historically carried the same irrigation water prior to the construction of the upper tunnel. The middle approximately 700 feet of the bypass pipeline would drop below the cliff bands (in an area where the cliff bands nearly join together) and be placed in a bench constructed at the toe of the cliff bands about 25 horizontal feet east of the existing old flume alignment. Once past this area, the pipeline would return to the grade of the old wooden flume.

To prepare the bypass alignment, an approximately 14-foot-wide bench would be constructed into the slope, followed by the excavation of a pipeline trench on the bench. Excavated rock from the northern, approximately 400-foot segment of bench construction would be placed into an erosional blowout scar (an approximately 0.2-acre area below the grade of the north end of the proposed bypass pipeline alignment (Figure 3). For the remainder of the constructed bench, excavated rock would be side-cast on the slope below. Side-cast material would be placed on the slope below the bench such that downhill momentum (rolling, sliding) is generated as little as possible. The engineer for the Project estimates that the side-cast material would remain within 75 feet of the constructed bench on the hillside below, across an area of approximately 2.3 acres (Figure 3). The majority of the side-cast material would remain adjacent to (within 20 to 30 feet of) the construction bench. Vegetation (scattered pinyon pine and juniper trees and shrubs) in the construction path would be cut prior to bench construction or grubbed during bench construction, and placed on the slope below the bench.

Figure 3. Project Site Plan



Conventional blasting may be required during bench construction and pipeline trench excavation, in order to loosen or break rock into pieces manageable with heavy equipment. Blasting would be performed by a licensed blasting contractor, and would entail drilling a hole or holes in the rock, placing a charge and detonator in the drill hole, and detonating the charge. No fly rock or significant gross movement of rock would occur during blasting.

Pipeline material is anticipated to be profile wall high-density polyethylene (HDPE) with electrofusion bell and spigot ends. The pipe will be completely backfilled to two feet above the top of pipe. Backfill adjacent to the pipe will either consist of screened or crushed onsite material, or imported screened gravel. The top 12 inches of backfill will be native materials screened to remove large rocks.

An approximately 0.3-acre proposed staging area would be prepared at the north end of the bypass alignment. The staging area is a relatively flat area where sediments have accumulated in a gulch upgradient of the location of an existing road that leads to the area of the upper tunnel's downstream (north) portal and the lower tunnel's upstream (south) portal. This area would be leveled to restore vehicle access to the south portal and make the area suitable for turning equipment around and staging materials. Sediment excavated to prepare the staging area would either be used for pipe bedding in the bypass alignment or placed in the blowout scar.

Following the bypass pipeline construction, a 12 ft wide maintenance road would remain on the construction bench. This road would be used periodically by the Applicant for inspection and maintenance.

The upper tunnel's portals would be blocked using onsite materials. Soil and rock would be pushed 10 to 20 feet into each portal to completely fill the opening. Immediately outside of each blocked portal, native fill would be compacted in 12 inch lifts to a level of approximately 2 feet above the portal roof.

Post construction revegetation and weed control would be conducted in the construction footprint and the staging area. Revegetation would entail broadcast seeding with a native weed-free seed mix appropriate to the area and specified in the Original EA. Weed control would be in accordance with the Original EA and the easement agreement for the bypass pipeline alignment between the Applicant and the private landowner.

Construction activities and test pits would be accomplished with medium sized heavy equipment (dozers, backhoes) with track widths of approximately 10 feet. Existing access roads approved during the original NEPA analysis would be used to support the Project.

The Project would require an estimated 3 months for completion. Two to four weeks would be required to build the bypass alignment bench, and pipeline construction and tunnel decommissioning would require another approximately 2 months. When construction is underway, it would occur during daylight hours (typically 7 am to 5 pm), Monday through Saturday. Weather conditions could cause gaps in activity during active work periods. Vegetation disturbance or grubbing would either be avoided between April 15 and July 15 to protect nesting migratory birds, or a nesting migratory bird survey and conservation measures would be conducted in accordance with a Reclamation- and U.S. Fish & Wildlife Service (FWS)-approved protocol prior to vegetation disturbance/grubbing conducted between April 15 and July 15. Construction activities are prohibited within 0.5 mile of an active golden eagle nest during nesting season (typically December 15 – July 15), and construction traffic is prohibited within 0.25 mile of an active golden eagle nest during nesting season.

2.2.1 – NEPA Sufficiency Review of Project Elements

Aspects of the Project have already been adequately analyzed and authorized by the Original EA include access and transportation (hauling equipment and materials on existing previously authorized routes with the option to improve routes to support large vehicles), staging activities (storage of materials and equipment), buried pipeline construction (including vegetation grubbing, trenching, blasting, onsite screening of pipe bedding material, pipe fusing), revegetation, and schedule (timing restrictions protective of sensitive wildlife).

Activities and aspects of the Project that were not analyzed by the Original EA are preparation of the construction bench on an exposed slope, side-casting of material on the exposed slope below the construction bench and into an erosional blowout scar, installation of on-grade pipe, preparation of a new staging area not previously authorized by the Original EA, and decommissioning the upper tunnel. Also, the bypass alignment would follow the path of old wooden surface flume—an alignment not contemplated by the Original EA. The option to disturb or grub vegetation during the migratory bird nesting season (April 1 through July 15) was not contemplated in the Original EA. Analyses of these activities are addressed in Chapter 3.

2.2.2 – Permits & Authorizations

Agreements & Authorizations
The following agreements or permits would be required prior to Project implementation:

- Memorandum of Agreement executed between Reclamation and the Colorado SHPO.
- Clean Water Act (CWA) Section 404 Regional General Permit 5 for Ditch Related Activities in the State of Colorado: 30-Day Advance of Construction Submittal Package (to include "(1) the respective agency's documentation for compliance with the Endangered Species Act and National Historic Preservation Act and/or the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map.").
- Acknowledgment/approval of the Project from Colorado Open Lands, a land trust holding a conservation easement on the land involved with the Project.
- An easement/right-of-way agreement for the Project alignment between the Applicant and the private landowner.

Construction Permits & Plans
The following construction permits and plans would be required prior to Project implementation:

- 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).
- Certification under CDPHE Water Quality Division Construction Dewatering Discharges Permit COG070000 (when dewatering is to 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.
- If blasting is to be conducted during construction, it must be conducted by an individual with a Type I Explosives Permit from Colorado Department of Labor and Employment Division of Oil and Public Safety – Explosives Program.
- If slash burning is to be conducted, an Open Burn/Slash Pile Permit to be obtained by the construction contractor from CDPHE.

Natural Resource Protection Laws
Compliance with the following laws and Executive Orders (E.O.s) are required prior to and during Project implementation:

- Clean Air Act of 1963 (42 U.S.C. § 7401)
- Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1544, 87 Stat. 884)
- Clean Water Act of 1972 as amended (33 U.S.C. 1251 et seq.)
- Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712)
- Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668- 668c)

- 1866, July 26 – 14 Stat. 251, Act Granting Right of Way to Ditch and Canal Owners Over Public Land
- Farmland Protection Policy Act (P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq.)

Cultural Resource Laws

- National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.)
- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-470mm et seq.)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.)
- American Indian Religious Freedom Act of 1978 (42 U.S.C. Public Law 95-341)
- Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines (48 FR 44716)

Paleontological Resource Laws

- Paleontological Resources Preservation Act of 2009 [Section 6301-6312 of the Omnibus Land Management Act of 2009 (Public Law 111-11 123 Stat. 991-1456)]

CHAPTER 3 – AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

3.1 – Introduction & NEPA Sufficiency Review

This chapter discusses resources that would be affected by the Project and the No Action Alternative. For each resource, the affected area and/or interests are identified and the existing conditions and impacts are described under the No Action and Project - Preferred Action Alternatives.

Table 2 provides a cross-reference for sections in the Original EA for resources adequately analyzed in the Original EA. This Chapter concludes with a summary of impacts applicable to the Project, analyzed both in this EA and the Original EA.

Table 2. NEPA Adequacy Review: Summary of Resources in the Affected Environment Analyzed in the Original EA

Resource (& Original EA Section)	**Affected Environment Description Adequacy**	**Environmental Consequences Analysis Adequacy**
Water Rights & Use (3.1)	The affected environment has changed since the time of the Original EA. The use of adjudicated waters by the Applicant has become impaired due to upper tunnel deterioration.	Both the current Project and the No Action Alternative have different consequences for this resource than those explained in the Original EA (see Section 3.2.1 of this EA).
Water Quality (3.2)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action Alternative and the Project. See the Summary of Impacts Table of this EA (Table 4).
Air Quality (3.3)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action and the Project. See the Summary of Impacts Table of this EA (Table 4).
Access, Transportation, & Construction Impacts (3.4)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action Alternative and the Project. See the Summary of Impacts Table of this EA (Table 4).
Safety (--)	This aspect of the affected environment was not addressed in the Original EA.	The No Action Alternative and the Project are analyzed in Section 3.2.2 of this EA.
Noise (3.4, 3.9)	The affected environment description remains unchanged; however, types of surface disturbance associated with the Project (construction of a bench and side-casting of rock on the steep side slope of Iron Canyon) are aspects that were not analyzed by the Original EA.	Analysis remains unchanged for the No Action Alternative. The Project is analyzed in Section 3.2.3 of this EA for noise impacts related to construction methods differing from those analyzed in the Original EA.

Resource (& Original EA Section)	**Affected Environment Description Adequacy**	**Environmental Consequences Analysis Adequacy**
Recreation Resources (3.5)	The affected environment description remains unchanged.	Analysis remains unchanged for the No Action Alternative. For the Project, there would be no direct effect to public recreation resources because the Project is on private land that is not open to the public. Indirect impacts are analyzed adequately in the Original EA. See the Summary of Impacts Table of this EA (Table 4).
Visual Resources (3.5)	The affected environment description remains unchanged; however, types of surface disturbance associated with the Project (construction of a bench and side-casting of rock) are aspects that were not analyzed by the Original EA.	The Project has the potential to affect visual resources because of the new type of proposed surface disturbance and its location. This EA provides an updated analysis in Section 3.2.4, specific to the Project Area.
Livestock Grazing (3.6)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action Alternative and the Project. See the Summary of Impacts Table of this EA (Table 4).
Vegetation Resources (3.7)	The affected environment description remains unchanged. The applicable aspect of the vegetation resource is upland native vegetation. The specific condition of the Project Area is described in Section 3.2.5 of this EA.	Analysis from the Original EA remains unchanged for the No Action Alternative. The Project is analyzed in this EA (Section 3.2.5) for impacts related to upland vegetation and to aspects of revegetation, which differ from that analyzed in the Original EA.

Resource (& Original EA Section)	**Affected Environment Description Adequacy**	**Environmental Consequences Analysis Adequacy**
Noxious Weeds (3.7)	The overall affected environment description remains unchanged. The specific condition of the Project Area is described in Section 3.2.10 of this EA.	Analysis from the Original EA remains unchanged for the No Action Alternative. The Project is analyzed in this EA (Section 3.2.6) for impacts related to aspects of the proposed revegetation method, which differs from that analyzed in the Original EA.
Wildlife Resources (3.8)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for both the No Action Alternative and the Project. See the Summary of Impacts Table of this EA(Table 4).
Migratory birds and raptors (3.9)	The affected environment description remains unchanged.	Analysis from the Original EA remains unchanged for the No Action Alternative. This EA provides updated analysis in Section 3.2.7, specific to the Project Area.
Special Status Species (3.9)	Since the time of the Original EA, several changes have occurred to the threatened & endangered species (T&E) listings in the Project Area. This EA provides an updated description specific to the Project Area in Section 3.2.8.	Analysis from the Original EA remains unchanged for the No Action Alternative. This EA provides updated analysis in Section 3.2.8, specific to the Project Area.
Cultural Resources (3.10)	The Project represents a change in activity and spatial location from what was analyzed in the Original EA. A new cultural survey was conducted for this area. This EA provides an updated description specific to the Project Area in Section 3.2.9.	Analysis from the Original EA remains unchanged for the No Action Alternative. This EA provides an updated analysis in Section 3.2.9 for cultural resources in the Project Area, and a Programmatic Agreement (PA) proposal between the SHPO, the Applicant, and Reclamation is included as Appendix A.

Resource (& Original EA Section)	**Affected Environment Description Adequacy**	**Environmental Consequences Analysis Adequacy**
Soils & Farmlands of Agricultural Significance (3.11)	The Project represents a change in activity and spatial location from what was analyzed in the Original EA, with a different soil classification and characteristics (rock outcrop). This EA provides an updated description specific to the Project Area in Section 3.2.10.	Both the current Project and the No Action Alternative have different consequences for this resource than those explained in the Original EA (see Section 3.2.10 of this EA).
Cumulative Impacts (3.12)	The Project represents a change in activity and spatial location from what was analyzed in the Original EA. This EA provides an updated description specific to the Project Area in Section 3.2.11.	This EA provides updated analysis in Section 3.2.11, for both the No Action Alternative and the Project, specific to the Project Area and specific to resources carried forward for analysis in this EA.

3.2 – Affected Environment & Environmental Consequences

3.2.1 – Water Rights & Use

The affected environment of water rights and use are described in Section 3.1 of the Original EA.

No Action Alternative: The No Action Alternative would have a significant effect on water rights and uses for the Applicant's shareholders. The Applicant's engineer estimates that the water loss from ongoing leaking from the upper tunnel created a deficit of approximately 10 percent (5 cubic feet per second) in the adjudicated irrigation water volume delivered to all shareholders of Fruitland Irrigation Company during the 2023 irrigation season. This volume of loss would be expected to increase in coming irrigation seasons as water seeping through fractured rocks inside the tunnel continues to create instability in the slope and more leak pathways. The impacts to shareholders would include loss of the ability to take delivery of part or all of the adjudicated shares of late-season irrigation water.

Project (Upper Tunnel Bypass Alternative): Under the Project, the Upper Tunnel Bypass would route the Applicant's irrigation water past the unstable upper tunnel, ensuring the ability to deliver the full volume of adjudicated and historically diverted irrigation water to the shareholders, and the ability to put the irrigation water to beneficial use. There would be no change in water rights or an adverse

effect on water use associated with the Project. Therefore, there would be no significant adverse effect on water rights and use.

3.2.2 – Access, Transportation, & Safety

The affected environment of access and transportation are described in Section 3.4 of the Original EA. The Original EA did not describe certain aspects of the affected environment of public and personal safety for the Project.

There are public safety risks associated with sources of open, moving water, and open canals flowing into enclosed tunnels. There are also safety risks associated with inspecting and maintaining tunnels. Although the Project Area is in Montrose County, it is served by both the Montrose County Sheriff and the Delta County Sheriff, as well as the North Fork EMS Health Service District, the Crawford Fire Protection District, and Delta County Fire Protection District 5.

No Action Alternative: There would be no effect to public safety, transportation, or public access from the No Action Alternative. The upper tunnel would continue to operate in its current condition and the baseline status of public safety, transportation routes, utilities, and public access in the vicinity would remain unchanged.

Project (Upper Tunnel Bypass Alternative): All construction activities related to the Project would take place entirely in the approved/authorized and prescriptive Project rights-of-way and previously approved access routes. Under the Project, the safety risks associated with sources of open, moving water entering an enclosed tunnel, or the safety risks associated with entering a tunnel for inspection or repairs, would no longer occur within the Project Area. The Montrose County Sheriff and the Delta County Sheriff, as well as the North Fork EMS Health Service District, the Crawford Fire Protection District, and Delta County Fire Protection District 5 would continue to cover the Project Area for emergency response, and would not be hindered in their response. Active construction areas would be adequately marked and barricaded to prevent public access. Trenches left open overnight would be limited to the extent practicable. In the case that a trench is left open overnight, it would be covered to adequately prevent entrapment of people, livestock, or wildlife. Therefore, there would be no significant effect on public safety.

No significant impacts to access, transportation, and public safety would occur as a result of the Project, because traffic and access disruptions would be short-term and coordinated with authorities, and public safety measures would be implemented in construction areas.

3.2.3 – Noise

The affected environment of noise is described in Sections 3.4 and 3.9 of the Original EA. The Project Area is the "Tunnels Area" analyzed by the Original EA, which is relatively secluded from residential areas and public places. Baseline noise in the Project Area includes vehicles and equipment operating in association with maintenance of the Applicant's pipeline, tunnels and ditches, and the landowners ranching activities. Baseline noise levels in the area can be moderate at times, depending on the activities that are occurring.

No Action Alternative: There would be no effect from the No Action Alternative, because there would be no construction noise related to the upper tunnel bypass in the Project Area. Noise related

to irrigation infrastructure operation and maintenance activities and ranching in the area would continue as it has in the past.

Project (Upper Tunnel Bypass Alternative): Project construction activities would generate a temporary source of noise audible to people near the Project. Sources of noise would include heavy equipment moving earth, grubbing vegetation, excavating, or crushing rock; and trucks hauling pipe and other materials. As explained in Section 2.2, blasting may also be required to help prepare the construction bench and pipe trench. Blasting would occur inside small boreholes in rock or in the trench below grade. The noise associated with such blasting would resemble a muffled "pop" from a firearm. Noise would also be generated by sidecasting of rock material on the slope below the construction bench or in the erosional blowout scar. This sound can be characterized as a natural rock clatter sound as material is placed on the slope below the bench. Occasionally, material could be expected to roll or slide downhill from the location of placement, creating isolated extended rock clatter sounds.

These disturbances would occur during daylight hours (typically 7 am to 5 pm), Monday through Saturday, on a sequenced basis along the ditch section involved with the Project.

No significant impacts to noise would occur as a result of the Project, because noise associated with construction of the Project would be minor and short-term and the Project would not result in a long-term elevation in the baseline noise level.

3.2.4 – Visual Resources

The affected environment of visual resources is described in Section 3.5 of the Original EA. The Project Area is the upper tunnel component area of the overall project area analyzed by the Original EA. The terrain in the general area is canyon and plateau country, with rolling to steep topography. The Project Area is on the east-facing slope of Iron Canyon, on a rocky, relatively steep slope, with layered horizontal bands of ledge rock comprised of tan sandstone. The slope and surroundings are vegetated with open woodlands of pinyon pine, Utah juniper, and scattered mountain shrubs. The human-made visual elements on the landscape include the linear feature of Section 1 of the Gould Canal (now piped), a ranch road/irrigation pipeline access road in the bottom of Iron Canyon, and an access road descending from the west rim of Iron Canyon to the area of the upper tunnel's downstream (north) portal and the lower tunnel's upstream (south) portal (which is also the proposed staging area for the Project).

The Project is entirely on private land. The nearest public land is BLM land, 0.2 mile south and 0.3 mile east (on Cedar Point), of the Project Area. The nearby BLM land is under general management for limited off-highway vehicle travel (on designated routes) and non-motorized uses, and has Class III Visual Resource Management classification, where "visual resource modifications are evident but harmonious with surroundings." Due to topography, the Project Area is only distantly visible from a small part of the BLM land to the east in the Cedar Point area, but not from a designated BLM motorized route. The nearest public road is State Highway 92, 1 mile east. Due to intervening topography, the Project Area is not visible to the public from Highway 92. There is no general public access to the Project Area, except by trespass.

No Action Alternative: There would be no visual impacts from the No Action Alternative. The baseline level of visual disturbance near the Project Area associated with the linear features of Section 1 of the Gould Canal pipeline alignment and the roads, would continue.

Photograph 1. View of the Project vicinity. The arrows indicate a section of the proposed location of the bypass pipeline construction bench (Rare Earth Science, August 2023).

Project (Upper Tunnel Bypass Alternative): Temporary impacts related to visual disturbance during construction would result from the Project. Machinery would be operating on the landscape on a spatially incremental basis during construction. Following construction, the disturbance footprint would be a permanent linear bench on the east-facing slope of Iron Canyon, with a dirt access road remaining on the bench. Side-cast rocks would be piled on the slope below the bench. The finished construction bench and side-cast rocks would resemble the horizontal cliff bands and jumbled array of rocks already existing in Iron Canyon. None of the Project Area is visible from Highway 92, or from other public roads within a distance (approximately 2 miles) where Project features could be visually discernible. The Project Area is in a narrow viewshed from BLM land to the east, on a part of BLM land without road access.

No significant impacts to visual resources would occur as a result of the Project, because the Project Area is not visible to the general public, and because construction impacts would be temporary, and because and the visual characteristics of the landscape in and around the Project Area following construction would not be significantly out of character with the surrounding landforms.

3.2.5 – Vegetation

The affected environment of vegetation resources is described in Section 3.7 of the Original EA. The Project Area is vegetated with open pinyon pine (*Pinus edulis*)-juniper (*Juniperus osteosperma*) woodlands with a sparse mixed mountain shrubland understory across rocky terrain. Very little herbaceous vegetation or topsoil (containing organic matter) is present in the Project Area (see Photograph 1, above).

No Action Alternative: There would be no effect on existing vegetation from the No Action Alternative. The area would continue to support sparse native woodlands in a rocky canyon environment.

Project (Upper Tunnel Bypass Alternative): An analysis of upland vegetation impacts is provided in Section 3.7 of the Original EA. Specific to the Project, construction of the bypass pipeline,

preparation of the staging area, and decommissioning of the upper tunnel portals, would result in the minor impact of removing upland native vegetation that is abundant in and adapted to the semi-arid conditions of the surrounding area and in the region. This would involve cutting or grubbing of trees and shrubs in the construction footprint and in the downgradient sidecasting area, either prior to, or during, excavation of the construction bench. During bench excavation, some vegetation may be covered or partially covered with rocky sidecast material placed downgradient of the construction bench. Following pipeline construction, disturbed areas would remain as roughened subsurface soil or bare rock surfaces and seeded in accordance with specifications in the Original EA. Unlike the Original Project Area, there is no organic topsoil to retain and replace on the surface following construction in the current Project Area. Because upland native vegetation is abundant in the surrounding areas and is adapted to rocky, semi-arid conditions without organic topsoil, native vegetation would also colonize the relatively small area of the construction corridor over time. Due to the factors explained above, the minor impact to upland native vegetation would not rise to the level of significant.

No significant impacts to vegetation would occur as a result of the Project, because the size of the Project's area of impact to vegetation is very small relative to the size of the surrounding upland vegetation community, reseeding with native plant species would be conducted following construction, and the area would naturally revegetate with upland plants from the adjacent plant community over time.

3.2.6 – Noxious Weeds

The affected environment of noxious weeds is described in Section 3.7 of the Original EA. In the Project Area, there are no conspicuous occurrences of weeds recognized as noxious by Montrose County (https://www.montrosecounty.net/374/Priority-Weed-Species). Noxious weeds are present in the surrounding area along accessways and in the Original Project area at large. Weed management is conducted to varying degrees by landowners throughout the Original Project area.

No Action Alternative: There would be no effect on noxious weeds from the No Action Alternative. Noxious weeds would continue to exist in the surrounding area, and livestock and wildlife traversing the area would continue to serve as vectors for the spread of noxious weeds.

Project (Upper Tunnel Bypass Alternative): Construction of the Project would create ground disturbance. Ground disturbances can stimulate weed seed germination if weed seeds are already present in the soil or introduced by vehicles, equipment, or wildlife; however, there are no conspicuous occurrences of weeds recognized as noxious by Montrose County within the Project Area. The lack of topsoil and the predominance of rocky material in the construction footprint would limit the ability for noxious weed seeds which may be present to successfully germinate. Environmental commitments (CHAPTER 4) such as power washing equipment prior to bringing it onsite and conducting weed management following construction would help further minimize the risk of weed infestations. Following construction, vehicles, livestock and wildlife traveling on the maintenance trail remaining on the bypass alignment would present a vector for weed introduction in the Project Area, and noxious weed species already found in the in the surrounding area or the Original Project area at large, could be introduced to the Project Area. Such an introduction of noxious weeds would be a minor impact, as it would not be unusual or out-of-character with local and regional conditions. Reseeding following construction, and weed control, would be conducted along the Project alignment in conjunction with measures established for the Original Project at large, and in accordance with a bypass alignment easement agreement with the landowner.

No significant impacts related to noxious weeds would occur as a result of construction of the Project, because there are no conspicuous occurrences of noxious weeds in the Project Area that would germinate and spread following construction disturbance. Following construction, a maintenance trail remaining on the bypass alignment would present a vector for weed introduction in the Project Area. Weed infestations arising from use of the maintenance trail following construction would represent a minor impact on noxious weeds, because noxious weeds are already present in the surrounding area, and are a relatively normal occurrence along ranch roads in the region.

3.2.7 – Migratory Birds & Raptors

The affected environment of migratory birds protected under the Migratory Bird Treaty Act and eagles protected under the Bald and Golden Eagle Protection Act of 1940 is described in Section 3.9 of the Original EA. Several species of migratory songbirds breed in the pinyon-juniper woodland habitat type in rocky canyon settings such as the Project area. These include scrub-jay, blue-gray gnatcatcher, bushtit, canyon wren (uncommon), red-breasted nuthatch (uncommon), spotted towhee, Townsend's solitaire, western bluebird, and cliff swallow. Pygmy owl (a tree cavity nester) is also a potential nester in the vicinity of the Project. Overall peak breeding season for migratory birds is April 1 through July 15. However, in the vicinity of the Project, due to the higher elevation and the later leaf-out of deciduous vegetation required for nesting, egg laying and incubation for migratory birds begin in late April to mid-May.

During the Spring 2019 nesting raptor survey conducted for the Original Project, five golden eagle nests were identified in the rimrock bands of Iron Canyon. The nests belong to a single pair of golden eagles, with the active nest location 1.1 miles (mi) south-by-southeast of the Project in the rimrock above the Gould Reservoir dam. Four alternate (inactive) nest locations are distributed throughout Iron Canyon, at distances of 0.35 mi, 0.48 mi, 0.6 mi, and 1.1 mi from the Project Area, respectively. The active nest location above Gould Reservoir dam has continued as the active nest each season between 2019 and 2023. The pair did not successfully nest at any of the nest locations in 2024. Egg incubation for this pair typically begins in late February (Le Fevre, pers. comm.).

No Action Alternative: There would be no effects to migratory birds or raptors from the No Action Alternative, because there would be no construction activities related to the upper tunnel bypass and the Project Area would remain undisturbed.

Project (Upper Tunnel Bypass Alternative): Direct effects to migratory songbirds and raptors would include short-term disturbance and displacement from the Project Area during construction, from operating construction equipment and human presence. Late summer, fall, or winter construction would cause temporary displacement of wintering and migrating songbirds and raptors from foraging habitat. Construction during spring and early summer would also displace migratory songbirds from nesting habitat in and near the construction footprint. These effects would be minor because adult birds have the flexibility to move away from disturbance to other suitable areas. Non-adult migratory birds (eggs, nestlings) would be protected by 1) avoiding vegetation removal (and potential destruction of active nests) during nesting season (April 15-July 15), or 2) conducting migratory bird nest surveys and conservation measures in accordance with Reclamation and FWS-approved protocols in advance of vegetation removal during nesting season. Reclamation coordinated with FWS for the following protective measures for golden eagles: Non-adult golden eagles (eggs, nestlings) would be protected from disturbance and potential abandonment by restricting construction activity during breeding season (December 15 through July 15) within 0.5

mile from an active nest (a nest with eggs or young). Construction traffic is restricted within 0.25 mile of an active golden eagle nest during breeding season.

Effects to migratory birds would be minor and temporary, because adult birds can move away from construction disturbance to other suitable areas. There would be no effects to non-adult birds (eggs, nestlings) because vegetation disturbance or grubbing would be avoided during migratory bird nesting season or, if vegetation disturbance or grubbing takes place during migratory bird nesting season, a Reclamation and FWS-approved pre-construction migratory bird nest survey and conservation measures would be implemented. There would be no effect on raptors, because construction would not take place during nesting season within raptor nest buffers published in CPW guidance or established in consultation with FWS.

3.2.8 – Threatened & Endangered Species

The affected environment of threatened & endangered species is described in Section 3.9 of the Original EA. The Original EA analyzed impacts to Gunnison sage-grouse and its designated critical habitat, and Colorado pikeminnow, razorback sucker, bonytail, and humpback chub and their designated critical habitat. The Original EA analysis remains adequate and current, with the following exceptions: since the time of the Original EA, one species has been downlisted from endangered to threatened (humpback chub), one new species has become a candidate for listing (monarch butterfly), one new species has been proposed for listing as threatened (silverspot), and one new endangered species is now recognized as potentially having range in the Project Area (gray wolf).

The affected environment of the Gunnison sage-grouse is not within the Project Area. The affected environment of the four analyzed fishes remains unchanged. As part of the Original Project's NEPA process, the Applicant signed a Recovery Agreement with the U.S. Fish & Wildlife Service (FWS) (included with the Original EA) to ensure that impacts from the Applicant's water depletions from the Upper Colorado River Basin to the humpback chub (and three other endangered fishes) and their critical habitat are covered under the Gunnison Basin Programmatic Biological Opinion, which resulted from Reclamation's formal consultation with FWS under Section 7 of the U.S. Endangered Species Act. Although the status of the humpback chub was downlisted to threatened in November 2021), the same protections are still in effect for this species.

While western Colorado has not been home to large numbers of monarch butterflies relative to other areas in its range, the species occurs in the Project Area during the warm season where milkweed plants are available in riparian areas, wetlands, irrigated pastures, and roadsides. The Project Area lacks habitat for the candidate species monarch butterfly. No riparian, irrigated, or wetland areas supporting milkweed are in the Proposed Action area.

The Project Area is mapped within the overall range of the silverspot (a butterfly) proposed for listing as threatened under the U.S. Endangered Species Act in May 2022. This species is well studied and according to FWS species profiles, the known populations of silverspot do not occur in or near the Project Area. The Project Area lacks habitat for the threatened silverspot. Its host plant, bog violet, is not present in the Project Area.

The gray wolf is a wide-ranging habitat generalist and keystone predator that requires landscape-scale areas of minimal human disturbance and a sufficient prey base of large ungulates. Historically, wolves occurred across the state, but were extirpated (exterminated) from Colorado in the 1940s,

mainly to protect domestic livestock. Documented reports of lone wolves sporadically dispersing into northern Colorado began in 2004, following the re-establishment of populations in Idaho, Montana, and Wyoming. In 2020, CPW confirmed an active pack of 6 wolves in extreme northwestern (Moffat County) Colorado. The most recent CPW-published tracking data for gray wolf shows no occupancy in Montrose County (CPW 2024). The primary threats to wolves are vehicle collisions, illegal poaching, or accidental take (such as by poisoning targeted to other livestock predators such as coyote). The Project Area is not in gray wolf designated critical habitat.

No Action Alternative: There would be no effect on T&E species from the No Action Alternative. The Applicant's historic depletions would continue to affect the four Colorado River Basin listed fishes and their critical habitat downstream; however the Recovery Agreement previously executed between the FWS and the Applicant as part of the Original EA would remain in effect.

Project (Upper Tunnel Bypass Alternative): The Project would not change the status of the Applicant's water depletions to the Upper Colorado River Basin. Since no change to the Applicant's historic annual consumptive use rate or historic water depletions from operations of their systems within the Colorado River Basin would occur, the Recovery Agreement previously executed between the FWS and the Applicant as part of the Original NEPA review and Original EA would remain in effect.

There would be no direct effects to monarch butterflies from the Project, because the Project does not contain milkweed habitat that supports the life cycle of the species.

There would be no effect to silverspot from the Project, because the Project does not overlap with the documented population occurrences of silverspot and the Project Area does not contain silverspot habitat.

Given the current understanding that wolves are not present or documented in the Project Area, the Project would have no effect on the gray wolf. If wolves dispersed into or near the Project Area during construction of the Project, Project activities would not measurably affect wolves, because the Project does not include a predator management program, and wolves could disperse away from the Project Area. Since the Project is not in gray wolf designated critical habitat, there would be no effect to gray wolf critical habitat.

No impacts to listed threatened and endangered (or proposed or candidate) species or their critical habitat would occur as a result of the Project, because the analysis of species and critical habitats completed for the Original Project continues to be applicable, and because analysis of updated species found that these species do not have habitat in the Project Area or do not occur in the Project Area.

3.2.9 – Cultural Resources

The affected environment of cultural resources is described in Section 3.10 of the Original EA. Since the Project is spatially outside the Area of Potential Effect of the cultural study conducted for the Original EA, a cultural survey addendum has been prepared (ERO 2023). An additional segment of the Gould Canal and a historical adit or abandoned tunnel was documented in the addendum report. A Memorandum of Agreement (MOA) for the Original Scope of Work mitigated changing the canal from open to piped. The Project would realign the Gould Canal around the tunnel and close the tunnel openings of this National Register of Historic Places-eligible resource.

No Action Alternative: The No Action Alternative would have no effect on cultural resources in the Proposed Action Area. The cultural resources documented in the Project Area would continue to exist in their current condition on the landscape.

Project (Upper Tunnel Bypass Alternative): As a result of the Class III cultural resources inventory of the Proposed Action Area, and in consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation has determined that the Project would have an additional adverse effect on irrigation infrastructure elements involved with the Project beyond the adverse effect which was described in the Original EA. A Memorandum of Agreement (MOA) (in the Original EA) was executed between Reclamation and the Colorado SHPO, with the Applicant participating as an invited party, regarding the management of cultural resources related to the Original Project. The MOA for the Original EA has ended and could not be amended to accommodate the Project. A new PA proposal with all consulting parties has been executed and is included in the Final EA in Appendix A. The PA stipulations are being designed to maintain the cultural heritage of irrigation history through public interpretation and/or documentation. Maintaining the cultural heritage of irrigation history would ensure the Project would not result in the loss of knowledge of early irrigation systems, their design, or reduce the ability to gain knowledge of early irrigation systems into the future.

No significant impacts to cultural resources would occur as a result of the Project, because the cultural heritage of irrigation history would be maintained.

3.2.10 – Soils & Farmlands of Agricultural Significance

The overall affected environment of soils and farmlands of agricultural significance for the Original Project is described in Section 3.11 of the Original EA. The soils unit mapped by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in the Project Area is "rock outcrop" and is not classified as a farmland of agricultural significance under the Farmland Protection Policy Act (NRCS 2022). The proposed staging area has sediments accumulated from flood events. The erosional blowout scar in the Project Area is also composed of rock outcrop material.

No Action Alternative: The No Action Alternative would have no direct effect on soils characterized by NRCS as agriculturally significant. The are no farmlands in the Project Area. As explained in Section 3.2.1, the No Action Alternative would have a significant effect on water rights and uses for the Applicant's shareholders, because the volume of water loss from the upper tunnel would be expected to increase in coming irrigation seasons as water seeping through fractured rocks inside the tunnel continues to create instability in the slope and more leak pathways. This water loss would represent a decrease in water delivery to shareholders and therefore a decrease in irrigation water that could be applied to farmlands and soils of agricultural significance, and a subsequent decrease in agricultural productivity for the shareholders.

Project (Upper Tunnel Bypass Alternative): Under the Project, installation of the bypass pipeline would disturb rock outcrops in the construction bench area, sediment deposits in the proposed staging area, and rocky material in the erosional blowout scar area. Project activities would not cause direct disturbance to soils in irrigated agricultural production, or soils directly adjacent to irrigated agricultural lands. No farmlands would be permanently altered or removed from production as a result of the Project and no interruption to agricultural production would occur. Therefore, there

would be no significant impact to soils, farmlands, or agricultural production as a result of implementing the Project.

The Project would have a beneficial effect on the Applicant's ability to manage irrigation water with efficiencies gained from piping a bypass around the upper tunnel. This would in turn benefit soils because more water would be available per share of irrigation water (Section 3.2.1), allowing shareholders to continue managing their soils for agricultural productivity, vitality and fertility.

The risk of erosion or blowouts from upper tunnel leakage would be eliminated by installation of the bypass pipe. Therefore the Project would also have the beneficial effect of eliminating the risk of erosion or blowouts caused by upper tunnel leakage or failure.

3.2.11 – Cumulative Impacts

The overall affected environment of cumulative impacts for the Original Project is described in Section 3.12 of the Original EA.

Cumulative impacts are direct and indirect impacts on the resources affected by the Project which result from the incremental impact of the Project 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 (Table 3) for the Project considers both spatial (geographic) boundaries and temporal limits of impacts, on a resource-by-resource basis. Spatial and temporal analysis limits vary by resource. Spatial 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 CHAPTER 3, and take into account ongoing cumulative effects from the past and present projects listed in Section 1.5. 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 Project. Reasonably foreseeable future actions potentially affecting resources within the spatial and temporal limits of this analysis (Table 3) the Project are as follows:

- Salinity Control Program. Projects that may be occurring simultaneously with the Upper Tunnel Bypass Project are the Crawford Clipper Jerdon/West/Hamilton Laterals Piping Project (J/W/H) and the Grandview (Middle and Lower) Piping Project (Grandview M&L). Water Quality, Vegetation, Noxious Weeds, Wildlife Resources, Threatened & Endangered Species, and Cultural Resources are the affected resources relevant to this analysis.

- Gunnison Basin Selenium Management Program (SMP)(see Sections 1.4.1 and 3.2.8). The resources affected by this program relevant to this analysis are Water Quality and Threatened & Endangered Species.

- The Colorado River Endangered Fish Recovery Program ("Recovery Program")(see Section 3.2.8). The resource affected by this program relevant to this analysis is Threatened & Endangered Species.

Table 3 describes the cumulative impacts incrementally cumulative effects, if any, of the reasonably foreseeable future actions in combination with the Project on the resources carried forward for analysis in this EA. For resources not carried forward for analysis in this EA, see the cumulative impacts analysis in Section 3.12 of the Original EA.

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

Resource	**Reasonably Foreseeable Future Action with Impacts on this Resource**	**Spatial & Temporal Limits of Analysis**	**Cumulative Impacts Analysis**
Water Rights and Use	None	Fruitland Mesa; 50 years	There are no known reasonably foreseeable future actions which would have an impact on water rights and use in the area of spatial analysis. Therefore, there are no cumulative impacts to water rights and use associated with implementation of the Project.
Air Quality	None	The airshed in the immediate Project Area; for the duration of Project construction	Since there are no other foreseeable actions which would affect air quality within the Project Area, there would be no cumulative impact due to the Project and the area would remain in attainment for any criteria pollutants in the Montrose County airshed.
Access, Transportation, and Safety	None	Project Area; for the duration of Project construction	Since there are no other foreseeable actions which would affect access, transportation, or safety in the area of spatial analysis, there are no cumulative impacts to access, transportation, and safety associated with implementation of the Project.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Noise	None	Project Area plus 1-mile buffer; for the duration of Project construction	Since there are no other foreseeable actions which would affect noise in the area of spatial analysis, there are no cumulative impacts to noise associated with implementation of the Project.
Visual Resources	None	Project Area plus 1-mile buffer; 50 years	Vegetation clearing and the linear disturbance from construction of the bypass pipeline would not lead to visible changes significantly different or more dominant in the long-term than what is already present on the landscape. The Project Area is not visible from public roads and is not substantially visible from nearby public land. Since there are no other foreseeable actions which would affect visual resources in the area of spatial analysis, the Project would not contribute significantly to cumulative effects to visual resources.
Vegetation	None	The Project Area plus 1-mile buffer; 50 years	Since there are no other foreseeable actions which would affect vegetation in the area of spatial analysis, the Project would not contribute significantly to cumulative impacts to upland vegetation.
Noxious Weeds	None	Project Area plus 1-mile buffer; 50 years	Noxious weeds are not present or conspicuous in the Project Area but are present in surrounding areas as a baseline condition. Introduction of noxious weeds is expected following Project construction because an access trail would remain on the bypass pipeline alignment. Such infestations would be controlled in accordance with the bypass pipeline easement agreement. Since there are no other foreseeable actions which would introduce or spread noxious weeds in the Project Area, the Project would not contribute significantly to adverse cumulative impacts related to noxious weeds.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Migratory Birds and Raptors	None	Project Area plus 1-mile buffer; 50 years	Since there are no other foreseeable actions which would affect migratory birds or raptors in the area of spatial analysis, there are no cumulative impacts to migratory birds or raptors associated with implementation of the Project.
Threatened and Endangered Species	SMP and Recovery Program	Fruitland Mesa & downstream critical habitat for endangered fishes; 50 years	While the Project would adversely affect the listed Colorado River listed fishes due to the Applicant's historic depletion rates, the Recovery Program ensures cumulative effects to the fishes and their designated critical habitat do not occur due to projects covered under the PBO. The reduction in selenium loading to the Colorado River and Gunnison River basins as a result of the Project would contribute to the cumulative beneficial effects of the Gunnison Basin SMP in improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River and lower Gunnison River basins.
Cultural Resources	Salinity Control Program projects	Ditch systems of the region; 50 years	The Project would adversely affect NRHP-eligible cultural resources, contributing to the adverse effects caused by Salinity Control Project projects in the region. However, the cultural heritage of irrigation history would be maintained through public interpretation and/or documentation. Therefore, contribution to cumulative impacts of the Project's adverse effect on cultural resources does not rise to the level of significant.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Soils & Farmlands of Agricultural Significance	None	Project Area; 50 years	There are no reasonably foreseeable future actions in the Project Area that would affect farmlands of agricultural significance. Due to the temporary nature of impacts to agricultural soils from construction, the Project would not contribute to cumulative effects on soils or Farmlands of Agricultural Significance.

3.3 – Summary

Table 4 provides a summary of environmental impacts, including cumulative impacts, for each of the resources evaluated in this EA. Resource impacts are outlined for both the No Action and the Project Alternative. As described throughout Chapter 3, environmental impacts of the Action Alternative were not determined to be significant.

Table 4. Summary of Impacts for the No Action Alternative and Project Alternative.

Resource	Impacts: No Action Alternative	Impacts: Project Alternative
Water Rights and Use (see Section 3.2.1 of this EA)	No effect. Upper tunnel seepage and irrigation inefficiencies would continue as they have in the past. The risk of the ability to deliver late season ("lowline") adjudicated water to shareholders would increase over time.	The Project would have a beneficial effect of routing the Applicant's irrigation water past the unstable, leaking upper tunnel, enabling the full volume of adjudicated irrigation water to be delivered to the shareholders and put to beneficial use. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Project Alternative
Water Quality (see Section 3.2 of the Original EA)	No effect. Salt and selenium loading from the Project Area would continue to affect water quality in the Colorado River Basin.	Implementation of the Project would not materially change the original analysis. An estimated salt loading reduction of 5,697 tons per year to the Colorado River Basin is resulting from implementation of the Original Project. The Original Project is reducing selenium loading into the Gunnison River (the amount has not been quantified). Improved water quality benefits downstream aquatic species by reducing salt and selenium loading in the Gunnison and Colorado rivers. The beneficial effects of improved water quality resulting from the Original Project contribute cumulatively to the regional efforts underway to reduce salinity and selenium in the lower Gunnison and Colorado River watersheds.
Air Quality (see Original EA Section 3.3)	No effect. The upper tunnel would continue to operate in its current condition and dust and exhaust would occasionally be generated by vehicles and equipment conducting routine maintenance and operation.	Implementation of the Project would not materially change the original analysis. Exhaust and dust from construction activities would have a minor, short-term effect on the air quality in the immediate Project Area. Following construction, impacts to air quality from routine maintenance and operation activities along the bypass corridor would be similar in magnitude to those currently occurring for the existing upper tunnel. If other construction projects occur concurrently with the Proposed Action, the cumulative impact on air quality in the area would be temporary and would not rise to the level of significant, as the area would remain in attainment for any criteria pollutants in Montrose County.
Access, Transportation & Safety (see Section 3.2.2 of this EA)	No Effect. The upper tunnel would continue to operate in its current condition and the baseline status of public safety, transportation routes, utilities, and public access in the vicinity would remain unchanged.	The Proposed Action would have the beneficial effect of eliminating safety risks associated with open, moving water entering and enclosed tunnel. No significant impacts to access, transportation, and public safety would occur as a result of the Proposed Action, because traffic and access disruptions would be short-term and coordinated with authorities, and public safety measures would be implemented in construction areas. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Project Alternative
Noise (see Section 3.2.3 of this EA)	No Effect. There would be no construction noise related to upper tunnel bypass piping in the Project Area, and noise related to ditch operation and maintenance activities would continue as it has in the past.	Noise would be associated with construction activities during implementation of the Project, including machinery noise, rock clatter, and the muffled "pop" sounds of underground blasting agents used to loosen rock from excavations. Impacts to noise would be minor as a result of the Project, because noise associated with construction of the Project would be short-term and the Project would not result in a long-term elevation in the baseline noise level. No cumulative effects.
Recreation Resources (see Original EA Section 3.5)	No Effect. The Project is not on public lands.	Implementation of the Project would not materially change the original analysis. The Project is on private land that is not open to the public, therefore the Project would have no effect on public recreation resources. No cumulative effects.
Visual Resources (see Section 3.2.4 of this EA)	No Effect. The baseline level of visual disturbance in the Project Area associated with irrigation developments and ranching.	No significant impacts to visual resources would occur as a result of the Project, because the Project is not visible to the general public, and because construction impacts would be temporary, and because and the visual characteristics of the landscape in and around the Project Area following construction would not be significantly out of character with the surrounding landforms. No cumulative effects.
Livestock Grazing (see Section 3.6 of the Original EA)	No Effect. The Project is not within public land livestock grazing allotments. Private land grazing would continue as it has in the past.	Implementation of the Project would not materially change the original analysis. No effect to public land livestock grazing allotments would occur, because the Project is on private land. There would be temporary minor effects to livestock grazing in the Project Area. No lands would be permanently eliminated from grazing use as a result of the Project. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Project Alternative
Vegetation (see Section 3.2.5 of this EA)	No Effect: the upper tunnel would continue to operate as it has in the past, and no vegetation would be disturbed in the bypass alignment.	A minor impact to vegetation would occur as a result of the Project. Because size of the Project's area of impact to vegetation is very small relative to the size of the surrounding upland vegetation community, and because the area would be reseeded and also naturally revegetate with upland plants from the adjacent plant community, the impact would not rise to the level of significant. There would be no effect to wetland or riparian vegetation. No cumulative effects.
Noxious Weeds (see Section 3.2.6 of this EA)	No Effect: the upper tunnel would continue to operate as it has in the past, and the baseline condition of relatively few noxious weeds in the area would continue.	Impacts related to noxious weeds would be minor, because there are no conspicuous occurrences of noxious weeds in the Project Area that would germinate and spread due to construction disturbance. The impact of noxious weeds introduced to the Project Area afterward from use of a maintenance trail remaining on the bypass alignment would be minor, because noxious weeds are already present in the surrounding area, and are a relatively normal occurrence along ranch roads in the region. Weed control would be conducted along the Project alignment in conjunction with measures established for the Original Project at large, and in accordance with a bypass alignment easement agreement with the landowner. No cumulative effects.
Wildlife Resources (see Sections 3.8 and 3.9 of the Original EA)	No Effect. Wildlife would continue to use the area as in the past.	Implementation of the Project would not materially change the original analysis. Construction would create incremental activity and ground disturbance throughout the Project Area, resulting in minor temporary impacts to mule deer and elk within the Proposed Action area. Construction impacts to small animal populations (mammals, reptiles) would be minor and would include direct mortality and displacement during construction activities. No wetlands or riparian-dependent species would be affected, since the Project is not located in wetland or riparian areas. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Project Alternative
Migratory Birds and Raptors (see Section 3.9 of the Original EA)	No Effect. The Proposed Action area would continue to support sparse native woodlands in a rocky canyon environment, providing breeding habitat for certain migratory songbirds.	Effects to migratory birds would be minor and temporary, because adult birds can move away from construction disturbance to other suitable areas. There would be no effects to non-adult birds (eggs, nestlings) because vegetation disturbance or grubbing would be avoided during migratory bird nesting season or, if vegetation disturbance or grubbing takes place during migratory bird nesting season, a Reclamation and FWS-approved pre-construction migratory bird nest survey and conservation measures would be implemented. There would be no effect on raptors, because construction would not take place during nesting season within raptor nest buffers published in CPW guidance or established in consultation with FWS. No cumulative effects.
Threatened & Endangered Species (see Section 3.2.7 of this EA)	No Effect. Historic depletions and salt and selenium loading from the Project Area would continue to affect the four Colorado River basin endangered fishes and their critical habitat downstream.	The Project may adversely affect the bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker and their critical habitat. However, the Applicant's historic depletions are covered under the PBO, and the Recovery Program ensures impacts to the listed fishes or adverse modification of their designated critical habitat resulting from projects covered under the PBO would not result in jeopardy to the species. The reduction in selenium loading to the Colorado River and Gunnison River basins resulting from the Project would contribute to the cumulative beneficial effects of the Gunnison Basin SMP in improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River and lower Gunnison River basins. No impacts to other listed threatened and endangered (or proposed or candidate) species or their critical habitat would occur as a result of the Project, because the analysis of species and critical habitats completed for the Original Project continues to be applicable, and because analysis of updated species found that these species do not have habitat in the Project Area or do not occur in the Project Area.

Resource	Impacts: No Action Alternative	Impacts: Project Alternative
Cultural Resources (see Section 3.2.8 of this EA)	No Effect. The cultural resources documented as eligible for listing in the NRHP would continue to exist in their current condition on the landscape.	The Project would have an adverse effect on NRHP-eligible cultural resources. A PA (Appendix A) proposal between Reclamation, the Colorado SHPO, and the Applicant, outlines stipulations designed to conserve the cultural heritage of irrigation history. The Project would contribute to an area-wide adverse effect on NRHP eligible cultural resources which is occurring as a result of irrigation piping projects, but this cumulative impact would not rise to the level of significant as the cultural heritage of irrigation history would be maintained through public interpretation and/or documentation.
Soils & Farmlands of Agricultural Significance (see Section 3.2.10 of this EA)	No Effect. Soils and farmlands of significance in the Project Area would continue to produce as in the past. Salinity loading from deep percolation of irrigation water through saline soils along the ditches would continue.	Project activities would cause temporary disturbance to soils (rock outcrops) that are not in or near irrigated agricultural lands. No farmed agriculturally significant soils would be directly disturbed by the Project. The Project would have a beneficial effect on the Applicant's ability to manage irrigation water and soil vitality and fertility with efficiencies gained from replacing the upper tunnel with a bypass pipeline. The Project would also have the beneficial effect of eliminating the risk of erosion or blowouts caused by upper tunnel leakage or failure. No cumulative impacts.

CHAPTER 4 – ENVIRONMENTAL COMMITMENTS

This section summarizes the design features, BMPs, conservation measures, and other requirements (collectively, "Environmental Commitments") developed to lessen the potential adverse insignificant effects specific to the Project. The actions in the following environmental commitment list would be implemented as an integral part of the Project and shall be included in any contractor bid specifications.

Note that in the event there is a change in the Project description, or any construction activities are proposed outside of the inventoried Project Area or the planned timeframes outlined in this EA, additional environmental review by Reclamation would be required to determine if the existing

surveys and information are adequate to evaluate the changed Project scope. Additional NEPA documentation may be required.

Table 5. Environmental Commitments

Type	Environmental Commitment	Affected Resource	Authority
Construction Contractor Plan or Certification Requirement	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	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	A Stormwater Management Plan shall be prepared and submitted to CDPHE by the construction contractor prior to construction disturbance.	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	A CWA Section 402 Storm Water Discharge Permit compliant with the National Pollutant Discharge Elimination System (NPDES) shall be obtained from CDPHE by the construction contractor prior to construction disturbance (regardless of whether dewatering would take place during construction).	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	Certification under CDPHE Water Quality Division Construction Dewatering Discharges Permit COG070000 shall be obtained by the construction contractor prior to any dewatering activities related to construction.	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	Any construction, access, or use permits required by the Delta County Planning Department, County Engineering and County Road & Bridge District #3, or the Montrose County Planning & Development Department, shall be obtained in advance of road crossings.	Access, Transportation & Safety	County Ordinances and Regulations

Type	Environmental Commitment	Affected Resource	Authority
Construction Contractor Plan or Certification Requirement	Required (if any) air quality emissions inventories, record-keeping, or reporting for construction equipment shall be on file with CDPHE prior to commencing construction.	Air Quality	Clean Air Act of 1963 and 5 CCR 1001-5 Part I.B.10 (Allowable Emissions), Part II.A (Air Pollutant Emission Notices for New, Modified, and Existing Sources), Part II.D (Exemptions from Air Pollutant Emission Notice Requirements
General BMP	All equipment shall be power-washed before it is brought to the construction area, to minimize transport of new weed species to the construction area.	Vegetation, Weeds, Habitat, Wildlife	Montrose County Weed Management Plan
General BMP	Vegetation removal shall be confined to the smallest portion of the Proposed Action Area necessary for completion of the work.	Soil, Vegetation, Weeds, Habitat	Montrose County Weed Management Plan
General NEPA Compliance	Tree grubbing and vegetation removal in all Project areas shall avoid the primary nesting season of migratory birds (established by consultation with FWS as April 15 – July 15), or a nesting migratory bird survey and conservation measures shall be conducted in accordance with a Reclamation- and FWS-approved protocol prior to tree grubbing and vegetation removal. This timing restriction shall be clearly noted on Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Weed control shall be implemented by the Applicant or its contractor in accordance with any stipulations set forth in the bypass pipeline easement agreement between the Applicant and landowner.	Soil, Vegetation, Weeds, Habitat	Montrose County Weed Management Plan
General BMP	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.	Water Quality	Clean Water Act of 1972 as amended
General BMP	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	Clean Water Act of 1972 as amended
General BMP	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	Clean Water Act of 1972 as amended
General BMP	Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.	Water Quality, Soil	Clean Water Act of 1972 as amended
General BMP	Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Proposed Action.	Soil, Vegetation, Weeds, Habitat, Wildlife	Archaeological Resources Protection Act of 1979; Paleontological Resources Preservation Act of 2009

Type	Environmental Commitment	Affected Resource	Authority
General BMP	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 people, livestock, or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be used.	Wildlife, Public Safety	C.R.S. 33-1-101 to 125 Parks and Wildlife Article 1: Wildlife
General NEPA Compliance	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. Stipulations in the PA proposal are incorporated into this Final EA by reference. Additional surveys shall be required for cultural resources if construction plans, or proposed disturbance areas are changed.	Cultural Resources	National Historic Preservation Act of 1966 Archaeological Resources Protection Act of 1979 Paleontological Resources Preservation Act of 2009
General NEPA Compliance	In the event that previously undocumented threatened or endangered species are encountered during construction, the contractor 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.	Threatened & Endangered Species	Endangered Species Act of 1973 as amended
General NEPA Compliance	Construction activities shall take place only in accordance with the schedule restrictions outlined in this EA. These schedule restrictions and their spatial extents shall be clearly marked on the Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918; Bald and Golden Eagle Protection Act of 1940

Type	Environmental Commitment	Affected Resource	Authority
General NEPA Compliance	To avoid disturbance to nesting golden eagles, construction activities within species-specific CPW-recommended (CPW 2020) buffer distances are time-restricted as follows: No construction activity within 1/2 mile of an active nest December 15 through July 15 and no construction traffic within 1/4 mile of an active nest December 15 through July 15, with the following exceptions: 1) construction within 1/2 mile of a nest could begin prior to December 1, so long as the construction activities were initiated prior to December 15, and operated on a near daily basis until completion (it is assumed that eagles that initiate nesting during ongoing construction activities are tolerant to such activities), or 2) a Reclamation-approved biologist determines that the nest is not active that nesting season. Protective buffer areas and construction timing restrictions for active raptor nests shall be clearly identified on the Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918 Bald and Golden Eagle Protection Act of 1940
General NEPA Compliance	If a previously undocumented active raptor nest is discovered within 1/2 mile of the Project Area during construction, construction shall cease until Reclamation can complete consultations with CPW or FWS as appropriate. This commitment shall be clearly noted on the Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918 Bald and Golden Eagle Protection Act of 1940
General BMP	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	Montrose County Weed Management Plan

CHAPTER 5 – CONSULTATION AND COORDINATION

5.1 – Introduction

Reclamation's public involvement process presents the public with opportunities to obtain information about a given project, and allows interested parties to participate in the project through written comments. This chapter discusses public involvement activities taken to date for the Proposed Action.

5.2 – Public Involvement

Reclamation provided the public an opportunity to comment on the Draft Original EA and FONSI between July 22, 2019, and August 22, 2019. During this time, two comments were received. A summary of the comments, the original comments, and responses to the comments are provided in the Original EA, available here: https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20190900-FruitlandIrrigationCompanyGouldCanalImprovementProjectsAandB-FinalEAandFONSI-508-WCAO.pdf.

Notice of the public review period and availability of the Draft EA was distributed to private landowners adjacent to the Project, and the organizations and agencies listed in Appendix B. Reclamation notified 40 interested parties and 20 landowners adjacent to the Project Area or adjacent to the Original Project of the availability of the Draft EA public comment period through a mailed distribution letter. Reclamation develops landowner distribution lists based on the names and addresses on file with the county's accessors office. The public review period extended from February 2, 2024, to February 19, 2024 (a total of 18 days). During this period, Reclamation received 6 comment documents. A summary of the comments and Reclamation's responses to the comments are provided in Appendix C, along with a copy of the comment documents.

5.3 – Distribution

The publicly-available electronic version of the Final Original EA is appended to this EA, and is available on Reclamation's website (https://www.usbr.gov/uc/DocLibrary/EnvironmentalAssessments/20190900-FruitlandIrrigationCompanyGouldCanalImprovementProjectsAandB-FinalEAandFONSI-508-WCAO.pdf).

This Final EA and the Final Original EA version available on Reclamation's website, 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.

CHAPTER 6 – PREPARERS

The following list contains the individuals who participated in the preparation of this EA.

Table 6. List of Preparers

Name	Agency	Title	Areas of Responsibility
Jenny Ward	Reclamation	Environmental Protection Specialist	EA review, general authorship, cultural resources
Dawn Reeder	Rare Earth Science (Consultant to the Applicant)	Principal Biologist	General authorship, mapping

CHAPTER 7 – REFERENCES

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CHAPTER 8 – ABBREVIATIONS AND ACRONYMS

Abbreviation or Acronym	Definition
BLM	U.S. Bureau of Land Management
BMP	Best management practice
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CPW	Colorado Parks and Wildlife
C.R.S.	Colorado Revised Statute
CRSP	Colorado River Storage Project
CWA	Clean Water Act
EA	Environmental Assessment
E.O.	Executive Order
EPA	Environmental Protection Agency
ESA	U.S. Endangered Species Act
FOA	Funding Opportunity Announcement
FONSI	Finding of No Significant Impact
FWS	U.S. Fish & Wildlife Service
GIS	Geographic information system
HDPE	High-density polyethylene
Interior	U.S. Department of the Interior
mi	mile
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PBO	Programmatic Biological Opinion
PM	Principal meridian
RCPP	Regional Conservation Partnership Program
Reclamation	U.S. Bureau of Reclamation (also USBR)
SHPO	State Historic Preservation Officer
SMP	Gunnison Basin Selenium Management Program
SMPW	Selenium Management Program Workgroup
USBR	U.S. Bureau of Reclamation
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

APPENDIX A – CULTURAL RESOURCE COMPLIANCE DOCUMENTATION

PROGRAMMATIC AGREEMENT

AMONG

THE U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF RECLAMATION, BUREAU OF LAND MANAGEMENT, THE U.S. DEPARTMENT OF AGRICULTURE – NATURAL RESOURCES CONSERVATION SERVICE, THE U.S. DEPARTMENT OF AGRICULTURE – FOREST SERVICE ROCKY MOUNTAIN REGION, THE U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE – MOUNTAIN – PRAIRIE REGION, THE COLORADO STATE HISTORIC PRESERVATION OFFICER, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

REGARDING

THE MANAGEMENT OF WATER CONTROL FEATURES IN THE STATE OF COLORADO

PA Mitigation Proposal for Adverse Effects to Components of Irrigation Systems

Project Proponent: Fruitland Irrigation Company (FIC)

Lead Agency: Bureau of Reclamation (Reclamation)

Other Federal Agencies: Bureau of Land Management, Uncompahgre Field Office (BLM UFO)

Project Name, Agency Project Number, and Description: The Gould Canal Colorado River Basin Salinity Control Program Project, Colorado (HC# 75379) will pipe and reroute a segment of the National Register of Historic Places (NRHP) eligible Gould Canal (5DT2146.1 / 5MN.10747.4). The Area of Potential Effect (APE) includes buffers of all necessary staging, access, and borrow pits. The APE was initially surveyed and documented by ERO in their 2018 report titled, *Cultural Resource Survey, Fruitland Irrigation Company Salinity Control Project, Delta and Montrose Counties, Colorado.* Four subsequent addendum reports were written to add:

- 2019a: habitat assessment area, fence line, access road, new turnout;
- 2019b: staging area;
- 2020: access road;
- 2023: Upper Tunnel reroute.

The entire APE included 347.3 acres of privately owned lands and 17.85 acres of BLM UFO lands.

Projected Project Construction Date: Fall 2024

Finding of Effect (describe the resource(s) affected by Smithsonian # including type of effect, scope of effect, and other details as needed):

The Gould Canal (5DT2146.1 / 5MN10747.4) is eligible to the NRHP under Criteria A, B, and C. Reclamation initiated consultation on January 8, 2019. In consultation it was determined that the Gould Canal would be adversely impacted by piping. *The Memorandum of Agreement (MOA) 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 was executed on August 15, 2019. Mitigation stipulated within the MOA is complete. The State Historic Preservation Office (SHPO) confirmed fulfillment of the agreement on September 16, 2022.

In 2023, newly identified leaks and the potential future failure of the Gould Canal Tunnel necessitated changes to the initially consulted scope of work. The Gould Canal Tunnel is proposed to be abandoned and sealed with pushed sediment. A new pipe alignment and access road would be created to the east of the tunnel alignment along the canyon slope. Scope of work and effect changes can't be covered by the previous MOA since it has been fulfilled.

Selected mitigation from Appendix B of the PA or other mitigation activity:

The project team proposes online Gould Canal content to contribute to the PA identified Appendix B Topic: X. Local Canal, Canal System, or Regional Irrigation History. Historic narrative content for the topic would cover the entire length of the Gould Canal. However, the interpretive focus will be on the Canal Tunnel impacted by this scope of work change. The interpretive material's intended audience is the general public.

A reader of the interpretive material will learn the significance of the Gould Canal to regional settlement and agricultural development between 1901 and 1930. In addition, the Gould Canal's association with the Gould family in Aspen and the Cotton family in Crawford, both influential in the early settlement and agricultural development of the region would be outlined. Lastly, the initial unique engineering and design of the Gould Canal would be clearly conveyed.

Digital interpretation will include primary sources such as: current and historic images and maps. Drawings, historic newspaper articles, oral histories, and other primary sources will be incorporated as possible.

Mitigation for the resolution of the adverse effect(s) stated above in accordance with the PA is agreed upon by the proponent, lead agency, and SHPO. The scope of the mitigation and timeline for completion shall be commensurate with the adverse effect being mitigated. The proponent agrees to the included schedule to complete the required mitigation. Failure to complete mitigation will result in an adverse effect to a historic property that will require the proponent and lead agency to negotiate a Memorandum of Agreement to resolve adverse effects to historic properties in accordance with 36 CFR 800.6.

Mitigation for this project will be completed no later than ___March 1, 2027____

The proponent will pay a one-time $400 website hosting fee to PaleoCultural Research Group. Details on uploading the information can be accessed at https://archaeologycolorado.org/content/water-west-content-submission.

SHPO concurrence letter will be attached acknowledging the adverse effect and the mitigation proposed.

SIGNATURE PAGE

PROGRAMMATIC AGREEMENT

AMONG

THE U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF RECLAMATION, BUREAU OF LAND MANAGEMENT, THE U.S. DEPARTMENT OF AGRICULTURE – NATURAL RESOURCES CONSERVATION SERVICE, THE U.S. DEPARTMENT OF AGRICULTURE – FOREST SERVICE ROCKY MOUNTAIN REGION, THE U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE – MOUNTAIN – PRAIRIE REGION, THE COLORADO STATE HISTORIC PRESERVATION OFFICER, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

REGARDING

THE MANAGEMENT OF WATER CONTROL FEATURES IN THE STATE OF COLORADO

Bureau of Reclamation, Western Colorado Area Office

Ed Warner
2024.10.31 15:28:23 -06'00'

Ed Warner, Area Manager

Fruitland Irrigation Company

Danny Toth President FIC

Schedule of accomplishments for the mitigation proposal

Date submitted to SHPO (30-day review/comment for accepting proposal): October 11, 2024

Date SHPO letter accepting the proposal: October 17, 2024

Mitigation kickoff meeting to discuss the proposal with the lead agency, proponent (including any contractors), and SHPO (must be within 30 days of proposal acceptance): November 14, 2024

Biannual progress meetings (if no progress has been made, all parties may agree in writing to not hold a progress meeting): May 15, 2025

Date draft submitted to lead agency (30-day review): January 2, 2026

Date revised draft final submitted to lead agency (15-day review): April 2, 2026

Date draft submitted to SHPO (30-day review): July 2, 2026

Date SHPO accepts mitigation product and mitigation is considered complete: January 2, 2027

Please attach all appropriate supporting documents of the proposal (e.g. historic properties treatment plans, etc.) to this template with initial and final submission.

History Colorado

Mr. Ed Warner
Bureau of Reclamation
Western Colorado Area Office
445 West Gunnison Avenue, Suite 221
Grand Junction, Colorado 81501

RE: Fruitland Irrigation Company Salinity Control Project, Salinity Control Program
Project Scope of Work Change in Montrose County, Colorado
History Colorado No. 75379

Dear Mr. Warner:

Thank you for your email correspondence dated and received on October 15, 2024, regarding consultation of the aforementioned project under Section 106 of the National Historic Preservation Act of 1966, as amended (54 USC § 306108), and its implementing regulations, 36 CFR Part 800.

We have reviewed all documentation submitted for this project. As noted in our letter dated March 29, 2024, we are **unable to concur with your finding of "no** adverse **effect" for the undertaking. It is our opinion the revised undertaking as described will** result in an *adverse effect* to 5MN.13522 and the Gould Canal (5MN.10747) pursuant to 36 CFR § 800.5(a)(2)(i-iv, and vi).

It is our understanding that your office prefers to utilize Appendix B of the Water Control Features Programmatic Agreement executed in 2022 to resolve adverse effects for this portion of the undertaking. Given the nature of the present undertaking, we agree this course of action is appropriate. Accordingly, execution of a memorandum of agreement in accordance with 36 CFR § 800.6 is not necessary. We have also reviewed, and are amenable to, the mitigation proposal prepared in accordance with Appendix B of the aforementioned PA. We look forward to reviewing those materials once drafts are available for review.

Thank you for the opportunity to comment. If we may be of further assistance, please contact Mitchell K. Schaefer, Section 106 Compliance Manager, at (303) 866-2673 or mitchell.schaefer@state.co.us.

Sincerely,

Dr. Holly Kathryn Norton

Digitally signed by Dr. Holly Kathryn Norton
Date: 2024.10.17 15:35:19 -06'00'

Dawn DiPrince
State Historic Preservation Officer

APPENDIX B – DISTRIBUTION LIST

All landowners adjacent to the Project and the Original Project
Citizens for a Healthy Community
City of Delta
City of Montrose
Colorado Open Lands
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
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

APPENDIX C – SUMMARY OF COMMENTS ON THE DRAFT EA & RESPONSES

Six comment documents were received during the Draft EA public comment period. The comment documents contained 19 distinct, substantive comments. The comments were primarily focused on salinity reduction, environmental commitments, the NEPA process, cultural resources, and an existing conservation easement. In compliance with 40 CFR 1503.4, possible responses to these comments include:

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

Reclamation reviewed each comment and classified them according to topic or comment category below. Summary 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.

Category: Salinity Reduction

Comment Numbers: 5, 6, 7

Summary comment: The commenter indicated that it is not demonstrated how there would be any new reductions in salinity reductions resulting from the Upper Tunnel Bypass beyond the 5,697 tons of salinity reductions identified in the Gould Canal Improvement Projects A & B. The commenter referenced the Water Quality analysis in the EA, specifically questioning how the Upper Tunnel Bypass would result in a salinity reduction when the EA indicates implementing the Upper Tunnel Bypass would not materially change the salinity impacts identified in the Water Quality analysis in the Original EA. The commenter also stated that no analysis on salinity reduction has been conducted and no studies or scientific results can be referenced to substantiate the salinity reduction estimates.

Response: Chapter 1 of the Draft EA described how since the time of the Gould Canal Improvement Projects A & B authorization in 2019, the design process has revealed that in situ piping of the upper tunnel is not viable from both construction safety and cost standpoints. As a result, the Applicant is now proposing to construct an Upper Tunnel Bypass. Language has been added to Chapter 1 of the Final EA to further clarify that the Upper Tunnel Bypass project is a change in the design of the Gould Canal Improvement Projects A & B and not a stand-alone salinity control project. The salinity reduction benefits associated with the Upper Tunnel Bypass are the same salinity reduction benefits associated with the Gould Canal Improvement Projects A & B, as they are part of the same salinity control project. The change in project scope did not change the plan to implement salinity control measures at the Upper Tunnel. Therefore, there would not be a material change in salinity reduction associated with the change in Project scope as both the original analysis and the updated analysis include salinity control measures at the Upper Tunnel.

Estimated salinity reduction is calculated based on measured total dissolved solids loads in basin streams, geographic information system (GIS)-based model calculations to determine subbasin loads, and ditch mapping data that include average flows, ditch lengths, and average annual days of use. Richards et al. (2014), Schaffrath (2012), and Linard (2013) provide more detailed information on salt loading estimate methodology. This information is included in Section 1.4.1 of the Final EA.

Category: Environmental Commitments

Comment Numbers: 16, 18, 19

Summary comment: CPW acknowledged environmental commitments included in the Draft EA associated with raptor protection, reclamation, migratory birds, and nesting raptors. CPW recommended applicable measures identified in their High Priority Habitat (HPH) table be included as environmental commitments in the Final EA. CPW specifically requested the following environmental commitments be included in the Final EA: (1) Avoid all project related vehicle traffic from traveling through CPW mapped Gunnison's sage-grouse occupied habitat; and (2) Inclusion of seasonal timing restrictions for permitted or authorized human activities that span from December 1 to April 30 for all areas that fall within mapped CPW HPH Winter Concentration Area and Severe Winter Range.

Response: Reclamation has re-confirmed that the Project Area does not fall within CPW-mapped severe winter range or winter concentration areas for mule deer or elk. The Project area and its proposed access routes are not within CPW-mapped occupied habitat for Gunnison sage-grouse. The Project Area falls within a CPW-mapped elk migration corridor. CPW's HPH Recommendations for elk migration corridors are "Surface density limitation of one pad per square mile and less than one linear mile of routes per square mile." The Project conforms with CPW's HPH recommendations. Therefore, the NEPA analyses with regard to big game and Gunnison sage-grouse performed for the Original EA are applicable to the current Project.

Category: NEPA Process

Comment Numbers: 8

Summary comment: The commenter is concerned about Reclamation's compliance with 40 CFR §1500.1(b), specifically the requirement for agencies to generate relevant environmental information to ensure informed decision making. It was mentioned that this information should be made available to public officials and citizens before a decision is made.

Response: Reclamation generated the required relevant environmental information to ensure informed decision making. The information was compiled and presented in the Draft EA, which was then published for public comment. While NEPA does not require publishing an EA for public comment prior to a decision being made, Reclamation conducted an 18-day public comment period on the Draft EA. Reclamation is in compliance with 40 CFR §1500.1(b). No change will be made to the Final EA.

Category: Vegetation

Comment Numbers: 1, 2

Summary comment: The commenter is concerned about the stress of recent drought years on pinion pine trees, specifically about stressed trees being more susceptible to pine beetle damage, and how the loss of ditch seepage water could add to this stress.

Response: Pinion pine trees are adapted to the regions semi-arid climate conditions and are supported in the canyon within and outside of the areas influenced by ditch seepage. Because trees are supported without the influence of irrigation water, it is anticipated the trees would continue to persist once the bypass is constructed. Stress related to ongoing drought would occur under either the No Action Alternative or Project (Preferred Alternative). Therefore, any speculative increase in susceptibility of pinion pine trees to pine beetle damage would occur under either the No Action Alternative or Project (Preferred Alternative).

Category: Conservation Easement

Comment Numbers: 14, 15

Summary comment: The commenter is concerned that an easement/right-of-way to implement the Project cannot be obtained with the landowner while being within the terms of conservation easement on the property held by Colorado Open Lands. The commenter is concerned the project will transverse the terms of the conservation easement.

Response: The Project is consistent with the terms of the conservation easement on the underlying property. The Deed of Conservation Easement and its corresponding due diligence documentation acknowledges the presence of and need for maintenance of the Applicant's facilities. Furthermore, the conservation easement holder, the conservation easement grantor, and the Applicant, have executed a "Land Trust Consent and Approval" document, signed by the involved parties, which acknowledges the holder's review and explicit approval of the Project.

Category: Safety

Comment Number: 3

Summary comment: The commenter expressed concern over the existing safety risks associated with inspecting and repairing the tunnel.

Response: The Final EA includes an analysis on safety, including safety risks associated with entering the tunnel for inspection or repairs, in Section 3.2.2. No change will be made to the Final EA.

Category: Water Rights and Use

Comment Number: 4

Summary comment: The commenter is concerned about the impact to water users if water cannot be delivered through the tunnel and no alternative water delivery system is implemented.

Response: The Final EA discussed water rights and use in Section 3.2.1. A sentence has been added under the No Action Alternative analysis in this section to describe impacts to water users if water is unable to be delivered through the tunnel.

Category: Jurisdictional Waters

Comment Numbers: 9

Summary comment: The commenter is concerned that RGP-5 only authorizes discharge of fill material into the existing canal and does not authorize discharge of fill into Iron Creek, which is a jurisdictional water protected under the Clean Water Act.

Response: The Proposed Action involves placing side-cast material on the canyon wall adjacent to the Upper Tunnel Bypass. The side-cast material would remain within 75 feet of the constructed bench, with the majority of the material remaining within 20 to 30 feet of the construction bench. The side-cast material would not extend down to or below the ordinary high water mark of Iron Creek. Therefore, an additional CWA Section 404 permit is not required for the discharge of fill material into Iron Creek. No change will be made to the Final EA.

Category: Slope Stability

Comment Number: 10

Summary comment: The commenter is concerned that blasting will result in slope stability, citing the failure of the Upper Tunnel as evidence of slope stability issues in the area. The commenter requested the completion of an analysis on the risks of slope stability in the project area.

Response: FIC consulted with a professional geotechnical engineer to evaluate potential concerns with the Project design and execution. Based on the geotechnical engineer's site observations and professional experience, this engineer recommended construction methods to address slope stability and the overall stability of the pipeline. A professional geotechnical engineer would be on site and/or available for consultation to further identify and address potential slope stability and risk factors during construction.

Category: Project Funding

Comment Number: 11

Summary comment: The commenter indicated that the Original Project intended to fix the Upper Tunnel and failed, and questioned how the funding for that original effort was spent.

Response: The funding associated with constructing the Upper Tunnel salinity mitigation work identified in the Original EA was never expended, as the work did not occur. If approved, the funding would be spent in implementing the new scope identified in the Upper Tunnel Final EA. No change will be made to the Final EA.

Category: Cultural Resources

Comment Number: 12, 13

Summary comment: The commenter is concerned that the Project has not undergone the 30-day review period by the SHPO and mentioned that any plans for resolving effects must be available for public review. The commenter is also concerned that an agreement with the State Historic

Preservation Office which includes additional measures beyond that which were included in scope of the original MOA associated with the Gould Canal Improvements Projects will not be developed. The commenter is concerned that the tunnel itself will not be preserved.

Response: The Upper Tunnel Bypass required reinitiation of consultation with the State Historic Preservation Office (SHPO) to consult on determinations of eligibility and effect resulting from the change in scope to the Gould Canal Improvements Projects A & B. Consultation was initiated with the Project's existing consulting parties on November 9, 2023. Although these processes may occur simultaneously, the required 30-day review period with the consulting parties ended prior to the Draft EA being distributed for public comment on February 2, 2024. The Draft EA included an analysis on cultural resources in Section 3.2.9, and identified that the Upper Tunnel Bypass would have an additional adverse effect on irrigation infrastructure elements involved with the Upper Tunnel Bypass beyond the adverse effect which was described in the Original EA. The Draft EA described the development of public interpretation and/or documentation, and the public had the opportunity to comment on this during the Draft EA's public comment period.

A PA proposal has been executed between the parties and is included in Appendix A of the Final EA. The PA proposal requires the preparation of online historic narrative content to cover the entire length of the Gould Canal, with an interpretive focus on the canal tunnel impacted by the Project. The online content is above and beyond the measures identified in the original MOA for the Gould Canal Improvement Projects A & B.

The entrances to the tunnel would be buried to prevent trespass and associated safety issues. Soil and rock would be pushed 10 to 20 feet into each portal to completely fill the opening. The tunnel itself would remain in place and would not be demolished.

Category: Threatened and Endangered Species

Comment Number: 17

Summary comment: CPW commented that in order to prevent impacts to the Gunnison sage grouse, they recommend that no vehicle traffic travel occur through occupied habitat to access the project area. In addition, CPW recommended that the following stipulation established in the Original EA also be carried forward: "No construction equipment may operate prior to 9 am during the period of March 15 through April 30 (Gunnison sage-grouse breeding season)".

Response: During the NEPA process for the Original Project, Reclamation coordinated with CPW, FWS, and BLM regarding Gunnison sage-grouse, nesting raptors, and big game. The current Project Area is not within the affected environment of Gunnison sage-grouse, as stated in Section 3.2.8 of the Upper Tunnel Bypass EA. None of the planned travel routes to the Project lies within occupied Gunnison sage-grouse habitat.

February 14,2024

US Department of Interior
Bureau Of Reclamation
Upper Colorado Region
Western Colorado Area Office
445 West Gunnison Avenue Suite 221
Grand Junction, CO 81501

To Ed Warner

Considering the proposed Action Alternative, as resident of Fruitland Mesa Orval Cotton and I (Shirley Cotton) are in favor of the Reclamation funding the Fruitland Mesa Irrigation Company to implement the Upper Tunnel Bypass.

Due to the fact that our irrigation water was turned off early because of the problems in the tunnel, we are in favor of a working solution.

Since the tunnel problem has not been solved, this seems to be a viable solution.

Thank you for keeping us informed.

Shirley and Orval Cotton
2295 7750 Road
Crawford, CO 81415

Shirley Cotton
Orval S Cotton

February 20, 2024

Randy Litwiller
34016 B 25 Rd.
Crawford, CO 81415

Mr. Ed Warner, Area Manager
Bureau of Reclamation
Western Colorado Area Office
445 West Gunnison Ave, Suite 221
Grand Junction, CO 81501

Re: Draft EA Fruitland Mesa Tunnel Bypass Project

Dear Mr. Warner,

My name is Randy Litwiller and reside on Fruitland Mesa (FM) west of Crawford Colorado. I am also the Secretary for the Fruitland Irrigation Company and have lived on FM for 37 years. Please accept my comment(s) concerning the Draft EA for the ditch project associated with Gould Reservoir

I am writing in response to one item in the Summary concerning Water Use. The response to: No Action Alternative is: No Effect just seepage and irrigation inefficiency would continue.

The mesa is typically dry and generally limited to a short irrigation season. The mesa has a good cover of Juniper and Pinion trees. Recent drought years have had a major impact on the Pinion trees. The lack of water stresses the trees and reduces the ability of the trees to resist pine beetle damage. While the trees are not directly benefited from irrigation water, indirect moisture and improved ground water improves the ability of the pinion trees to survive.

Comment 1

Comment 2

The irrigation season is extremely important to sustain trees, pasture land, and hay production supporting local ranchers. In addition, people on the mesa depend on irrigation water for a variety of other crops. In 2023 tunnel ground control issues led to the irrigation season shortened by at least 30 days and water was shut off for one week during the middle of the season to conduct repair efforts, without success. An evaluation of the problems in the tunnel made it clear that deteriorating ground conditions made it problematic to continue water flow without creating serious long term operating issues.

The tunnels transporting water to FM were constructed in the early 1900's. To the best of my knowledge, the tunnels are inspected each year and ground support repairs are done as part of an ongoing effort to maintain the tunnel in a safe and functional state. After 100 plus years of water flow, and no flow use, the tunnel conditions have deteriorated to the point that continued use creates a major risk of tunnel failure. This is compounded by the reduced safety of exposure to people inspecting and conducting necessary repair work.

Comment 3

I believe the real problem will be the failure to do anything, continuing the status quo. Because of safety concerns, tunnel inspections and maintenance will end and tunnel failure will accelerate. Fruitland Irrigation Company has serious misgivings about running any water

Comment 4

through the tunnels this season which could be a major disaster for those depending on water to keep their business "a float"

Comment 4 cont.

The proposed piping bypass of the tunnel is the safest and most cost-effective method to ensure FM will continue to receive irrigation water. All efforts to expedite approvals for this project are appreciated so water may be provided to residents of Fruitland Mesa in 2024.

Very Truly Yours,

Randy Litwiller

Cc: FIC Board Members
Craig Ullmann Applegate Engineering

Via email and U.S. Mail return receipt requested:
Mr. Ed Warner
Area Manager
Bureau of Reclamation
Western Colorado Area Office
445 West Gunnison Ave., Suite 221
Grand Junction, Colorado 81501

COMMENTS REGARDING DRAFT ENVIRONMENTAL ASSESSMENT, FRUITLAND IRRIGATION COMPANY GOULD CANAL IMPROVEMENT PROJECTS A&B- UPPER TUNNEL BYPASS PROJECT

I. SALINITY

You say the purpose of this new project is to reduce salinity. You do not demonstrate how there would be any new reductions in salinity. On p. 6 you say that the Original Project eliminated an estimated 5697 tons of salinity per year. You don't say how much additional salinity reduction will result from the new project. If you are going to be spending more money on a new project then you must show some additional salinity reduction. Comment 5

43 U.S.C. §1592(7)(C) (i)authorizes funds for "cost-effective measures" to reduce salinity from irrigation sources. Nothing is cost effective when there is no salinity reduction. On p. 32 you say "Implementation of the Proposed Action would not materially change the original analysis." That's right. Simply bypassing water around the tunnel in a different pipe isn't going to change the basin-wide salinity loading. Comment 6 And your estimate isn't based on any analysis. The references in Chapter 7 indicate there exists some data and some scientific models that could be used to estimate salinity loading. But nobody has done the analysis. You cite no studies or scientific results to substantiate your estimates. The 5697 tons estimate from the Original Project is not credible. You have done no further analysis for this new project. Comment 7

When preparing an EA the Bureau must comply with 40 CFR §1500.1(b), which requires the NEPA agency to generate relevant environmental information to ensure informed decision making. This is supposed to be available to public officials and citizens before decisions are made and before actions are taken. Comment 8

II. DREDGE AND FILL

The construction of the bench as described on p. 11 will be a variation of the classic dredge and fill. The dredge part will be when they scrape and blast the soil and rocks off the bench. The fill part will be when they push it over the east side of the bench where it will roll and slide down the steep hill into Iron Creek immediately below. The problem is that Iron Creek is a jurisdictional water outside the covered area. This will cause a violation of 33 U.S.C. §1311(a). The Regional General Permit allows minimal adverse effects caused by filling an Comment 9

irrigation ditch. The RGP does does not allow filling an adjacent jurisdictional water.

Comment 9 cont.

III. BLASTING

The blasting that will occur below the tunnel could cause further destabilization. The destabilization that has already occurred is the reason FIC wants to abandon it. An analysis should be done for the risks. It is myopic to think that you can simply seal the tunnel and the problem disappears. This is especially true in light of the fact that the Original Project was supposed to fix the tunnel but failed. Where did that money go? The money is supposed to be going for salinity control, not for bailing out the ditch company whose negligent maintenance is the cause of the problem.

Comment 10

Comment 11

IV. HISTORIC PRESERVATION

The mitigation being suggested for the loss of heritage--namely, public interpretation and/or documentation--has already been done in the Original Project. You say a new agreement is in process. What will be in it? How can the public evaluate it? The fact is that there won't be anything new in it. But yet the tunnel will disappear. The entrances will be closed and dirt piled up on top of them. The intent of Reclamation to remove vestiges of what had been there. That is so people will forget what had been there. This is the antithesis of preservation. The requirement of the National Historic Preservation Act is to preserve not only the memory but, as much as possible, the physical structure. The draft EA proposes to obliterate the tunnel entrances. This plan has not received the required 30 day review by the State Historic Preservation Office(SHPO). Any plan for resolving adverse effects with the SHPO must then be available for public review; therefore it should be in the draft EA. On p. 36 you talk about an MOA(Appendix A) but nothing is there. You have not followed the required protocol to address the additional preservation impacts of this new project.

Comment 12

Comment 13

V. ACCESS

In the draft EA, p. 13, it says that an easement agreement will be obtained from the landowner. This can be of no effect because because the landowner is bound by the conservation easement he has signed. Colorado Open Lands is also bound to enforce the provisions of that conservation easement. The terms of the conservation easement do not allow the project to proceed. The Regional General Permit will not override the conservation easement. The RGP, p. 8, says "This permit does not grant any property rights or exclusive privileges" and "This permit does not authorize any injury to the property rights of others."

Comment 14

FIC pretends that it will get "acknowledgement/approval" from Colorado Open Lands. The reality is that Colorado Open Lands cannot compromise the Conservation Values of the easement even if it wanted to. The conservation easement is like a contract. The landowner has received a tax benefit in exchange for granting easement restrictions; the other party to the contract is, essentially, the

public. Conservation easements operate under Colo. Rev. Stat. §38-30.5-101 *et seq.* as a matter of public policy. They provide the public benefit of open spaces, conservation, preservation. Colorado Open Lands sits on the other side of the contract as a representative for the public. They cannot bargain away the public interest. The only legal way to traverse the terms of the conservation easement would be to seek a declaratory judgment from a Colorado district court judge, on a theory that the terms should not be enforced due to unforeseeable circumstances. The problem with that is that the circumstances were foreseeable, because FIC had long neglected the maintenance of the tunnel.

Comment 15

Submitted by:

Daniel Dauwe
506 3375 Rd.
Crawford, CO 81415
dauwe77@msn.com
719-332-8391

Februrary 26, 2024

COLORADO
Parks and Wildlife
Department of Natural Resources

Gunnison Office
300 W. New York
Gunnison, CO 81230
P 970.641.7060 | F 970.641.7883

2/26/2024

Mr. Ed Warner - Area Manager
Department of the Interior
Bureau of Reclamation
445 West Gunnison Ave, Suite 221
Grand Junction, CO 81501

RE: Draft Environmental Assessment - Gould Canal Improvement Projects A & B - Upper Tunnel Bypass

Dear Mr. Warner,

Thank you for the opportunity to provide comments on the Bureau of Reclamation's (Reclamation) Gould Canal Improvement Projects A & B - Upper Tunnel Bypass Project Draft Environmental Assessment (EA). Under the Proposed Action Alternative, Reclamation would evaluate the potential environmental effects of the proposed Gould Canal - Tunnel Bypass Project (Project Area). The project would consist of installing approximately 2000 feet of pipeline on the east-facing slope of Iron Canyon in order to bypass the current upper tunnel of the Gould Canal. The 2019 Gould Canal Improvement Project A & B EA evaluated the improvement of approximately 12.4 miles of open canal and proposed to pipe the two Gould Canal tunnels. Since this time it has been determined that the in situ piping of the upper tunnel is not viable and requires a new activity with aspects that are sufficiently different from those activities analyzed in the original EA. The original canal improvement project was implemented to reduce salinity loading into the Colorado River. Colorado Parks and Wildlife (CPW) appreciates that Reclamation has requested CPW to evaluate and provide input on this project. These efforts allow CPW to carry forward our mission to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources.

Comment 16

CPW has reviewed Reclamation's efforts to identify and address wildlife concerns involved with the implementation of this project. As a result of these efforts, CPW feels that the Draft EA addresses the following concerns if the stated actions are carried forward into the Final EA.

- Protect nesting golden eagles from disturbance and potential abandonment by restricting construction activity during breeding season (December 1 through July 15).
- Reseeding following construction, and weed control would be conducted along the Proposed Action alignment in conjunction with measures established for the Original Project at large.
- Vegetation disturbance or grubbing would be avoided during migratory bird nesting season or, if vegetation disturbance or grubbing takes place during migratory bird nesting season, a Reclamation and FWS-approved pre-construction migratory bird nest survey and conservation measures would be implemented.

COLORADO
Parks and Wildlife
Department of Natural Resources

Gunnison Office
300 W. New York
Gunnison, CO 81230
P 970.641.7060 | F 970.641.7883

Comment 16 cont.

- Construction would not take place during nesting season within raptor nest buffers published in CPW guidance or established in consultation with FWS.

The Project Area is adjacent to a large tract of public land which provides habitat for Gunnison's sage-grouse (GUSG), a species that is federally listed as threatened. The closest GUSG lek is approximately 2 miles to the west. Due to the tree cover and topography, the Project Area falls outside of occupied habitat and is currently mapped as potential habitat. The project is located within CPW mapped GUSG Production Area due to the project location being within 4 miles of a lek site. However, due to the pinion pine and juniper forests encompassing the project area, negative impacts to GUSG are not expected to occur due to the proposed construction activities on the pipeline alignment. In order to prevent impacts to this Federally Threatened species, CPW recommends that no vehicle traffic travel through occupied habitat to access the project area. In addition, CPW recommends that the following stipulation established in the original EA also be carried forward: "No construction equipment may operate prior to 9 am during the period of March 15 through April 30 (Gunnison sage-grouse breeding season)".

Comment 17

Standardized, statewide wildlife recommendations have been developed by CPW for utilization by regulatory entities when reviewing and approving various land use proposals under their jurisdiction. The suite of species and seasonal habitats are collectively referred to as CPW's High Priority Habitats (HPH). This list of wildlife species and their associated seasonal habitats (including, but not limited to, Colorado's big game species) contains areas for which CPW has sound spatial data (i.e. where they occur on the landscape), and science-based recommendations to avoid, minimize, and mitigate adverse impacts resulting from anthropogenic disturbances. These recommendations contain measures such as seasonal timing limitations, controlled surface use stipulations for facility and route densities, no surface occupancy areas and associated buffer distances, and when compensatory mitigation may be required to offset unavoidable adverse impacts. Throughout this analysis process, CPW recommends that the measures contained within the HPH table be considered to effectively maintain habitat functionality, resiliency, and permeability for wildlife in the project area. Big game winter habitats and migratory corridors are known to be a limiting factor on big game populations in western Colorado and other high mountain areas of the western United States. The project area falls within CPW mapped elk and mule deer Winter Concentration Area and Severe Winter Range - HPH. CPW recommendations to avoid and minimize impacts to wildlife from land use development in HPH can be found HERE.

Comment 18

Comment 19

In order to reduce impacts to wildlife from this proposed project, CPW recommends that the following measures be added to the Final EA:

- Avoid all project related vehicle traffic from traveling through CPW mapped Gunnision's sage-grouse occupied habitat.
- Inclusion of seasonal timing restrictions for permitted or authorized human activities that span from December 1 to April 30 for all areas that fall within mapped CPW HPH Winter Concentration Area and Severe Winter Range.

COLORADO
Parks and Wildlife
Department of Natural Resources

Gunnison Office
300 W. New York
Gunnison, CO 81230
P 970.641.7060 | F 970.641.7883

CPW appreciates the opportunity to provide comments and input on this Gould Canal Improvement Projects A & B - Upper Tunnel Bypass EA. If you have any questions or would like further clarification, please don't hesitate to contact District Wildlife Manager, Adam Wallerstein at 970-275-4276, or myself at 970-275-4295.

Respectfully,

Brandon Diamond
Area Wildlife Manager, Area 16

Cc: Adam Wallerstein, Area 16 File, SW Regional File

Delta County
COLORADO
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Delta County Administration Building | 560 Dodge Street - Delta, CO 81416

February 8, 2024

Mr. Ed Warner
Area Manager
Bureau of Reclamation
Western Colorado Area Office
445 West Gunnison Ave, Suite 221
Grand Junction, Colorado 81501

RE: Gould Canal Improvement Projects A & B – Upper Tunnel Bypass Project

Mr. Warner,

While the Gould Canal Upper Tunnel Bypass Project is in Montrose County, the irrigation water it provides also benefits Delta County citizens on Fruitland Mesa. Delta County fully supports the Proposed Action and hope it can be completed quickly and within budget. As a Mining Geologist, I evaluated the Gould Tunnel nearly 20 years ago at the request of the Fruitland Irrigation Company and agree with the conclusion that rehabilitating the tunnel is not a viable long term nor is constructing a new tunnel financially achievable.

Delta County appreciates the work the Bureau has invested in this project and the opportunity to comment. We look forward to the successful completion of the Upper Tunnel Bypass Project.

Regards,

Wendell A. Koontz

Wendell A. Koontz

Delta County Commissioner District 3

[EXTERNAL] Re: Availability of Draft EA - Gould Canal Improvement Projects A & B – Upper Tunnel Bypass Project

Schaefer - HC, Mitchell <mitchell.schaefer@state.co.us>
Mon 2/5/2024 3:08 PM
To:Ward, Jennifer K <jward@usbr.gov>

Dear Ms. Ward:

From: History Colorado, Office of Archaeology and Historic Preservation

Thank you for your communication regarding the Fruitland Irrigation Company Salinity Control Project (aka, Gould Canal Piping Project; HC#75379). At this time our office does not wish to participate as a cooperating agency under NEPA. Accordingly, we have no comments regarding the draft Environmental Assessment intended for NEPA compliance.

As you know, our office continues to provide comments regarding the undertaking in accordance with Section 106 of the National Historic Preservation Act, as amended (54 USC § 306108), and its implementing regulations "Protection of Historic Properties," found in 36 CFR Part 800.

Please note we are now accepting electronic consultation through our secure file transfer system, MoveIt. Directions for digital submission and registration for MoveIt are available here.

Sincerely,

Mitchell K. Schaefer
Section 106 Compliance Manager, Built Environment
History Colorado | Office of Archaeology and Historic Preservation
Office: **303-866-2673** | Cell: **720-213-6380** | mitchell.schaefer@state.co.us
History Colorado Center | 1200 N Broadway | Denver, Colorado 80203 | HistoryColorado.org

On Mon, Feb 5, 2024 at 8:57 AM Ward, Jennifer K <jward@usbr.gov> wrote:

> Good morning,
>
> Please find attached a distribution letter announcing the availability of the Draft EA for the Gould Canal Improvement Projects A & B – Upper Tunnel Bypass Project.
>
> Thank you,
> Jenny
>
> **Jenny Ward** *(she/her)*

Environmental Protection Specialist
Bureau of Reclamation
Western Colorado Area Office
(970) 248-0651