BUREAU OF RECLAMATION

Draft Environmental Assessment

Webber Ditch Piping Project

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

U.S. Department of the Interior May 2023

Mission Statements

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

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

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Prepared for Reclamation by J-U-B ENGINEERS, Inc.

Cover photo: Representative site conditions (J-U-B 2021)

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CHAPTER 1—INTRODUCTION

This Draft Environmental Assessment (Draft EA) has been prepared on behalf of the Webber Ditch Company (WDC) to disclose and evaluate the potential environmental effects of the Bureau of Reclamation's (Reclamation) proposed Webber Ditch Piping Project (Proposed Project). The federal action evaluated in this Draft EA includes improvements to the existing diversion infrastructure located on the Mancos River, 4.4 miles of ditch piping with 27 turnouts to deliver water to over 70 members of the WDC, completion of a Habitat Replacement Project (HRP), and associated actions (Proposed Action). This document has been prepared in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's (CEQ) NEPA regulations at 40 Code of Federal Regulations (CFR) Parts 1500–1508 (2020). If potentially significant impacts to environmental resources are identified, an Environmental Impact Statement (EIS) will be prepared. If no significant impacts are identified, a Finding of No Significant Impact (FONSI) will be issued.

1.1 Project Location and Legal Description

The Proposed Project would occur near the community of Mancos in Montezuma County, Colorado (Figure 1 in Appendix A). The Proposed Project footprint (Project Area) is a linear tract of private lands, approximately 4.4 miles long, located approximately one mile northeast to southeast of Mancos, Colorado, in the Upper Mancos Valley-Mancos River, East Rim Mancos River, and a small portion of the West Mancos River Subwatersheds of the San Juan River Basin, and includes the access roads, temporary staging areas, and the Habitat Replacement Site (HRS) which is located at the Webber Ditch diversion area (see Figures 1–5 in Appendix A). The Project Area is located within parts of Sections 23, 26, 27, 33, and 34 of Township 36 North Range 13 West and Sections 4 and 9 of Township 35 North Range 13 West in Montezuma County, Colorado.

The Proposed Project is located on private lands and no public lands are included in the Project Area. Current land uses in the vicinity of the Project Area are mainly irrigated crop and pastureland with some undisturbed rangeland adjacent to the Project Area.

The Project Area lies in the Colorado Plateau physiographic region, and has a semi-arid continental climate characterized by low humidity and moderately low precipitation (averaging about 16.9 inches annually). The average elevation in the Project Area is about 7,200 feet above mean sea level (AMSL).

1.2 Purpose and Need of the Proposed Action

The purpose of the Proposed Action is to comply with the Colorado River Basin Salinity Control Act (Reclamation's federal nexus) to reduce salinity concentrations in the surface waters of the Upper Colorado River Basin.

The need for the Proposed Action is to reduce salinity concentrations of waters of the San Juan and Colorado River Basins. Based on salinity studies in the San Juan area, the Webber Ditch annually contributes approximately 2,066 tons of salt to the Colorado River Basin (Reclamation 2019a). The Proposed Action would reduce salt loading in the Colorado River Basin.

1.3 Decision to be Made

The federal decision to be made is whether to authorize the use of federal funds for WDC to implement the Proposed Action.

J-U-B ENGINEERS, Inc. (J-U-B) prepared this Draft EA on behalf of Reclamation, which is authorized by the Colorado River Basin Salinity Control Act to provide funding assistance for the Proposed Action. Reclamation awarded a financial assistance agreement to WDC for the Proposed Action under Assistance Agreement R20AC00020. As the primary funding entity, Reclamation is the lead federal agency for the NEPA analysis of the Proposed Action. Ongoing operation and maintenance of the constructed project would be funded through WDC.

1.4 Background

1.4.1 Salinity Control Act

The Colorado River and its tributaries provide municipal and industrial water to approximately 35 to 40 million people and irrigation water to nearly 4.5 million acres of land in the United States. The river also serves about 3.3 million people and 500,000 acres in Mexico. The effect of salinity loading in the Colorado River Basin is a major concern in both the United States and Mexico (Reclamation 2017). Salinity impacts water quality, which in turn affects downstream users by threatening the productivity of crops, degrading wildlife habitat, and corroding residential and municipal plumbing. From 2005 to 2015, an approximate average of 7.5 million tons of salt flowed into the Colorado River annually, and by the year 2035, 1.7 million tons of salt per year will need to be diverted from the system to meet water quality standards in the Lower Basin (Reclamation 2017). Irrigated agriculture contributes approximately 37 percent of the salinity in the overall Colorado River Basin (Reclamation 2017). Irrigation increases salinity in the system both by depleting in-stream flows, and by mobilizing salts found in underlying geologic formations into the system, especially during flood irrigation practices.

In June 1974, Congress enacted the Colorado River Basin Salinity Control Act, Public Law (PL) 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. PL 104-20 of July 28, 1995, authorizes the Secretary of the Interior's action through Reclamation to implement a Basinwide Salinity Control Program. The Secretary may conduct the purposes of this legislation directly, or make grants, enter into contracts, memoranda of agreement, commitments for grants, cooperative agreements, or advances of funds to non-federal entities under such terms and conditions as the Secretary may require. PL 110-246 (June 18, 2008) amended the Salinity Control Act, establishing the Basin States Program, and authorizing Reclamation to take advantage of new, cost-effective opportunities to control salinity in the basin.

Salinity loading is the result of seepage and deep percolation that picks up salt as water moves through the underlying geology. The increase in salinity shows up in streams down gradient of the canal prism. Expected salinity reduction is calculated based on measured Total Dissolved Solid 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. For more information on salinity loading calculations, see Richards et al. (2008-2009), Schaffrath (2012), and Linard (2013).

1.4.2 Webber Ditch

The Webber Ditch was originally constructed in Montezuma County, Colorado in the late 1870s and 1880. Water rights for the Webber Ditch date back to 1893 (DWR 2022) and the WDC was incorporated on May 18, 1953 (Colorado Company Directory 2022).

The WDC water right is 47.1 cubic feet per second (cfs), but they currently use 37 cfs at the Webber Ditch decreed diversion point from the Mancos River approximately 2 miles northeast of Mancos. The water is used by over 70 members to irrigate approximately 1,632 acres consisting of mostly grass pasture and alfalfa (*Medicago sativa*) and to water stock during the winter months outside the irrigation season until the ditch freezes over and it can no longer be used because of ice buildup. The irrigation season for Webber Ditch runs from May 1 to September 30. Annually, an average of approximately 3,902.3 acre-feet (ac-ft) are diverted from the Mancos River into Webber Ditch (J-U-B 2023a). The annual maximum amount of water diverted from the Mancos River is approximately 5,418.7 ac-ft, and the annual minimum amount diverted is approximately 2,004.7 ac-ft (J-U-B 2023a).

The proposed diversion improvements would improve the efficiency of water delivery and facilitate the transfer of water from the side channel into the new pipe. The proposed buried pipeline would eliminate ditch seepage losses and reduce salinity loading to the San Juan and the Colorado River Basins by approximately 2,066 tons per year (Reclamation 2019a).

The Proposed Project is needed because irrigation practices and surface water evaporation can increase the salinity of irrigation waters which can have a substantial effect on agricultural yields and irrigation efficiencies in the Colorado River Basin. According to Reclamation, the Colorado River system is naturally saline and accounts for nearly 47% of the salinity present in the river system, and irrigation practices implemented in the basin account for approximately 37% of the total salt concentrations (Reclamation 2017) through evaporation of surface waters and dissolution and transport of salts present in the native soils.

Additionally, due to the Webber Fire of 2012, even the slightest measurable precipitation can overrun the Webber Ditch with ash and debris. Piping the ditch would mean cleaner water and would reduce the need for emergency management in large rain events. Cleaner water would increase irrigation efficiency, especially relevant for the irrigation systems with smaller nozzles, drip irrigation, and micro sprinklers.

The construction of the fish passage structure at the WDC diversion would compensate for the habitat units lost due to the cessation of canal seepage after pipeline installation by restoring and improving aquatic habitat and reestablishing connectivity of the river system. The fishway would improve survivability of the fisheries by providing safe fish passage to the headwaters of the Mancos River during high and low river flow periods.

Approximately 38.7 habitat units would be lost due to the cessation of canal seepage after pipeline installation and would need to be replaced. The fisheries of the Mancos River are unique and have many species native to the southwest region of Colorado, but the current Mancos River diversion for the Webber Ditch does not allow safe passage of fisheries of the Mancos River into the headwaters for spawning.

1.5 Relationship to Other Projects

Reclamation, under the authority of the Colorado River Basin Salinity Control Act, PL 93-320, 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. Both the Basinwide Salinity Control Program and the Basin States Program fund salinity control projects with a one-time grant that is limited to an applicant's competitive bid. Once constructed, the facilities are owned, operated, maintained, and replaced by the applicant at their own expense.

One other salinity control project has been completed in the vicinity of the Project Area, the Root and Ratliff Ditch Piping Project, located a half mile west of the Webber Ditch Piping Project (Figure 6 in Appendix A). This 2020 project reduced salt loading by 2,347 tons per year.

1.6 Scoping

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

- Montezuma County
- Colorado State Historic Preservation Office (SHPO), Denver, CO
- Colorado Parks and Wildlife (CPW), Durango, CO
- Colorado Department of Transportation (CDOT), Durango, CO
- United States (U.S.) Fish and Wildlife Service (USFWS), Ecological Services, Grand Junction, CO
- U.S. Army Corps of Engineers (USACE), Colorado West Regulatory Branch, Durango, CO
- U.S. Bureau of Land Management (BLM), Tres Rios Field Office, Delores, CO
- Hopi Tribe, Jicarilla Apache Nation, Kewa Pueblo, Navajo Nation, Ohkay Owingeh Pueblo, Pueblo of Acoma, Pueblo de Cochiti, Pueblo of Isleta, Pueblo of Jemez, Pueblo of Laguna, Pueblo of Nambe, Pueblo of Picuris, Pueblo of Pojoaque, Pueblo of San Felipe, Pueblo of San Ildefonso, Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Santa Clara, Pueblo of Taos, Pueblo of Tesuque, Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation), Pueblo of Zia, and Zuni Tribe of the Zuni Reservation

In compliance with NEPA, this Draft EA will be available for public comment for a 30-day period. Any comments received will be evaluated for the Final EA. This Draft EA will be distributed to

WDC shareholders, private landowners adjacent to the Proposed Action, and the organizations and agencies listed in Appendix B.

Concerns raised during public comment periods on recent similar projects helped identify potential concerns for the Proposed Action. Issues determined to be of potential significance, and therefore appropriate for further effects analysis under this Draft EA, are discussed in Chapter 3. The following issues identified in Table 1-1 were identified as either ***not present*** or ***not affected*** and are not analyzed in greater detail within this document.

Table 1-1. Resources Considered but Eliminated from Further Analysis

Resource	Rationale for Elimination from Further Analysis
Environmental Justice and Socioeconomic Resources	The purpose of Executive Order (EO) 12898 is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The CEQ has provided guidance on addressing environmental justice under NEPA (CEQ 1997) and subsequent interim implementation guidance is provided by the Office of Management and Budget (OMB 2021). An environmental justice screening was completed and based on U.S. Census Bureau American Community Survey (ACS) data as used by the Environmental Protection Agency's (EPA) EJScreen tool (U.S. EPA 2023a; U.S. Census Bureau 2021), the minority percent of population (all ages) (28%) did not meet the minority threshold of 50 percent or more of the study area population nor was it meaningfully greater than the minority population percentage of a much broader area (32% for Colorado State); and the percent of population (all ages) in poverty (34%) did not meet the low-income threshold (using the criteria of 50 percent or more of the study area population or below 200 percent of the federal poverty level of the reference area (25% for Colorado State) to be identified as having potential environmental justice populations. The Project Area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low-income populations. The Proposed Action would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. Therefore, neither the No Action Alternative nor the Proposed Action would have an environmental justice effect.
Paleontological Resources	A paleontological resource is any fossilized remains, traces, or imprints of organisms, preserved in or on the Earth's crust, that are of paleontological interest and provide information about the history of life on Earth but do not include items found in an archaeological context or cultural items (43 CFR 49.5). The survey of the Project Area did not find any paleontological resources (Russell et al. 2022). Therefore, there is no potential for the No Action Alternative or the Proposed Action to affect paleontological resources.
Recreational Resources	The access roads and ditch are located entirely on private lands which are not open for public recreation. Therefore, neither the No Action Alternative nor the Proposed Action would affect public recreation.

Resource	Rationale for Elimination from Further Analysis
Tribal Concerns and Indian Trust Assets	No Indian trust assets were identified within the Project Area. No Native American sacred sites were identified within the Project Area. The Proposed Action would not affect Indian trust assets or Native American sacred sites. To confirm this finding, Reclamation consulted with the Hopi Tribe, Jicarilla Apache Nation, Kewa Pueblo, Navajo Nation, Ohkay Owingeh Pueblo, Pueblo of Acoma, Pueblo de Cochiti, Pueblo of Isleta, Pueblo of Jemez, Pueblo of Laguna, Pueblo of Nambe, Pueblo of Picuris, Pueblo of Pojoaque, Pueblo of San Felipe, Pueblo of San Ildefonso, Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Santa Clara, Pueblo of Taos, Pueblo of Tesuque, Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation), Pueblo of Zia, and Zuni Tribe of the Zuni Reservation with historic presence in the region. Reclamation provided the tribes with a description of the Proposed Action and a written request for comments regarding any effects on Indian trust assets or Native American sacred sites because of the Proposed Action. Results of this consultation will be included in the Final EA.
Wetlands	No wetlands occur within the Project Area; therefore, no potential exists for the No Action Alternative or the Proposed Action to affect wetlands.
Wilderness, Wild and Scenic Rivers, and National Parks Resources	No wild and scenic rivers, lands with wilderness characteristics, Wilderness Study Areas, National Parks, or other ecologically critical areas exist within the study area. Therefore, neither the No Action Alternative nor the Proposed Action Alternative, would affect these resources.

CHAPTER 2—PROPOSED ACTION AND ALTERNATIVES

The alternatives evaluated in this Draft EA include a No Action Alternative and the Proposed Action. In accordance with NEPA and the CEQ regulations, a No Action Alternative is presented and analyzed to provide a baseline for comparison to the Proposed Action. The resource analysis contained within this document, along with other pertinent information, will guide Reclamation's decision about whether to fund the Proposed Action for implementation. The Proposed Action is analyzed in comparison to the existing environment and the No Action Alternative to determine potential environmental effects if funding is authorized and the Proposed Action is implemented.

2.1 Alternatives Considered but not Carried Forward

The following alternative was evaluated by WDC during the conceptual design process for the Proposed Action, but this alternative was not proposed to Reclamation, and was eliminated from detailed analysis because it was determined to be infeasible by WDC. This alternative considered the use of high-density polyethylene (HDPE) instead of polyvinyl chloride (PVC) to pipe the ditch. While HDPE pipe has many positive attributes, such as resistance to salt, sand, dust, corrosive materials, and sun damage, and is a relatively leak-free system based on the heat fusion for pipe joints compared to gasket installation or gluing for PVC pipe joints, HDPE pipe can be up to 25 percent more expensive than PVC pipe. Cost data from previous projects verifies this increased expense. Because the Proposed Action would install 4.4 miles of pipe, the potential increased cost of using HDPE did not fit the WDC's budget, especially when the current inflationary trends have already increased the cost of project materials and services beyond the original funding projections. Therefore, this alternative was eliminated from further study.

2.2 No Action Alternative

Under the No Action Alternative, Reclamation would not authorize funding for the piping of the Webber Ditch. The existing ditch would remain as an open, unlined ditch. Maintenance would continue. The measured and estimated levels of seepage and salinity loading would continue. The proposed Habitat Replacement Plan would not be implemented.

2.3 Proposed Action

Under the Proposed Action, Reclamation would provide funding to the WDC through the Salinity Control Program to support the Webber Ditch Piping Project, including irrigation diversion infrastructure improvements, 4.4 miles of ditch piping, and completion of a Habitat Replacement Project and associated actions. The details and specific components of the Proposed Action are shown in the following table, in the figures in Appendix A, and are discussed below. The total surface disturbance for the Proposed Action would be 17.6 acres.

Table 2-1. Webber Ditch Piping Project Proposed Activities and Footprint

Proposed Action Component	Total Acres (Miles)
Irrigation diversion and headgate improvements	0.2 acres
Pipeline installation (convert unlined ditch)	9.7 acres (4.0 miles)
Pipeline installation (convert corrugated pipe)	0.9 acres (0.4 miles)
Staging areas use and improvement	5.9 acres
Habitat replacement project (fishway construction)	0.9 acres
Totals	**17.6 acres**

These proposed activities would improve system efficiency and prevent approximately 2,066 tons per year of salt loading to the Mancos River Basin, San Juan River Basin, and the larger Colorado River Basin (Reclamation 2019a). The total length of the final alignment would be 4.4 miles.

The HRP would be located in the backwater channel between the diversion and the new intake structure (Figure 3 in Appendix A). Section 2.3.2 discusses the specifics of the HRP.

For all aspects of the Proposed Action, Best Management Practices (BMPs) would be used to minimize the effects of the project on the human and ecological environment. BMPs and other protective measures are incorporated as part of the Proposed Action, are described and analyzed as part of the Proposed Action in Chapter 3 (Affected Environment and Environmental Consequences) and are summarized in Chapter 4 (Environmental Commitments).

2.3.1 Irrigation Diversion and Pipeline Installation

2.3.1.1 *Irrigation Diversion*

As part of the Proposed Action, the existing diversion infrastructure at the start of the Webber Ditch would be modified and upgraded (J-U-B 2023b). Water is currently diverted from the Mancos River at stream mile 81.4. The current diversion infrastructure consists of an in-river rock gabion structure and an immediately adjacent wooden trash boom to keep large, floating debris out of the ditch. At this point, the diverted water enters the 160-foot diversion side channel on river-left. This side channel creates a backwater channel that leads to the existing Webber Ditch headgate, which controls flow into the open ditch, and two overflow channels, or spillways, which return diverted water from the Webber Ditch back to the Mancos River. These upstream and downstream overflow channels are separated by a concrete wall approximately thirty-three feet in length.

The existing gabion diversion structure and trash boom would not be modified as part of the Proposed Action. The first dilapidated wooden spillway structure, including the headgate, associated with the upstream overflow channel would be removed and replaced with a concrete spillway and a new intake structure attached to the new pipeline to control the flow entering the proposed irrigation pipeline. The new intake structure would provide coarse screening of inflow, control the rate of water intake, and would maintain the water surface elevation in the backwater channel. The target flows at the diversion point are approximately 4.1 to 11.4 cfs. A new headgate would be attached to the new intake structure to control flow entering the proposed irrigation pipeline.

An overshot gate at the upstream overflow channel would control the amount of water passing into the spillway and help maintain the target levels of flow (cfs) that move through the side channel. Any excess water in the side channel would spill through the spillway back to the river.

The downstream overflow channel would be disabled and backfilled. The concrete wall between the two channels would remain in place but backfill for the proposed pipeline would be placed on top of the wall approximately at-grade.

2.3.1.2 *Pipeline Installation*

For the Proposed Action, WDC would replace approximately 4.0 miles of open, unlined irrigation conveyance ditch and 0.4 miles of aged, corrugated pipe with a PVC pipeline and construct 27 turnouts along the course of the pipeline for water delivery to irrigation shareholders (J-U-B 2023b). The pipeline is designed to convey 32.5 cfs during the irrigation season and 5 cfs of stock water during the winter months outside irrigation season. Proposed stock water use would be an on-demand system, rather than running a specific flow all the time, and would only occur until low temperatures in the winter months present risk of freezing and breaking irrigation infrastructure. For the stock water use, the pipeline would have water flowing in it after the irrigation season concludes until it gets so cold that the water would freeze, at which point, the pipeline would be winterized. During this time, individual shareholders would use the water as needed to fill their own stock watering infrastructure, including stock tanks, open ditches, or pipelines.

Installation of the pipeline would require the excavation of a trench within the alignment of the existing ditch with sufficient width and depth to allow for adequate compaction around the pipe haunch and accommodation of the minimum bury depths. Piping installed within the existing ditch prism would require excavation of the ditch bottom and sides.

As the existing open ditch is excavated, approximately four inches of uncompacted bedding material would be placed at the bottom of the trench at the grades and elevations specified in the preliminary construction plans using heavy machinery (J-U-B 2023b). The pipe would be installed using specialized equipment and placed on the bedding material. Pipeline embedment and backfill material would be placed in the trench and compacted in lifts until the designed grade is attained. The contractor would attempt to use onsite material for embedment and backfill but could use imported aggregate obtained from a commercial source.

Appurtenant ditch structures located throughout the pipeline alignment (such as culverts and bridges) would be removed as they are encountered. Specifically, the existing Webber Ditch flume, approximately two hundred feet downstream of the intake structure on the proposed pipeline alignment, would be removed. The existing corrugated metal pipe (CMP) culvert located along U.S. Highway 160 and its associated inlet and outlet structures would be removed and replaced with the PVC pipeline. All existing concrete ditch splitter boxes and flumes would be removed and replaced with piped, metered turnouts. Twenty-seven metered turnouts would be located throughout the alignment based on the existing irrigation system of the respective landowners. Air vents, drains, and other pipeline appurtenances would be strategically placed throughout the pipeline alignment. Where the ditch crosses under U.S. Highway 160 (approximately 1,200 feet from the pipeline entrance), an existing concrete box culvert would be used as a sleeve for installation of the proposed PVC pipeline through the highway right-of-way (ROW).

The pipeline would be installed in the current ditch ROW aside from four deviations (see the Pipeline Realignment displayed in Figure 2 in Appendix A). The primary purpose of these deviations is to create a straighter pipeline alignment, reduce required pipeline materials, improve flow efficiency, and to preserve natural features (e.g., trees) along the existing ditch alignment at the request of the respective landowner. In the locations where the new pipeline leaves the current ditch alignment, the abandoned ditch would be backfilled and reseeded. Based on the new ditch

alignment, but also for access as described in Section 2.4.2, construction and permanent easements would be obtained on five separate private land parcels.

2.3.2 Habitat Replacement Project

As required by the Colorado River Basin Salinity Control Act (43 U.S.C. 1571-1599), which authorizes the Salinity Control Program, the WDC developed an HRP in coordination with Reclamation and a private landowner to replace the ecological value of riparian habitat which would be lost from the piping component of the Proposed Action (J-U-B 2023c). The HRP would encompass approximately 0.9 acres on the northern end of the Webber Ditch located at the Webber Ditch diversion area and would modify the existing diversion structure on the Mancos River by constructing a vertical slot fishway to improve safe fish passage through the diversion year-round and during variable flows.

The Yeomans property, located on the northern end of the Webber Ditch at the diversion location and directly north of U.S. Highway 160, was selected as the most advantageous HRS. The site was selected based on existing aquatic resources, wildlife habitat value, and willing landowner cooperation.

A habitat evaluation was performed within the Project Area to quantify the habitat value to be lost by implementing the Proposed Action and to determine the habitat value to be generated by implementing the HRP (J-U-B 2021). The evaluation followed the methodology outlined in Reclamation's *April 2018 Basinwide Salinity Control Program: Procedures for Habitat Replacement*. A total of 38.7 habitat units would be needed to replace the ecological value of riparian habitat lost due to the cessation of canal seepage after pipeline installation. The construction of the fishway would generate approximately 58.3 habitat credits, thereby exceeding the required habitat replacement value. The HRP would restore and improve aquatic habitat and reestablish connectivity of the river system (J-U-B 2021). Other desired results of the HRP are to improve site uniqueness, increase native species diversity, and reduce the effects of stream alteration.

Water Diversion

All new structures for the diversion described in Section 2.3.1.1 Irrigation Diversion would have screens and punch-plates designed with velocity and juvenile fish in mind to manage water flow, prevent entrainment, and block water flow during any maintenance needs. The amount of water that enters the diversion side channel would depend on in-river flows from year to year and some manual control would be required to manage the amount of water that enters the side channel. The headgate would control flow through the pipeline, and the overshot gate would control the amount of water in the side channel, and therefore, would also control the amount of water through the fish passage. In the fishway, target flows range from 4.1 to 11.4 cfs, and target velocities range from 3.6 to 4.0 feet per second (fps)

Vertical Slot Fishway

As part of the HRP, the Proposed Action would construct a 137-foot vertical slot fishway, which would begin approximately 160 feet downstream of the diversion and would connect into the existing side channel.

The fishway would have an inside width of 4 feet and an inside depth varying between 4 to 6.5 feet. Twenty-two sets of concrete pillars would be spaced 5.5 feet apart longitudinally to dissipate energy,

decrease velocity, and allow fish to travel. Each concrete pillar set would consist of three pillars in a chevron pattern with 6.8 inches between pillars for fish travel. The normal operating depth within the bays is generally between 2 and 3 feet. The water surface elevation at the fishway entrance would be maintained between 1 and 2.5 feet by the overshot gate and a staff gauge would be present for verification.

An expanded metal cover over the top of the fish passage would prevent birds or other animals from preying on fish within the fish passage.

Enhancements planned for the HRP are designed to be measurable and qualitative, allowing WDC and Reclamation to track the progress of the HRP year to year, and over the full lifetime of the project. The WDC would be responsible for maintenance and monitoring of the restoration and habitat site for the expected 50-year life of the HRP. Monitoring requirements are discussed in the HRP and identified in the Environmental Commitments in Chapter 4.

See the complete HRP in the project record for further details regarding the proposed habitat work (J-U-B 2023c).

2.3.3 Restoration and Revegetation

All disturbed areas from construction activities would be contoured and reclaimed to match the surrounding areas and restore existing drainage patterns. The WDC would be responsible for restoration and revegetation following completion of construction activities and would implement restoration and revegetation methods as described below or using other appropriate methods.

Following construction, disturbed ground would be revegetated in one of two ways: 1) the sterile topsoiling and natural recruitment method, or 2) the conventional method.

In non-farmed areas, the sterile topsoiling and natural recruitment method for reclamation would be used to minimize the spread of weeds following construction, unless the underlying landowner specifically requests the conventional reclamation method described below. This method involves applying sterile topsoil—weed-free soil, sourced from the lower layer of soil rather than the topsoil—with no additional planting or seeding, instead allowing the surrounding plant species to recruit and recolonize the disturbed areas. Following sterile topsoil placement, the soil would be mulched and inoculated with mycorrhiza to facilitate germination and growth, ensuring success of the natural revegetation.

Conversely, in irrigated pastures and hayfields, the conventional revegetation method would be used, wherein topsoil retained during construction would be spread on the site, and the site reseeded. Weed-free seed mixes appropriate for the surroundings would be used. For instance, roadsides and the margins of agricultural areas would be reseeded with regionally appropriate drought-tolerant grasses. Where irrigated lands are revegetated, the seed mix would be a weed-free hay mix (or similar mix) acceptable to the landowner. Where the disturbed ground is adjacent to natural vegetation, the weed-free seed mix would include drought-tolerant and locally ubiquitous native grass such as western wheatgrass. Before seeding, the soil would be mulched and inoculated with mycorrhiza to facilitate germination and growth, ensuring success of the reclamation effort.

For either method, revegetation success would be monitored subject to agreements between the WDC and individual landowners or in accordance with public land permit stipulations. The preliminary construction plans indicate where each reclamation method is to be used, and specify the seed mix, where appropriate (J-U-B 2023b).

BMPs described in Chapter 4 (Environmental Commitments) would be used to control erosion, minimize harm to wildlife and aquatic species, and minimize the spread of noxious weeds during and following completion of the construction. Noxious weeds would be controlled in disturbed areas according to ROW stipulations and Montezuma County standards.

2.4 Construction

2.4.1 Equipment

Bulldozers, backhoes, trackhoes, excavators, haul trucks, and various smaller construction vehicles and equipment (such as pipe fusion equipment) would be used to complete the Proposed Action. Installation of the pipeline in the existing ditch alignment would involve using trackhoes and a bulldozer to grub vegetation and prepare the existing ditch. Any new pipeline alignment would be prepared with the use of a trackhoe. Front end loaders with pallet forks would be used to handle pipe in the staging areas. Fill and borrow material would be transported in dump trucks loaded with a trackhoe or loader. Pipe arriving at the staging areas would be transported on flatbed trucks and fused adjacent to or within the trench. A bulldozer and grader would be used to grade the surface and prepare it for re-vegetation following completion of pipe installation activities.

2.4.2 Access

The Proposed Action would take place on private lands, and construction and access footprints would be limited to only those areas necessary to safely implement the Proposed Action.

Access to the Webber Ditch would occur on seven existing access roads strategically located along the alignment of the pipeline ROW (see Figure 2 in Appendix A). Three of the access roads are accessed directly from U.S. Highway 160 in the northern portion of the Project Area. All three of these access roads are private driveways to residences located near the pipeline ROW. The remaining four access roads are in the southern portion of the pipeline ROW and are accessed from County Road 41. Of these southern access roads, three are part of private driveways to residences. The southernmost access road is the road that accesses the Webber Cemetery. No new roads would be constructed. Both proposed staging areas are located adjacent to and accessible from County Road 41.

In the Project Area, the Webber Ditch crosses existing roads in 16 locations which would be temporarily affected during the pipeline installation. Along U.S. Highway 160, during the pipeline installation, the shoulders of the highway would be closed, but one lane of the highway would remain open. The ditch crosses one county road (County Road H) and four shared private roads, and during construction, one lane would remain open on each of these roads. The ditch also crosses ten private driveways or field roads, and the contractor would coordinate with each landowner when placing those sections of pipe. The highway and county road crossings would each take approximately two days to complete, and most private road crossings would be started and completed within the same day. All road crossings would have a means to pass traffic unless negotiated otherwise with owners. The duration and timing of the road crossing construction would be detailed in a Traffic Control (TC) Plan. All roads would be returned to the same or better conditions per local, county, and state regulations and specifications.

The contractor would submit the Traffic Control (TC) Plan before any initial project-wide construction to include the roads, staging areas, and construction access which would detail the means, methods and materials used to maintain street traffic surrounding construction and staging areas and to isolate construction and staging areas from the public, and would detail coordination with the Colorado Department of Transportation (CDOT), the Montezuma County and Sheriff departments and emergency services before working in the rights-of-way, and with private landowners when traffic or access would be delayed. Additionally, the TC Plan would require cleaning and repairing any damage caused by installation and restoring existing and permanent facilities used during construction to original conditions.

2.4.3 Staging and Borrow Areas

Two staging areas are strategically located along the alignment of the pipeline ROW at the southern and center of the Project Area (see Figure 2 in Appendix A). The total area of the two staging areas is approximately 5.9 acres. The staging areas are situated in fallow, previously disturbed agricultural areas that contain a variety of ruderal species on private land holdings of current WDC shareholders.

No borrow areas are proposed.

2.4.4 Construction Timeframe

Construction would occur from September 1 to April 30 outside of the irrigation season and would take two years to complete. The HRP would be implemented concurrently with the piping of the Webber Ditch but would only take one year to complete.

The timing of certain activities related to the Proposed Action would be subject to limitations as shown in the following tables and described in further detail in the BMPs in Chapter 4 (Environmental Commitments).

Table 2-2. Timing Restrictions and Implementation Instructions for Webber Ditch Piping Project Implementation

Time Period	Restriction or Implementation Instruction
Daytime Working Hours	Complete all work within the designated Proposed Project footprint and during established daytime working hours.
Extreme Wet Weather Conditions	Do not conduct construction activities during extreme wet weather conditions, if practicable.
Fall/Winter-Spring: September 1-April 30	Time construction to occur beginning in fall/winter and ending in the spring of each construction phase. General construction would occur in this time frame.
October 15-February 28	Conduct in water work during low flow periods in the fall and winter when fish are mostly absent.
December 15-July 31	If active bald eagle and raptor nests occur in the Project Area, only perform construction outside a 0.5-mile buffer around nest.
After July 31	If chicks are still present in active bald eagle and raptor nests after July 31, continue to maintain 0.5-mile construction buffer around nest.
December 1-July 31 (eagles) February 15-July 15 (red-tailed hawks)	Ensure a qualified biologist performs a nest survey within seven days before construction begins for active eagle and raptor nests.

Time Period	Restriction or Implementation Instruction
January 15-September 30	Ensure a qualified biologist performs a nest survey for migratory birds within seven days of the removal of trees or shrubs. If nests are located, do not allow project activities until approval is granted.

2.4.5 Rights-of-Way and Land Ownership

WDC is a privately-owned ditch company, and the Webber Ditch is located on private lands (see Figure 1 in Appendix A). The majority of the proposed activities would occur within the existing easements for Webber Ditch. However, even though the Webber Ditch is a currently maintained irrigation ditch, no roads for operation and maintenance exist along most of the ditch alignment, and five new permanent ROW easements would be obtained on existing roads based on the required access for operation and maintenance, and also for the new ditch alignments.

2.5 Permits and Authorizations

If the Proposed Action is approved, the following permits, authorizations, and coordination would be required before project implementation.

Table 2-3. Permits, Authorizations, and Coordination

Authorizing Agency or Authority	Purpose of Permit/Authorization	Entity Responsible for Obtaining Permit/Authorization
Private landowners	ROW approvals outside the current ditch easement with land involved in the Proposed Action	WDC
WDC; engineer	Traffic Control Plan	Construction contractor
Local utilities	Utility clearances before construction activities	Construction contractor
Montezuma County (including Montezuma County Sheriff; Road and Bridge Department and Floodplain Administrator)	Coordination before construction activities; permits for road crossings; compliance with county floodplain requirements	WDC/Construction contractor
Mancos Fire Protection District	Coordination before construction activities	Construction contractor
Engineer	Spill prevention, control, and countermeasures (SPCC) plan	Construction contractor
CDOT	Coordination and potential permitting for pipeline crossing at U.S. Highway 160	Construction contractor
Colorado Department of Public Health and Environment (CDPHE)	Stormwater Management Plan (SWMP) submitted before ground disturbance	Construction contractor

Authorizing Agency or Authority	Purpose of Permit/Authorization	Entity Responsible for Obtaining Permit/Authorization
CDPHE	Clean Water Act (CWA) Section 401 (water quality certification), and Section 402 (National Pollutant Discharge Elimination System [NPDES]) obtained before ground disturbance	WDC/Construction contractor
USACE	CWA Section 404 Regional General Permit 5 (ditch related activities in the State of Colorado)	WDC

Compliance with the following laws is required before and during project implementation.

2.5.1 Natural Resource Protection Laws

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

2.5.2 Cultural Resource Laws

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

CHAPTER 3—AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter discusses resources that would be affected by the No Action and the Proposed Action Alternatives. For each resource, the potentially affected area and/or interests are identified, existing conditions described, and potential effects predicted under the No Action and Proposed Action Alternatives. This section is concluded with a summary of effects. Resources are presented alphabetically. Resource analysis timeframes for effects in this document are temporary (0-3 years), short-term (3-10 years), and long-term (15+ years).

3.2 Affected Environment and Environmental Consequences

3.2.1 Access, Transportation, and Public Safety

Access, transportation, and public safety in the region are managed by various local, state, and federal agencies, including the Montezuma County Sheriff, Mancos Fire Protection District, Montezuma County Road and Bridge Department, and the Colorado Department of Transportation. The major transportation routes in the vicinity of the Proposed Action are U.S. Highway 160 and County Road 41. The Webber Ditch crosses roads in 16 locations.

The Proposed Action would take place on private lands. Access to the Webber Ditch would occur on seven existing access roads strategically located along the alignment of the pipeline ROW (see Figures 1 and 2 in Appendix A). Three of the access roads are accessed directly from U.S. Highway 160 in the northern portion of the Project Area. All three of these access roads are private driveways to residences located near the pipeline ROW. The remaining four access roads are in the southern portion of the pipeline ROW and are accessed from County Road 41. Of these southern access roads, three are part of private driveways to residences. The southernmost access road is the road that accesses the Webber Cemetery. No new roads would be constructed.

Both proposed staging areas are located adjacent to and accessible from County Road 41.

Private and county roads generally provide access and mobility for residents traveling in and out of the Project Area. The Montezuma County Sheriff and the Mancos Fire Protection District, an all-volunteer Fire District in the Mancos Valley, cover the Project Area. Since the last census, the Mancos population has declined over 13 percent, which contributes to a minor decrease in traffic volumes on local and county roads.

Within the Project Area, safety risks are associated with sources of open, moving water.

No Action Alternative: No effects would occur to public access, transportation, or public safety from the No Action Alternative at the local or regional level. Operation and maintenance activities for the ditch would continue, and personal would continue to use various private and public roads in the Project Area. No permits or coordination with local, state, or federal agencies would be required

under the No Action Alternative. The safety risks associated with sources of open, moving water associated with the Webber Ditch would continue.

Proposed Action: Construction traffic would access the Project Area using the existing access roads from U.S. Highway 160 and County Road 41. Construction and access footprints would be restricted to only those areas necessary to safely implement the Proposed Action. No new access roads would be constructed, but five new permanent ROW easements from private landowners would be obtained for existing roads based on the required access for operation and maintenance, and for the new ditch alignments. Implementation of the Proposed Action would temporarily cause brief delays for residents and the public using U.S. Highway 160 and County Road 41 due to construction vehicles entering and exiting the private access roads. Additionally, at the 16 locations where the Webber Ditch crosses roads, temporary delays would occur during pipe installation. The contractor would prepare and implement a TC plan that would maintain effective traffic control and requires coordination with the Colorado Department of Transportation (CDOT), the Montezuma County and Sheriff departments and emergency services before working in the rights-of-way, and with private landowners when traffic or access would be delayed, consistent with local and CDOT standards. Additionally, the TC Plan would require cleaning and repairing any damage caused by installation and restoring existing and permanent facilities used during construction to original conditions. Traffic on local roads is currently light, and the Proposed Action would only result in a temporary, minor increase in traffic for local residents and businesses.

The Montezuma County Sheriff and the Mancos Fire Protection District would continue to cover the Project Area for emergency response, and coordination efforts with those entities would ensure their response is not hindered by activities associated with the Proposed Action. Active construction areas would be adequately marked and barricaded to prevent public access. Therefore, no significant adverse effects to public safety would occur.

To further minimize local and regional impacts to access, transportation, and public safety from the Proposed Action, WDC and the contractor would coordinate with utility companies and the Montezuma County Road and Bridge Department and Floodplain Coordinator for necessary construction utility clearances, road crossings, and permits and would also coordinate with CDOT, and County and Sheriff departments when traffic or access would be delayed (see Table 2-3. Permits, Authorizations, and Coordination and Table 4-1. Environmental Commitments). Standard industry practices required in the specifications to the contractor would limit any effects to health and safety (e.g., dust abatement, traffic control plans, coordination with local emergency responders, limiting work hours to daytime), and these measures are included in the environmental commitments for the project (see Table 4-1. Environmental Commitments).

Given that no new access road would be constructed, access routes and road crossings would be returned to the same or better conditions than before construction, and that coordination with local agencies for road crossings and emergency response would occur, the Proposed Action would have no significant adverse impact on access, transportation, or public safety.

3.2.2 Agricultural Resources and Soils

The major mapped soil units found in the Project Area and traversed by the Webber Ditch are Collide clay loam (Eolian deposits derived from sandstone) on 16.9 percent of the Project Area and Sideshow silty clay loam (alluvium derived from shale) on 49.5 percent of the Project Area (NRCS 2021). Though numerous other soil units exist along the ditch, no other soil type occupies

more than 9% of the Project Area. The majority of the soil types in the Project Area are derived from shale (NRCS 2022), a sedimentary rock which formed in a marine environment and now contributes salinity and selenium loading in the Colorado River Basin.

Soils within the Project Area are mostly disturbed, and a few areas along the ditch are denuded of vegetation, and show erosion and soil displacement, especially associated with areas used for grazing.

According to the National Agricultural Statistics Survey (NASS) 2017 Agricultural Census, almost 39,000 farm operations exist in Colorado, encompassing more than 31.8 million acres (USDA NASS 2017). The U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) maintains and keeps current "an inventory of the prime farmland and unique farmland of the Nation, with the objective to identify the extent and location of important rural lands needed to produce food, feed, fiber, forage, and oilseed crops (7 CFR 657.2). Farmlands are categorized into farmlands of national and statewide importance based on soil types and irrigation status. Prime farmland, as defined by the USDA, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available to these uses. It can be cultivated land, pastureland, forestland, or other land, but is not urban or built-up land or water areas. Farmland of statewide importance are lands that nearly meet the requirements for Prime Farmland and have been identified by state agencies. Farmland of Unique Importance has a special combination of soil quality, location, growing season, and moisture supply required to produce high quality crops when properly managed.

Several soils in the Proposed Action Area are agriculturally significant since they are classified by NRCS as "prime farmland if irrigated" and "prime farmland if irrigated and drained" (NRCS 2021). These prime farmland areas occur intermittently with other soils along the Project Area alignment, in sections on the northeast end, the central portion, and on the southwest portion of the alignment. Over 50 percent of the soils in the Project Area are classified as prime farmland in the Project Area (NRCS 2023).

No Action Alternative: Under the No Action Alternative, no effects to soil resources would occur. Farmlands in the Project Area would continue to produce as in the past. The No Action Alternative would have no effect on agriculturally significant soils. The bare and eroded areas associated with grazing would persist.

Proposed Action

The proposed activities that would affect soil resources include construction activities at the headgate and fishway site, pipeline installation, and improvements to the staging areas which includes the use of heavy machinery to manipulate the soil for these activities. The total Project Area soil disturbance would be 17.6 acres. The Proposed Action would have minimal adverse effects to soil resources because temporary and permanent soil disturbance would primarily occur in the previously disturbed ditch prism, and the disturbed areas within and outside of the ditch prism would be reclaimed as described in Section 2.3.3.

The backfilling, contouring, reclaiming, and revegetating of the ditch following installation of the pipeline would remove the bare and eroded banks of the ditch, reducing the erosion from grazing to soils along the ditch line. This would result in a beneficial, long-term effect on soils in the Project Area.

The Proposed Action would occur on land adjacent to irrigated agricultural lands, including lands with agriculturally significant soils. Under the Proposed Action, installation of the buried pipe would

cause temporary disturbance to soils that are classified as "prime farmland if irrigated" or "prime farmland if irrigated and drained"; however, these lands are situated within the existing canal prism and are not in irrigated agricultural production, so the temporary impact does not rise to the level of significance.

While the existing canal conveys irrigation water to agriculturally significant lands, no change in the configuration of WDC-irrigated lands would occur from the Proposed Action. The Proposed Action would not temporarily or permanently remove any farmlands from production, and no interruption to agricultural production would occur. No part of the irrigation season would be lost during implementation of the Proposed Action. Therefore, the Proposed Action would have no effect on agriculture or farmlands of statewide importance.

The Proposed Action includes numerous measures to further minimize soil erosion, maintain and restore soil conditions, stabilize and rehabilitate disturbed areas, maintain soil productivity by reducing soil loss from erosion potentially caused by surface disturbing activities and through proper soil handling, and site selection to reduce impacts on soil resources (see Table 4-1. Environmental Commitments). For example, to further minimize soil erosion during implementation of the Proposed Action, all work would be completed from existing roadways, shoulders, and upland areas, where possible. Temporary erosion and sediment controls, such as silt fences, fiber wattles, or other erosion control mechanisms would be placed adjacent to or below disturbance areas. Additionally, activities would not occur during extreme wet weather conditions. Following construction, disturbed ground would be revegetated using either the sterile topsoiling and natural recruitment method or the conventional method, and the soil would be inoculated with mycorrhiza to ensure successful revegetation efforts.

Because temporary and permanent soil disturbance would primarily occur in the previously disturbed ditch prism, the disturbed areas outside of the ditch prism would be reclaimed, bare and eroded ditch banks would be removed, and because agriculturally significant soils in production would not be permanently adversely affected by the project, no significant adverse effect would occur to agricultural resources and soils from implementing the Proposed Action.

3.2.3 Air Quality

The National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act (CAA) specify limits for criteria air pollutants. If the levels of a criteria pollutant in an area are higher than the NAAQS, the airshed is designated as a nonattainment area. Areas that meet the NAAQS for criteria pollutants are designated as attainment areas. According to the EPA, Montezuma County meets the attainment requirements for the NAAQS, meaning all criteria pollutants are at safe levels and are below specific limits set under the CAA (U.S. EPA 2022). Currently, minor effects to air quality occur from routine maintenance of the Webber Ditch including dust and exhaust from occasional travel in light vehicles along the Webber Ditch corridor, and occasional ditch cleaning and maintenance activities and local ranching and agricultural activities that require heavy equipment.

No Action Alternative: Under the No Action Alternative, no changes in the existing level of air quality would occur in the Project Area. The Webber Ditch would continue to operate in its current position and configuration, and dust and exhaust would continue to be generated by vehicles and equipment during routine operation and maintenance activities and local ranching and agricultural

activities. Montezuma County and the surrounding areas would continue to meet NAAQS and remain in attainment.

Proposed Action: During construction, the proposed trenching, excavation, and dirt work would produce minimal particulate and diesel emissions from the two to four pieces of heavy equipment operating at the same time during the construction phase, resulting in a temporary, negligible adverse effect to air quality. These effects would be localized and would be similar to occasional local air quality effects associated with ranching and agricultural activities that require heavy equipment or routine ditch maintenance. BMPs to employ appropriate dust control measures during project implementation (see Table 4-1. Environmental Commitments) would further reduce the temporary impacts to air quality. Once construction is complete, the amount of required operation and maintenance activities would decrease, resulting in a long-term beneficial effect to air quality.

Because the temporary adverse effects to air quality are negligible; Montezuma County would continue to meet NAAQS and remain in attainment; and any long-term impacts would be beneficial; no significant effect to air quality would result from implementing the Proposed Action.

3.2.4 Cultural Resources

Federal statutes and Executive Orders guide the protection of historic and cultural resources. Cultural resources are defined as physical or other expressions of human activity or occupation. Such resources include culturally significant landscapes, prehistoric and historic archaeological sites, isolated artifacts or features, traditional cultural properties, Native American and other sacred places, and artifacts and documents of cultural and historical significance. Cultural resources can be found throughout the Mancos River and Colorado River Basins.

For the Proposed Action, a cultural resource survey was conducted by Cottonwood Archaeology LLC to identify potential historical and cultural resources within the Proposed Project's Area of Potential Effect (APE) in compliance with Section 106 of the NHPA (36 CFR 800.4; Russell et al. 2022;). The inventory covered areas of proposed ground disturbance, including the staging areas. The survey identified seven potential sites within the APE, including the Webber Ditch itself, which has been identified as eligible for inclusion in the National Register of Historic Places (NRHP).

No Action Alternative: Under the No Action Alternative, no ground disturbance associated with piping the Webber Ditch would occur. The No Action Alternative would not affect cultural resources that exist in the Project Area.

Proposed Action:

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 Proposed Action would have an adverse effect on two segments of the Webber Ditch. The project would avoid effects on other cultural resources by constricting the construction right-of-way as far as possible from cultural resources and having a monitor present when construction is within 100 feet of eligible sites.

A Memorandum of Agreement (MOA) is being executed between Reclamation and the Colorado SHPO, with the Applicant participating as an invited party, regarding the management of cultural resources related to the Proposed Action consistent with the Programmatic Agreement Regarding the Management of Water Control Features in the State of Colorado (Reclamation, et. al. 2022). The

MOA will outline stipulations designed to conserve the value of the eligible cultural resources. The completed MOA will be appended to the Final EA (Appendix D). Conserving the value of the eligible cultural resources would ensure that piping the canal 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. Because the value of the cultural resources related to the Proposed Action would be conserved, no significant impacts to cultural resources would occur from implementing the Proposed Action.

3.2.5 Grazing

Most of the surrounding areas along the Webber Ditch are used for cattle and sheep grazing. Upland native vegetation in the project vicinity is grazed, and the fringe of riparian vegetation along the Webber Ditch prism shows evidence of grazing. The Webber Ditch is used by livestock as a source of stock water during the winter months outside the irrigation season until the ditch freezes over and it can no longer be used because of ice buildup. Active grazing and cattle presence contributes to bare and eroded banks along Webber Ditch.

No Action Alternative: The No Action Alternative would not change grazing practices, or the ongoing impacts associated with grazing.

Proposed Action: Under the Proposed Action, during construction, the ground disturbance and vegetation removal along the ditch would have minimal effects to livestock grazing because the construction activities would occur in the winter months when livestock grazing is absent in the Project Area. For the two winters of construction, livestock owners would be temporarily affected because stock water would not be available along the ditch during active construction activities, and livestock owners would need to use alternative sources of water, such as the residential water sources abundant in the area and currently used when the ditch freezes over in the winter and stock water is not available. After construction, the Proposed Action includes stock watering capabilities for the adjacent landowners that use the ditch to water stock. Because stock water would still be available to livestock after construction (Section 2.3.1.2 Pipeline Installation), the loss of the open ditch as a watering source for livestock would not rise to the level of significance.

As described in Section 3.2.2 Agricultural Resources and Soils, backfilling, contouring, reclaiming, and revegetating the ditch prism following installation of the pipeline would remove the bare and eroded banks of the ditch, resulting in the beneficial effect of reducing the soil erosion caused by grazing along the ditch line.

After construction, the fringe riparian habitat located along the length of the Webber Ditch (see Section 3.2.7 Vegetation) would no longer be available to livestock. However, the riparian vegetation would be replaced with upland vegetation, and therefore the long-term loss of the riparian vegetation as a source of forage for grazing livestock would be negligible.

3.2.6 Noise

Noise is defined as unwanted sound that may be disturbing or annoying. Various federal, state, and local statutes, regulations, and ordinances regulate noise. At the basinwide level, noise is linked to traffic noise, farming operations, and residential use, among other sources. Anthropogenic noise in the Project Area is present at detectable levels due to normal farm activity and machinery operation, traffic on the adjacent U.S. Highway 160 and County Road 41, and intermittent heavy machinery operation for road maintenance. Noise levels are also affected from the adjacent river channel and

the agricultural machinery on adjacent private properties. These noise levels are relatively consistent year-to-year.

No Action Alternative: Under the No Action Alternative, no change would occur in the existing level of anthropogenic noise at the Project Area or basinwide.

Proposed Action: Under the Proposed Action, temporary noise effects would occur during construction primarily due to the operation of heavy equipment. Residential buildings are in close proximity to the piping activities, and residents in these areas would hear noise associated with the construction activities. The noise associated with the heavy equipment would be similar to the existing rural and agricultural sounds within and around the Project Area. Construction noise would be temporary and minor, as it would not raise the level of noise in the area above the background level of rural and agricultural noise. Noise disturbance from human activity along the ditch alignment would be reduced over the short- and long-term given a decreased need for maintenance, resulting in a beneficial effect to noise. Because the temporary impacts would not raise the area noise level above the existing background level, and because the short- and long-term impacts are beneficial, no adverse significant impacts to noise associated with implementation of the Proposed Action would occur.

3.2.7 Vegetation

The Webber Ditch traverses a mix of agricultural and natural vegetation community types and carries irrigation water seasonally from May 1 to September 30. Due to the 4.4-mile length of the Project Area, vegetation communities vary in presence, dominance, and density, and include a narrow riparian corridor along the length of the ditch, and adjacent oak forest, pinyon-juniper woodland, sagebrush scrub, and agricultural vegetation.

A narrow riparian corridor ranging from 6 to 90 feet wide is present along most of Webber Ditch and varies greatly depending on the segment and the intensity of livestock grazing. Riparian vegetation is dominated by narrowleaf cottonwood (*Populus angustifolia*), willow (*Salix sp.*), and rose (*Rosa sp.*) with some showy milkweed (*Asclepias sp.*), sedge (*Carex sp.*) and rush (*Juncus sp.*) species. Narrow foot trails and cattle trails allow access along the ditch in some areas, but other areas are inaccessible due to overgrowth from willow and other vegetation along the ditch. Vegetation along the ditch is not regularly maintained (e.g., through system-wide removal and herbicide application), though some sporadic maintenance is done by individual landowners.

The surrounding areas support a variety of upland vegetation communities. The oak forest primarily includes Gambel oak (*Quercus gambelii*) with some roundleaf snowberry (*Symphoricarpos rotundifolius*) also occurring as a shrub layer. The pinyon-juniper woodland is dominated by pinyon pine (*Pinus edulis*) and juniper (*Juniperus sp.*). The sagebrush scrub is dominated by big sagebrush (*Artemisia tridentata*) and rubber rabbitbrush (*Ericameria nauseosa*). Most of the agricultural land is used for cattle and sheep grazing, but some areas are also used to produce irrigated alfalfa. Ruderal vegetation is also present in and around the Project Area, and primarily includes field bindweed (*Convolvulus arvensis*), cheatgrass (*Bromus tectorum*), Canada thistle (*Cirsium arvense*), whitetop/hoary cress (*Lepidium draba*), and Russian olive (*Elaeagnus angustifolia*).

The staging areas are situated in fallow, previously disturbed agricultural areas that contain a variety of ruderal grass species, heavily browsed big sagebrush and rubber rabbitbrush, and noxious species like Scotch thistle (*Onopordum acanthium*), as well as bare ground.

The WDC shareholders identified vegetation along the ditch that they would like to be protected, and these areas are identified in the project plans (J-U-B 2023b).

The diversion and Habitat Replacement Project site is characterized by the water features and a narrow riparian woodland corridor that contains a mature and intermittently stressed Fremont cottonwood (*Populus fremontii*) gallery, which provides a sparse overstory. While willows, including narrowleaf willow (*Salix exigua*), are present along the Mancos River and Webber Ditch in the Habitat Replacement Project site, they do not provide a functional midstory. The understory ranges from thin to dense, and is composed of shrubs, herbaceous species, and grasses, including field horsetail (*Equisitum arvense*), scouring rush (*Equisetum hyemale*), orchard grass (*Dactylis glomerata*), Wood's rose (*Rosa woodsia*), and Clematis (*Clematis sp.*). Observed noxious species include a small amount of Canada thistle (*Cirsium arvense*), hound's tongue (*Cynoglossum officinale*), Russian knapweed (*Rhaponticum repens*), and whitetop (*Lepidium draba*).

No Action Alternative: No effects would occur to the existing vegetation from the No Action Alternative. The Project Area would continue to support a riparian vegetation community along the canal due to seepage, and noxious weed seed transport would continue to occur due to the open waterways immediately adjacent to agricultural fields and grazing activity. The No Action Alternative would not alter vegetation or habitat in the region. Minor ongoing maintenance, vegetation clearing, and weed treatment would continue along the Webber Ditch.

Proposed Action: Approximately 17.6 acres of temporary disturbance to vegetation would occur due to the Proposed Action. The disturbance would be temporary, as areas disturbed by the Proposed Action would be restored following construction by contouring and implementing the natural vegetation method or by implementing the conventional reseeding with appropriate seed mixes developed in coordination with the wishes of underlying landowners. The temporary effect would be minor, as the impacted upland native vegetation is abundant in the surrounding areas and would continue to be abundant post-project. Reseeding success would be monitored subject to agreements between WDC and individual landowners.

The Proposed Action would result in the permanent loss of approximately 8.3 acres of riparian vegetation associated with the unlined ditch. However, as stipulated by the Salinity Control Act, a habitat replacement project is included as a component of the Proposed Action to ensure no net loss of fish and wildlife values (in this case, riparian vegetation) would be associated with implementation of the Proposed Action. Because there would be no loss of riparian values associated with implementation of the Proposed Action, the effects of the loss of riparian vegetation would be insignificant.

A habitat evaluation was performed within the Project Area to quantify the fish and wildlife values that would be lost due to implementation of the Proposed Action (J-U-B 2021). The evaluation followed the methodology outlined in Reclamation's April 2018 *Basinwide Salinity Control Program: Procedures for Habitat Replacement*. The total habitat value that would be lost due to the Proposed Action is 38.7 habitat units. To replace the loss habitat value, WDC would implement the HRP described in Section 2.3.2. The HRP would generate 58.3 habitat credits.

To further reduce the non-significant impacts to vegetation associated with the Proposed Action, vegetation identified for retention by WDC would be protected by establishing appropriate buffer zones using marking, flagging, or fencing. The construction activities would maximize undisturbed areas, wherever possible, to retain vegetation for erosion control purposes. Native site vegetation and plant communities, including milkweed and riparian vegetation, would be protected, whenever

possible. Vegetation would be retained on the uphill side of the reclaimed ditch, where possible. Live cottonwoods within the Project Area associated with the reclaimed ditch would be retained. During reclamation, the soil would be inoculated with mycorrhiza and mulched. See Chapter 4 (Environmental Commitments) for a complete summary of measures to protect vegetation and reclaim disturbed areas during and after project implementation.

3.2.8 Visual Resources

The surrounding landscape of the Project Area constitutes a combination of private, city, state, and federal lands, including lands owned or administered by the city of Mancos, Colorado State, Reclamation, the BLM, the National Park Service, and the U.S. Forest Service. The viewshed along the Webber Ditch includes irrigated farm fields and upland grazing areas interspersed with native vegetation. Vegetation directly adjacent to the canal is the dominant visual component for the majority of the Project Area and consists of varyingly large cottonwoods, willows, Russian olive, Gambel oak, and pinyon pine, and a shrub mid-story that is sometimes lacking. Some native woodland and mixed mountain shrublands are also visible from the Project Area. A relatively high level of existing visual effect has been created by surrounding infrastructure and access roads, including the Webber Ditch infrastructure.

No Action Alternative: The No Action Alternative would have no effect on visual resources on private lands. Visual resources would remain unchanged, as the vegetation directly adjacent to the canal would remain in place, and the viewshed along the Webber Ditch would continue to consist of irrigated farm fields and upland grazing areas interspersed with native vegetation.

Proposed Action: During construction, temporary, minor visual impacts would occur due to the presence of construction equipment and activities. During the period between piping the ditch and successful reclamation, a linear scar attributable to the ditch piping and vegetation removal along the ditch line would be visible intermittently along U.S. Highway 160 Road, County Roads H, H 3/10, 41, and 42.5, and access roads and driveways. This linear feature would create only a minor visual change in the temporary time frame because it would resemble the current condition of the linear ditch feature and be strikingly similar to other linear features, such as ditch, power, and fence lines in this rural, agricultural setting. The construction of the fishway would occur within the area already encumbered by the side channel and the spillways and would be very similar to the adjacent, existing infrastructure. After reclamation and vegetation establishment, the visual changes from the Proposed Action would not rise to the level of significance, as they would be substantially unnoticeable and not measurably different from current conditions of the surrounding landscape.

Given that the effects to visual resources in the Project Area would be minor and would not attract attention in the long term, the Proposed Action would not have a significant impact on visual resources and would not contribute to a regional trend in visual resource effects.

3.2.9 Water Resources

3.2.9.1 *Water Quality and Quantity*

Surface water features in and around the Project Area include the Main Mancos River, from which Webber Ditch obtains its water, the confluence point of the West Mancos River and the Middle Mancos River which is approximately 0.02 miles upstream of the diversion, and the Webber Ditch

(open canal). The Main Mancos River parallels the ditch for approximately 0.05 miles, before leaving the bounds of the Project Area.

The Project Area is located in three subwatersheds, the Upper Mancos Valley-Mancos River (Hydrologic Unit Code [HUC] 140801070104), the East Rim-Mancos River (HUC 140801070108), and a small portion of the West Mancos River (HUC 140801070102) of the Upper Mancos River Watershed (HUC 1408010701). The entire Mancos River Watershed (Mancos Basin) is part of the San Juan River Basin, and both are part of the larger Colorado River Basin. The Mancos Basin is approximately 800 square miles, and the Mancos River is 116 miles long.

A rapid assessment of the functional condition and ecological health of many aspects of the stream-riparian ecosystems of the Mancos River Watershed rated the watershed in good or very good functional condition in 2007, especially when compared to similar sized river systems elsewhere in the American Southwest (Stacey 2007) and rated the watershed good again in 2012 (Larrick and Ashmore 2012). The threat of salinity is a major concern within the Colorado River Basin, as salinity affects agricultural, municipal, and industrial water users (Reclamation 2020), and a regional effort exists to reduce salinity in the San Juan River Basin, resulting in improved water quality at a basinwide scale (see Section 1.4 Background). The Webber Ditch contributes approximately 2,066 tons of salt to the Mancos River and the Colorado River Basin.

The Webber Ditch does not have floodplain connectivity to other waterbodies except near the diversion point within the HRP site, where adjacent habitat connects directly to the 100-year Mancos River floodplain on 0.17 acres (FEMA 2022). The HRP site encompasses 0.9 acres and includes a portion of the Mancos River, Webber Ditch, and the surrounding area including riparian habitat.

During large rain events, ash and debris from past wildfires enters the ditch and causes overflows which often require emergency management. Due to the earthen lining of the Webber Ditch, the ditch has a muddy substrate, which dries up outside of the irrigation season each year, after stock water use in the winter cedes because of ice buildup.

The passage of water from the main ditch to the outlets along the watercourse experiences water loss either due to evaporation or seepage. Litke and Appel (1989) estimated conveyance losses, from evaporation or use by phreatophytes and seepage to the ground-water table were around 23 percent. Assuming the average annual diversion of 3,902.3 ac-ft, approximately 898 ac-ft could be lost annually from the Project Area to evaporation and seepage.

Canal seepage likely contributes to groundwater recharge in the Project Area through deep percolation of irrigation water. In fact, Stacey (2007) found that human-influenced wetlands, including even cattail marshes, occurred in the Mancos Valley wherever there was drainage from agricultural fields and unlined irrigation ditches, though no historical data quantifies or sources groundwater recharge or movement in the Project Area.

No Action Alternative: Under the No Action Alternative, the high salt levels contributed to the Colorado River Basin from this system would continue, leaving lasting, adverse effects downstream. Water delivery would continue for the WDC using the existing open ditch, and losses due to evaporation and seepage would continue. Ash and debris from past wildfires would continue to enter the ditch and cause overflows requiring emergency management. Routine maintenance of the canal would continue.

***Proposed Action*:** During construction, only minimal direct and indirect temporary effects to water quality would occur from the construction of the new headgate and the fishway to the channel of the Mancos River at the location of the WDC's diversion, because the existing gabion diversion structure and trash boom would not be modified as part of the Proposed Action. Where the fishway is connected to the river adjacent to the existing spillway, some minor disturbance would occur to the riverbank; however, the fishway is less than 10 feet wide (inside width of 4 feet), and water quality protection and erosion prevention measures, which would minimize sediment transport, chemical contamination, and noxious weed spread, protect against extreme wet weather conditions, and rehabilitate ground disturbance, are included as components of the project. Due to the temporary nature and small scale of these effects, they do not rise to the level of significance.

The Proposed Action would not alter the channel morphology or downstream water flow of the Mancos River and would be completed during periods of low flow which would minimize effects. To further reduce the minor impacts associated with construction of the fishway, a SPCC plan and a SWMP would be in place before any construction activities occur, and specific requirements to prevent and contain spills, including onsite spill response equipment, proper storage of hydraulic equipment and petroleum products, and fueling requirements would ensure any incidental spills would not threaten local water resources and storm surges would not cause flood hazards. See Table 4-1. Environmental **Commitments** for additional information on BMPs to protect water quality.

Implementation of the HRP would only have negligible effects to hydrologic conditions at that site. The fishway would connect to the existing diversion side channel in which the water for the ditch enters from the river. The effects of this connection would have negligible effects to hydrologic conditions at the site, because although some river flow would be diverted through the fishway, the flow would then be returned to the Mancos River and implementation of the fishway would not change the flow rate in the upstream or downstream areas of the river. Expected velocity in the fishway is 3.6 to 4.0 fps.

The Proposed Action would improve water quality and quantity in the Project Area in the short and long term. Piping the ditch would eliminate the water's contact with the muddy substrate and the ash and debris during large rain events, which would result in cleaner piped water. Cleaner water would increase irrigation efficiency, especially relevant for the irrigation systems with smaller nozzles, drip irrigation, and micro sprinklers. Similarly, piping the ditch would reduce the need for emergency management in large rain events from ash and debris which overruns the ditch during precipitation events.

The canal piping would eliminate water lost to seepage and reduce water lost to evaporation, having the beneficial effect of potentially conserving 898 ac-ft of water annually. Though reductions in groundwater would occur from the piping efforts, the reserved water would be applied to the surrounding agricultural fields, thus preserving some level of artificial groundwater recharging. Conversely, if not applied to fields, this water would stay in the Mancos River, making the entire basin more resilient to future increases in water use or drought conditions. Therefore, only negligible effects would occur to groundwater in the Upper Mancos Valley-Mancos River (Hydrologic Unit Code [HUC] 140801070104), the East Rim-Mancos River (HUC 140801070108), and the West Mancos River (HUC 140801070102) subwatersheds.

Piping and lining the canal would eliminate the deep percolation of canal seepage water. This would have the beneficial effect of reducing salt loading into the Mancos River and Colorado River Basin by 2,066 tons annually (Reclamation 2019a). Reclamation found that water conservation projects

focusing on irrigation on saline soils, such as the Proposed Action, is the single most effective salinity control measure found in the past 30 years of investigations (Reclamation 2017).

The beneficial effects on water quality in the watershed from the Proposed Action including the HRP and the contributions to regional ditch piping efforts to eliminate water lost to seepage and evaporation ensures the Proposed Action would have minimal negative effects on the aquatic environment, and, therefore, the Proposed Action would have no significant adverse impacts to water quality and quantity in the Project Area.

3.2.9.2 *Floodplains*

J-U-B conducted an aquatic resource delineation (ARD) for the Project Area to identify hydrological resources, including wetlands and floodplains (J-U-B 2022). The Mancos River and Webber Ditch are the only two water features identified in the Project Area. Approximately 0.2 acres (475 linear feet) of the Mancos River and 3.9 acres (4.2 miles) of the Webber Ditch were mapped within the Project Area. Approximately 0.17 acres of floodplains associated with the Mancos River occur near the diversion.

Most irrigation ditches are considered Waters of the U.S. (WOTUS) and are under the jurisdiction of the CWA. In 2021, the USACE issued Regional General Permit 5 (RGP-5) for Ditch Related Activities in the State of Colorado.

No Action Alternative: Under the No Action Alternative, no work would occur within the two identified water features or floodplains, and therefore no effects to floodplains would occur in the Project Area or basinwide.

Proposed Action: Proposed construction activities at the headgate and fishway site would temporarily disturb soil in the floodplain. The Proposed Action would have minimal adverse effects because the activities are occurring in previously disturbed areas and would occur during low river flows when flood hazards are minimal. To further reduce the minimal effects of these construction activities, extensive BMPs are incorporated into the Proposed Action (see Table 4-1. Environmental Commitments). For example, all work would be excluded during extreme wet weather conditions. Currently, the banks are stable along the Mancos River and Webber Ditch, and erosion is not a concern. To prevent flooding concerns from erosion and sedimentation when disturbing the soil, erosion and sediment control devices would be placed around the disturbed areas. The required SWMP would ensure flood control measures are in place during implementation. Only minimal vegetation would be removed to construct the fishway (see Table 4-1. Environmental Commitments and Section 3.2.7 Vegetation), and after construction is complete, all areas of ground disturbance would be rehabilitated, ensuring natural and beneficial floodplain values would be preserved and restored.

In the long term, approximately 0.02 acres of the total 0.17 acres of floodplains in the Project Area would be affected by the construction of the vertical slot fishway to improve safe fish passage through the diversion, resulting in a minor effect to floodplains in the Project Area. The proposed fishway construction uses the existing infrastructure of the Webber Ditch diversion in a previously disturbed area, tying into to the existing side channel. However, to create the passage for the fish, an additional structure would need to be constructed. The new footprint of the fishway would be approximately 731 square feet, but water would be flowing through 548 square feet, so the new floodplain occupation would only be 183 square feet.

The location of the fishway was specifically chosen as the site that would have the least effects to the floodplain, water quality, and other resources, because it uses the existing infrastructure. Additionally, in the event of a flood, the floodwaters would be able to flow through the fishway, ensuring the floodplain connectivity would be maintained, flood elevations would not rise, and stream velocities or erosive forces upstream or downstream of the improvement would not increase.

The effects of the fishway construction in the floodplain would be further reduced because the 100-square foot downstream overflow channel associated with the existing diversion infrastructure would be disabled and returned to the floodplain system, leaving only 83 square feet of net floodplain occupation. The net floodplains before (0.170 acres) and after (0.168 acres) implementation would be similar, and therefore the change in floodwater storage would be negligible.

Though an insignificant change in the floodplain would occur (83 square feet), the ability of the Project Area to naturally moderate floods, maintain water quality, and recharge groundwater would remain essentially the same as the existing conditions, and the Proposed Action would not contribute to any trends increasing flooding risk in the Project Area or in the basin. The natural and beneficial floodplain values associated with the floodplains at the fishway location would be preserved.

The site would be monitored for 50 years to discern maintenance or repair needs.

Because the Proposed Action is an activity conducted as part of a salinity or selenium control project per a binding agreement with Reclamation, compliance with Section 404 of the Clean Water Act for the discharge of dredged or fill material in waters of the U.S. would be fulfilled consistent with the USACE RGP 5 (ditch related activities in the State of Colorado). Pre-construction notice would not be required, however, the WDC would need to submit to USACE at least 30 days before implementation begins in the Mancos River a copy of 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 a location map. Compensatory mitigation is not required for activities conducted per a binding agreement with the Reclamation, because the purpose of such projects is to improve water quality and these activities would result in a net increase in aquatic resource functions and services. Consultation with USACE regarding the permitting is pending.

3.2.9.3 *Water Rights and Use*

Water rights for the Webber Ditch date back to 1893 (DWR 2022) and the WDC was incorporated on May 18, 1953 (Colorado Company Directory 2022). The Webber Ditch is a private facility owned and operated by the WDC.

The WDC water right is 52.1 cubic feet per second (cfs), which includes a 5 cfs stock water right. They currently use 37.1 cfs at the Webber Ditch decreed diversion point from the Mancos River approximately 2 miles northeast of Mancos. Water is delivered from the earthen ditch to approximately 27 outlet structures and 72 ditch shareholders with irrigation water for approximately 1,632 acres consisting of mostly grass pasture and alfalfa and to water stock during the winter months outside the irrigation season. The irrigation season for Webber Ditch runs from May 1 to September 30. Annually, an average of approximately 3,902.3 acre-feet (ac-ft) are diverted from the Mancos River into Webber Ditch. The maximum annual amount of water diverted from the Mancos

River is approximately 5,418.7 ac-ft, and the minimum annual amount diverted is approximately 2,004.7 ac-ft.

After a segment of open ditch, the Webber Ditch is piped for approximately 2,002 feet and passes through a pinyon-juniper woodland area that parallels the U.S. Highway 160 corridor. The conveyance again becomes an open ditch after the piped section, conveying irrigation water south and west of Mancos where it terminates near County Road 41. The existing ditch segments are open, earthen, unlined, and are occasionally interrupted by make-shift diversion and headgate structures, including the use of old farm equipment, and found objects such as road signs. Water supply in the Webber Ditch system is intermittent in the early irrigation season, but generally abundant throughout the remainder of the irrigation season and becomes dry when irrigation flow ceases in the fall and after stock water use in the winter cedes because of ice buildup.

No Action Alternative: Under the No Action Alternative, the existing Webber Ditch would continue to operate as it has historically, and no effects to water rights or use would occur. Water loss due to seepage and evaporation would continue. Water would continue to be allocated as it is currently allocated.

Proposed Action: Under the Proposed Action, the WDC would have the ability to better manage its allocation of water through efficiencies gained from piping the delivery system and eliminating seepage and evaporation. Additionally, updates to the headgate would make a more reliable water delivery system for existing water rights. The amount of water diverted from the Mancos River would not increase from historic use, but the pipeline would eliminate seepage and evaporation losses, increasing the available water to the shareholders. Additionally, the pipeline is designed to ensure adequate water delivery to each shareholder, which WDC indicates would meet their irrigation needs. Though the Proposed Action would have these beneficial effects which improve access to existing irrigation water rights through improvements in the water delivery into the Webber Ditch, it would not change the adjudicated water rights, and therefore would have no effect on decreed water rights for the WDC or shareholders along the ditch.

The water volume projected to flow through the fishway is associated with the Root and Ratliff senior water right, which is approximately 18 cfs. This water would flow through the fishway and then be conveyed at the Root and Ratliff diversion. The water supply would not change and the fishway is designed to function under current water right conditions; no change to the duration of water supply would occur due to the Habitat Replacement Project. The fishway would be placed before the headgate entrance into the Webber pipeline, and water would be available year-round because the fishway is not dependent on irrigation water diversion past the headgate. The water right does not rely on irrigation return water or agricultural runoff that could potentially diminish in the next 50 years.

Given that the Proposed Action would have only beneficial effects on water rights, no significant adverse effects to water rights or use would result from the Proposed Action.

3.2.10 Weeds

The Project Area contains weed species occurring in typical background concentrations. Activities on private lands including the movement of livestock, application of contaminated seeds and irrigation water, and use of contaminated equipment continues to create disturbed areas vulnerable to weed infestation and provides transport vectors that allow weeds to reach and colonize those areas. The open canal transports weed seeds downstream.

Observed noxious species in the Project Area include a small amount of Canada thistle, houndstongue (*Cynoglossum officinale*), Russian knapweed (*Rhaponticum repens*), whitetop/hoary cress, Scotch thistle (*Onopordum acanthium*), Russian olive (*Elaeagnus angustifolia*), tamarisk/salt cedar (*Tamarix sp.*), field bindweed (*Convolvulus arvensis*), and cheatgrass (*Bromus tectorum*).

The Colorado Noxious Weed Act (CNWA) designates undesirable plants considered a threat to Colorado's natural resources (Colorado Noxious Weed Act (Colorado Revised Statutes [CRS] 35-5.5-101-119)). The Montezuma County Weed Plan (MCWP) also provides weed management requirements and prevention measures which were used in the design of the Proposed Action (Montezuma County 2016; Project BMPs in Table 4-1. Environmental Commitments). WDC is responsible for complying with the Colorado Noxious Weed Act in the Project Area (CRS 35-5.5-104. Duty to manage noxious weeds).

No Action Alternative: No effects would occur to the existing vegetation from the No Action Alternative. Weeds would continue to exist at current levels along the canal and access roads, and along riparian corridors. Current human activity on private lands would continue to create disturbed areas and provide transport vectors that allow weed infestation and spread, and existing weed seed dispersal processes in the region would continue. Minor ongoing maintenance, vegetation clearing, and weed treatment would continue along the Webber Ditch.

Proposed Action: The Proposed Action would remove segments of open water, a key element of invasive seed transport. Certain segments of the ditch would no longer require regular maintenance, lowering the potential for the continued spread and establishment of weeds. Downgradient herbaceous and woody noxious weeds which rely on ditch seepage would no longer be supported. Despite these beneficial effects to noxious weed presence, ground disturbance associated with construction would create optimal conditions for noxious weeds in the area to spread into the disturbed construction footprint, and noxious weeds would continue to be present throughout the Project Area. Because noxious weeds are currently present in the Project Area, their ongoing presence within the Project Area would not constitute a significant impact. Construction BMPs, such as cleaning vehicles before bringing them onsite, would help minimize the risk of weed introduction and recruitment, and the WDC would continue to be responsible for complying with the Colorado Noxious Weed Act in the Project Area.

3.2.11 Wildlife—General

The Mancos River watershed supports a variety of wildlife and provides important wildlife habitat. Wildlife resources within the general area of the Proposed Action include large and small mammals, birds, reptiles, amphibians, and fish. The Webber Ditch in the Project Area provides sections of riparian habitat within an overall area of upland, semi-arid vegetation. Vegetation and water resources supported by the existing canal provide nesting, breeding, foraging, cover, and movement corridors for an array of wildlife.

The Project Area supports mule deer (*Odocoileus hemionus*) year-round, and the southern portion of the Project Area is considered mule deer severe winter range (CPW 2023). Severe winter range is the highest priority for protection from disturbance from development. The deer herd in this portion of Colorado is within 10 percent of the target population (Cooley et al. 2020). The northwestern portion of the ditch line is considered a Rocky Mountain elk (*Cervus canadensis nelsoni*) winter concentration area (CPW 2023). Elk winter concentration areas represent that part of elk winter range where densities are greater than the surrounding winter range density.

According to Cooley et al., the biggest threats to big game winter range relevant to the Project Area comes from agriculture, which specifically causes loss of native vegetation (e.g., conversion to cropland, reduced grass and forb diversity, noxious weed establishment); competition from grazing; and movement impediment and injury from livestock fencing (Cooley et al. 2020). Habitat scoring data for the Project Area identified ongoing agricultural influence and presence which has disturbed and altered 50 percent or more of the habitat in the surrounding area (J-U-B 2021), contributing to the existing fragmentation. The existing pastures and fields offer foraging opportunities for wildlife, but provide minimal cover or vegetative diversity, and the existing fences create barriers to free dispersal and habitat use. Additionally, the landscape in the Project Area is fragmented by U.S. Highway 160, County Roads H, H 3/10, 41, and 42.5, and access roads and driveways.

The overall range for black bear (*Ursus americanus*) and mountain lion (*Puma concolor*) also lies within the Project Area. Accounts from private landowners along the Webber Ditch cite the occurrence of bear, mountain lion, and coyotes (*Canis latrans*) in the Project Area that use the ditch for foraging, hunting, and as a source of water.

Small mammals and reptiles also inhabit the general Project Area. Small rodents and bats, such as Bottas pocket gopher (*Thomomys bottae*), dwarf shrew (*Sorex nanus*), snowshoe hare (*Lepus americanus*), southern red-backed vole (*Myodes gapperi*), big brown bat (*Eptesicus fuscus*), big free-tailed bat (*Nyctinomops macrotis*), Brazilian free-tailed bat (*Tadarida brasiliensis*), California myotis (*Myotis californicus*), canyon bat (*Parastrellus hesperus*), fringed bat (*Myotis thysanodes*), hoary bat (*Lasiurus cinereus*), little brown myotis (*Myotis lucifugus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis Volans*), silver-haired bat (*Lasionycteris noctivagans*), spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), Western small-footed myotis (*Myotis ciliolabrum*), and Yuma myotis (*Myotis yumanensis*) may use the existing open canal and adjacent areas. Other species common in the vicinity of the Project Area are ring-necked pheasant (*Phasianus colchicus*), wild turkey (*Meleagris gallopavo*), bullsnake (*Pituophis catenifer sayi*), common lesser earless lizard (*Holbrookia maculate*), common sagebrush lizard (*Sceloporus graciosus*), common side-blotched lizard (*Uta stansburiana*), eastern collared lizard (*Crotaphytus collaris*), Hernandez's short-horned lizard (*Phrynosoma hernandesi*), milksnake (*Lampropeltis Triangulum*), ornate tree lizard (*Urosaurus ornatus*), plateau striped whiptail (*Aspidoscelis velox*), prairie lizard (*Sceloporus undulatus*) and plateau fence lizard (*Sceloporus tristichus*), prairie rattlesnake (*Crotalus viridis viridis*) and western rattlesnake (*Crotalus oreganus*), smooth greensnake (*Opheodrys vernalis*), terrestrial gartersnake (*Thamnophis elegans*), variable skink (*Plestiodon multivirgatus*) and many-lined skink (*Plestiodon multivirgatus*) (CPW 2022). Animal sign observed in the Project Area during field surveys was primarily from mule deer (J-U-B 2023d).

Within the Project Area, canal operation, maintenance, and system monitoring activities occur, and wildlife are accustomed to these activities. The existing diversion infrastructure for the Webber Ditch consisting of the in-river rock gabion structure is an impassable barrier for fish and aquatic species to movement upstream of the diversion. Current salinity loading affects downstream waters and contribute to degradation of wildlife habitat in the Mancos River and Colorado River Basins.

Migratory birds protected under the MBTA use the Mancos River watershed, including the Project Area, for nesting and migratory habitat. Ten bird species protected under the MBTA and the BGEPA have the potential to be present within the Project Area as shown in Table 3-1 below. The inventory and assessment for these species are documented in the Biological Assessment (J-U-B 2023d).

Table 3-1. Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act Protected Species that May Occur Within the Project Area

Scientific Name	Common Name	Breeding Period	Federal Law Protecting Species*
*Haliaeetus leucocephalus**	bald eagle	Dec 1–Aug 31	BGEPA/MBTA
Gymnorhinus cyanocephalus	pinyon jay	Feb 15–Jul 15	MBTA
Melanerpes lewis	Lewis's woodpecker	Apr 20–Sep 30	MBTA
Nucifraga columbiana	Clark's nutcracker	Jan 15–Jul 15	MBTA
Leiothlypis virginiae	Virginia's warbler	May 1–Jul 31	MBTA
Dendroica graciae	Grace's warbler	May 20–Jul 20	MBTA
Contopus cooperi	olive-sided flycatcher	May 20–Aug 31	MBTA
Coccothraustes vespertinus	evening grosbeak	May 15–Aug 10	MBTA
Carpodacus cassinii	Cassin's finch	May 15–Jul 15	MBTA
Aechmorphorus occidentalis	western grebe	Jun 1–Aug 31	MBTA

*BGEPA= Bald and Golden Eagle Protection Act; MBTA= Migratory Bird Treaty Act

Incidental avian field surveys confirmed an active breeding bald eagle pair within the Project Area. The bald eagle nest sits approximately 0.25 miles upriver from the existing Webber Ditch diversion, and the nest is within the recommended CPW avoidance buffer for bald eagle nests of 0.5-miles (CPW 2020).

Several breeding red-tailed hawks (*Buteo jamaicensis*) were detected in proximity to the Project Area. Eleven raptor stick cup nests were detected within 0.5 miles of the Project Area. Of these, nine were active in 2021. Lewis's woodpeckers were also commonly detected in the Project Area. Breeding periods for bald eagles, red-tailed hawks, and the Lewis' woodpeckers are detailed in Table 3-2.

Table 3-2. Breeding Periods for Species Observed in the Project Area During Avian Surveys

Scientific Name	Common Name	Breeding Time
Haliaeetus leucocephalus	bald eagle	Dec–Aug 31
Buteo jamaicensis	red-tailed hawk	Feb 1–July 15
Melanerpes lewis	Lewis's woodpecker	Apr 20–Sep 30

3.2.11.1 *No Action Alternative*

Under the No Action Alternative, habitat for large mammals including big game, small mammals, reptiles, fish and riparian wildlife, eagles, red-tailed hawks, and migratory birds would remain in its current condition, and no disturbance or displacement of wildlife would occur. The No Action Alternative would not alter vegetation and therefore would not affect wildlife or wildlife habitat. The ditch would continue to provide a seasonal water source.

Canal operation, maintenance, and system monitoring activities would continue to occur to which wildlife are accustomed. The existing diversion infrastructure for the Webber Ditch consisting of the in-river rock gabion structure would continue to be an impassable barrier for fish and aquatic species to movement upstream of the diversion, and salinity loading would continue to affect downstream waters and contribute to degradation of wildlife habitat in the Mancos River and Colorado River Basins.

3.2.11.2 *Proposed Action*

As described in the subsections below, the Proposed Action would affect large mammals, including big game, small mammals and reptiles, fish and aquatic wildlife, and migratory birds.

Large Mammals

The temporary effects to large mammals, including big game, from the Proposed Action would come from construction activity disturbance, and the loss of upland and riparian vegetation on the 17.6 acres of disturbance until the area is reclaimed. The long-term effects to large mammals from the Proposed Action include the loss of 8.3 acres of riparian habitat supported by ditch seepage (see Section 3.2.7 Vegetation) and the long-term loss of an open water source.

A temporary increase in construction noise, dust, and emissions, and a general increase in human activity would occur throughout the Project Area over the winter construction season. Wildlife would be displaced by the increased human presence, though not during critical birthing seasons for large mammals, as construction is timed to occur in the fall and winter season (see Table 4-1 Environmental Commitments). These disruption effects would be limited to the construction phase only, and much of the wildlife in the area is accustomed to farm equipment, agricultural activities, and ongoing operation and maintenance of the irrigation system, similar to the equipment that would be used and activities that would occur to implement the Proposed Action, so the disruptions would be minimal.

Although the Project Area overlaps severe winter range for mule deer and elk winter concentration areas, and deer and elk use the Project Area for foraging in winter, the ongoing agricultural influence and presence, which has disturbed or altered 50 percent or more of the habitat in the surrounding area (J-U-B 2021), contributes to habitat fragmentation and decreases the habitat quality within the Project Area. Disruption effects from the Proposed Action would be limited to the construction phase only, and much of the wildlife in the area is accustomed to farm equipment and agricultural activities similar to the equipment and activities associated with the Proposed Action, so the disruptions would be minimal. Additionally, the temporary disturbance on 17.6 acres and the long-term loss of the 8.3 acres of riparian vegetation along the ditch line is a very small proportion of the available 75,287 acres of severe winter range for mule deer (0.02 percent) and the 42,469 acres of elk winter concentration areas (0.04 percent) (CNHP 2023), ensuring significant, population level effects to these big game species would not occur.

The Proposed Action would have a minimal impact on black bear in the Project Area during construction because construction would occur largely during the season when black bears are denning. Mountain lions and coyotes in the Project Area would experience temporary displacement during construction activities because their secretive behavior would push them to stay away from the Project Area when human disturbance is present. Effects to these species and their habitat would be minor, as the species and habitat are common throughout the area, the Proposed Action would only temporarily affect 17.6 acres, and significant, population-level impacts would not occur.

In the larger vicinity of the Project Area, farming activity, residential development, and roads present a year-round, persistent disturbance to wildlife. Once construction is complete, the existing condition of the rural agricultural setting would resume. Additionally, deer, elk, bear, mountain lion, coyote, and other wildlife species and their habitat are common throughout the area. The Proposed Action would temporarily disrupt individuals due to increased human activity during construction

but would not contribute to short- or long-term regional trends in wildlife habitat disruption after construction is complete.

Under the Proposed Action, vegetation would be removed from the Project Area during the construction phase across the 17.6 acres of disturbance area, and a subsection of 8.3 acres of fringe riparian habitat would be lost due to disturbance from construction in the temporary time frame and due to loss of water seepage from the canal in the long-term time frame (see Section 3.2.7 Vegetation). The loss of the upland and riparian vegetation would affect large mammals by the temporary loss of food and shelter until the area is reclaimed. This effect would be minor due to the abundance of alternative food and shelter sources in the project vicinity. Because disturbance would be limited to only those areas necessary to safely implement the project and would protect native and riparian vegetation (Table 4-1 Environmental Commitments), these effects to wildlife habitat would be minimal as they would be confined to the ditch prism, and the reclamation would replace vegetation disturbed during implementation.

In the long term, large mammals which use the riparian fringe habitats along the Webber Ditch would experience the long-term loss of this habitat as described in Section 3.2.7 Vegetation. However, though this riparian vegetation provides food and shelter to large mammals, upland vegetation, which also provides food and shelter, would replace it, so the effects to large mammals would be minor due to the abundance of alternative food and shelter sources in the project vicinity. Additionally, the large mammals are relatively common within and adjacent to the Project Area, would continue to propagate in the area, and the landscape-level vegetation conditions following implementation would be substantially similar to existing habitat conditions in the surrounding area and on a regional landscape scale, ensuring population-level significant impacts would not occur to large mammals. Furthermore, the ecological value of the habitat associated with the lost riparian vegetation would be fully replaced with the implementation of the HRP (see Section 2.3.2). Because no net loss of riparian values associated with implementation of the Proposed Action would occur, the effects of the loss of riparian vegetation to large mammals and their habitat would be insignificant.

The loss of the open water source from piping the ditch would affect localized habitat use by large mammals; however, because the Project Area is located within two and a half miles from the Mancos River and numerous livestock water sources exist along the ditch line, the effects of piping the open canal on big game habitat would be minor. One permanent water source per two and a half miles is a good water source distribution for mule deer and these water source distributions allow deer herds to maintain optimal population densities even during times of drought (Texas A&M Agrilife Extension 2022). Additionally, livestock water sources serve well as wildlife watering sources, such as stock ponds or troughs (troughs should be no higher than 24 inches to allow young deer to drink from them) (Texas A&M Agrilife Extension 2022), and the new pipeline would continue to supply stock water.

Post-piping, the ditch alignment would be revegetated, thereby maintaining future forage potential within the alignment for these species. Additionally, the reduction in salinity from the proposed piping of the ditch would ensure positive long-term vegetation trends to the overall wildlife habitat within the Project Area. The loss of the open water would affect localized use of some habitat within the Project Area, but, overall, effects would be minor given the proximity of alternate water sources and the small area of impact from the Proposed Action in relation to the amount of available habitat for wildlife in the vicinity, and, therefore, the loss of the open water source would not contribute to regional changes in large mammal population trends.

Small Mammals and Reptiles

In addition to the minor and temporary effects described for large mammals from construction activity disturbance and the loss of upland vegetation until the area is reclaimed, direct effects from construction activities to individual small animals—including burrowing amphibians, reptiles, and small mammals—would include mortality and displacement during ditch piping activities. Though individual animals would suffer mortality or displacement, the species and habitats are common throughout the project and surrounding areas, and the effects from the 17.6 acres of habitat disruption at the landscape-level would be minor, the project would not significantly affect these species at the population level.

The long-term effects to small mammals and reptiles from the Proposed Action include the loss of 8.3 acres of riparian habitat supported by ditch seepage and the loss of the open water source. Because mobility is limited in small mammals and reptiles, the transition from riparian to upland habitat and the loss of an open water source would cause mortality to individual animals if they are unable to find a water source nearby. Conversely, because of their small size, adequate alternative water sources can occur in microhabitats, and the potential exists that individuals would persist with the transition from riparian to upland habitat, as food and shelter would still be available. Similar to large mammals, the small mammals and reptiles that occur in the Project Area are relatively common throughout the project and surrounding areas, which provide alternative riparian habitat and water sources, and effects from the loss of 8.3 acres of riparian habitat and the open water source would be minor as it would not affect these species at the population level. Furthermore, the ecological value of the habitat associated with the lost riparian vegetation would be fully replaced with the implementation of the HRP (see Section 2.3.2). Because no net loss of riparian values associated with implementation of the Proposed Action would occur, the effects of the loss of riparian vegetation to these wildlife and their habitat would be insignificant. From a landscape perspective, the habitat conditions following implementation would be substantially similar to existing habitat conditions in the surrounding area and on a regional scale, ensuring significant effects to small mammals and reptiles would not occur.

Fish and Aquatic Wildlife

The temporary effects to fish and aquatic wildlife from construction activities include only minimal direct and indirect effects to water quality during construction activities as described in Section 3.2.9 Water Resources. During construction of the fishway, a small part of the bank of Webber Ditch and the Mancos River would be disturbed where the fishway begins and ends. However, this impact would be minor because the structure would not substantially change flow rates, structure, or decrease available stream habitat as described in Section 3.2.9 Water Resources.

The long-term effects from the construction of the fishway would be beneficial, as they consist of improved habitat connectivity for multiple fish and aquatic wildlife. The Habitat Replacement Project (HRP) portion of the Proposed Action would create a 137-foot vertical slot fishway structure which would begin approximately 160 feet downstream of the point of diversion and would connect into the diversion side channel.

Although the HRS segment of the river system is known to have good channel shading and vertical bank stability, excellent cobble embeddedness, overbank cover, and macroinvertebrate diversity, and good fish/aquatic habitat (Stacey 2007), this segment also has very poor river connectivity due to alterations and placement of gabion/steps at the Webber diversion. Installation of the fishway would enhance stream habitat complexity by increasing resting areas for fish, which would encourage fish

use of the passage (J-U-B 2023c) and it would increase native species diversity and aquatic species composition by connecting the lower Mancos River area with the upper river segments. The historic alteration associated with the diversion to the Mancos River would be transformed through the placement of the fishway, which provides for habitat and passage around a highly altered portion of the river (i.e., the existing gabions and eight-foot-high drop). While the fishway would immediately connect the main Mancos River with the East and West Forks and the Middle Mancos River, the flow regime, drought conditions, and downstream habitat would affect how quickly fish begin to use the fishway. The USFWS additionally noted that the installation of a structure that would allow fish passage beyond the Webber Ditch diversion would benefit native fish species, including the bluehead sucker (*Catostomus discobolus*) (USFWS 2019), and as described in Section 3.2.12.8 for the Colorado pikeminnow and the razorback sucker, the HRP would benefit habitat quality for fish species. Additional information on the effects to fish species can be found in Section 3.2.12 Wildlife—Threatened, Endangered, and Candidate Species.

As stipulated by the Salinity Control Act, this HRP is included as a component of the Proposed Action to ensure no net loss of fish and wildlife values (in this case, riparian vegetation) would occur associated with implementation of the Proposed Action. The proposed HRP to construct a fishway at the Webber Ditch diversion area would restore and improve aquatic habitat and reestablish connectivity of the river system (J-U-B 2021). The HRP produces 58.3 habitat units, replacing the ecological values of the 38.7 habitat units of the 8.3 acres of fringe riparian vegetation which would be lost from the piping component (J-U-B 2021). The ecological value associated with the lost riparian habitat would be fully replaced with the implementation of the HRP (see Section 2.3.2).

The proposed buried pipeline would eliminate ditch seepage losses and reduce salinity loading to the San Juan and the Colorado River Basins by approximately 2,066 tons per year (Reclamation 2019a). The Proposed Action along with other regional salinity reduction efforts would improve fish and wildlife habitat within the larger Colorado River Basin.

Given the minor nature of the effects listed above and given that the riparian values are being relocated rather than lost, the Proposed Action would not generate effects which would contribute to a significant effect on wildlife resources. Therefore, no significant effects to wildlife resources would occur from the Proposed Action.

Migratory Birds and Eagles

In the temporary time frame, the majority of construction would occur in winter months outside of the irrigation season and most migratory bird, eagle, and red-tailed hawk breeding and nesting seasons, therefore, avoiding effects to migratory birds, eagles, and red-tailed hawks. The general construction activities would occur from September 1 to April 30 and the in-water work would occur from October 15 to February 28.

Though most vegetation removal is scheduled at the beginning of the construction phase outside of the nesting seasons, some vegetation removal may occur during the nesting seasons. However, if vegetation removal is scheduled during nesting seasons (see Table 2-2), nesting surveys would be required. If active nests are found, no work would occur within 50 feet of the nest until it fledges.

For example, during the overlap with migratory birds' breeding and nesting seasons (January 15-September 30), nesting surveys would occur before vegetation removal to identify active nests in the Project Area, no work would occur within 50 feet of the nest until it fledges. Similarly, for eagles and red-tailed hawks, the Proposed Action requires nesting surveys before the removal of

trees and shrubs, and the delineation of the CPW approved 0.5-mile avoidance buffer around any identified nests for eagles (December 1 to July 31) and red-tailed hawks (February 15 to July 15) (CPW 2020). If eagle or raptor chicks are still present after July 31, seasonal restrictions would remain in place until they fledge. See Table 4-1. Environmental Commitments for additional information on survey requirements.

These practices include temporal avoidance of most nesting season times and clearance surveys within seven days before construction commencement and removal of any trees or shrubs to confirm the presence of the known active eagle and red-tailed hawk nests, and to ensure avoidance of breeding birds during nesting periods. If additional nests are identified within the Project Area, the Reclamation biologist, CPW, and USFWS would be notified immediately and before the commencement of work to discuss the appropriate course of action. Based on the majority of the construction activities and vegetation removal occurring outside of the breeding and nesting seasons for raptors and migratory birds, and the requirement for surveys and avoidance during the nesting seasons, the potential for impact would be avoided, and the Proposed Action would not affect raptors and migratory birds.

Eventual loss of 8.3 acres of fringe riparian habitat along the piped and abandoned ditch alignments would occur under the Proposed Action due to loss of hydrology to support this vegetation. Though this loss would reduce anthropologically established riparian habitat resulting from the water leakage from the ditch along the Webber Ditch alignment, this effect would be minor to migratory birds and raptors because the Habitat Replacement Project would maintain the ecological value of the lost riparian habitat and would ensure there would be no net loss of habitat value. In addition, abundant alternative and high-quality riparian habitat is available within the vicinity of the Project Area along the Mancos River corridor, and pinyon-juniper forestland is available adjacent to portions of the Project Area. The loss of 8.3 acres would not significantly affect the habitat availability at the landscape scale, and the indirect effects on migratory birds and raptors from riparian habitat loss along the ditch would be minor.

Because any ground disturbing activities would avoid active nests, riparian values associated with the riparian fringe vegetation would be maintained, and due to the presence of abundant alternative habitat in the project vicinity, impacts to migratory birds and eagles would not rise to the level of significance.

3.2.12 Wildlife—Threatened, Endangered, and Candidate Species

The ESA protects federally listed endangered, threatened, and candidate plant and animal species and their critical habitats. The Mancos River and Colorado River Basin support a variety of wildlife and provide important wildlife habitat, including for federally protected species. A pedestrian survey for threatened and endangered species was performed, and a Biological Assessment was developed (J-U-B 2023d).

Six federally listed threatened or endangered species, one proposed threatened species, and one candidate species were identified as having the potential to occur in the Project Area, as shown on the official species lists for the Proposed Action from the USFWS Information for Planning and Consultation (IPaC) system (USFWS 2022). Although not included in the latest IPaC report, an earlier IPaC report for the Project Area included the New Mexico meadow jumping mouse (NMMJM; *Zapus hudsonius luteus*) in the species list, and therefore, this species is also analyzed here. These species and designations are listed in Table 3-3 below.

Table 3-3. Endangered Species Act Candidate, Proposed, Threatened, and Endangered Species that May Occur within the Project Area

Scientific Name	Common Name	Critical Habitat Present?	Designation
Danaus plexippus	monarch butterfly	N/A	ESA Candidate
Speyeria nokomis	silverspot butterfly	No	Proposed ESA Threatened
Strix occidentalis lucida	Mexican spotted owl	No	ESA Threatened
Coccyzus americanus	yellow-billed cuckoo	No	ESA Threatened
Zapus hudsonius luteus	New Mexico jumping mouse	No	ESA Endangered
Canis lupus	gray wolf	No	ESA Endangered
Empidonax traillii extimus	Southwestern willow flycatcher	No	ESA Endangered
Ptychocheilus lucius	Colorado pikeminnow	No	ESA Endangered
Xyrauchen texanus	razorback sucker	No	ESA Endangered

The San Juan River Basin Recovery Implementation Program (Recovery Program), a cooperative agreement established in 1992 between Colorado, New Mexico, USFWS, Reclamation, BLM, U.S. Bureau of Indian Affairs, the Ute Mountain Ute Tribe, the Southern Ute Indian Tribe, the Jicarilla Apache Nation, and the Navajo Nation, seeks to recover Colorado pikeminnow and razorback sucker in concert with new and existing water development projects (USFWS 2021). The Recovery Program works with partners and stakeholders to implement recovery actions that include identifying, protecting, and restoring instream flows and habitat; managing nonnative fishes; propagating, stocking, and maintaining genetic integrity of listed species; research and monitoring; and public education and involvement. In 2021, the USFWS determined that the Recovery Program had "made substantial progress towards recovering Colorado pikeminnow and razorback sucker in the San Juan River Basin based on the improved status of these fish following the successful implementation of management actions" and its "overall progress toward recovery of Colorado pikeminnow and razorback sucker within the San Juan River Basin to be sufficient for the San Juan River Basin Recovery Implementation Program to continue as the ESA compliance mechanism for water development, management, and operations within the San Juan River Basin" (USFWS 2021). The Proposed Action specifically addresses the following recovery goals relevant to the Recovery Program: to provide and legally protect habitat (including flow regimes); to provide passage over barriers to allow adequate movement and range expansion; and to minimize entrainment in diversion canals.

No Action Alternative: Under the No Action Alternative, no direct disturbance to any threatened, endangered, or candidate species would occur, and there would be no change to any critical, suitable, or potential habitat. Therefore, the No Action Alternative would not affect candidate, proposed, threatened, or endangered species in the Project Area or their habitat. The existing rock gabion would continue to be an impassable barrier for threatened and endangered fish to move upstream of the diversion within the Mancos River. Salinity loading would continue to affect downstream waters and contribute to degradation of habitat in the Colorado River Basin, and the adverse effects to endangered fishes due to historic depletions in the watershed would continue.

Proposed Action: The effects of the Proposed Action to ESA-protected species with the potential to occur within the Project Area are summarized in Table 3-4 and details are provided below.

Reclamation's ESA Section 7 consultation with USFWS is underway and concurrence is pending (see Appendix C).

Table 3-4. Effects Determinations for Endangered Species Act Species

Common Name (Scientific Name)	Designation	Determination
monarch butterfly (*Danaus plexippus*)	ESA Candidate	Impacts to individuals or habitat, but not likely to result in a loss of viability nor cause a trend to federal listing
silverspot butterfly (*Speyeria nokomis nokomis*)	Proposed ESA Threatened	No effect
Mexican spotted owl (*Strix occidentalis lucida*)	ESA Threatened	No effect
yellow-billed cuckoo (*Coccyzus americanus*)	ESA Threatened	May affect, is not likely to adversely affect
New Mexico jumping mouse (*Zapus hudsonius luteus*)	ESA Endangered	May affect, is not likely to adversely affect
gray wolf (*Canis lupus*)	ESA Endangered	No effect
Southwestern willow flycatcher (*Empidonax traillii extimus*)	ESA Endangered	May affect, is not likely to adversely affect
Colorado pikeminnow (*Ptychocheilus Lucius*)	ESA Endangered	May affect, is likely to adversely affect
razorback sucker (*Xyrauchen texanus*)	ESA Endangered	May affect, is likely to adversely affect

If additional species are listed or proposed, or if critical habitat is designated before completion of construction, and the species or designated habitat occur within the Project Area or may be affected by the Proposed Action, construction would be paused, and a species evaluation would be prepared (see Table 4-1. Environmental Commitments). Species for which a no effect determination has been previously prepared would not be readdressed.

3.2.12.1 *Monarch Butterfly*

The proposed construction activities would occur from September through April and would overlap with adult monarch butterfly migration in March and April. The Project Area falls within a migration route for this species, and stopover and forage habitat would be affected by the Proposed Action during vegetation removal. Breeding or larval stage monarchs would not be affected because suitable habitat for this stage of the monarch does not occur in the Project Area. Vegetation removal would potentially reduce the availability of nectarous plant species that provide food sources for adult monarchs and would temporarily displace individual monarchs from occupying the Project Area. However, the foraging and stopover habitat for the monarch butterfly in the Project Area is only marginally suitable because of a lack of abundance of nectarous plant species, and milkweed in particular. Because of the availability of alternative and high-quality habitat in close proximity for the monarch butterfly, for example along the Mancos River corridor, individual butterflies would be able to avoid the project area during the migratory overlap with the construction activities. The Proposed Action would temporarily disrupt individuals due to increased human activity during construction and the temporary loss of marginally suitable vegetation until the area is reclaimed but would not

contribute to short- or long-term regional trends in monarch butterfly populations or habitat loss after construction is complete. Therefore, the Proposed Action would not result in a loss of species' viability in the planning area, nor cause a trend to federal listing or a loss of species viability range wide for the monarch butterfly. Therefore, the Proposed Action would not have a significant effect on the monarch butterfly.

3.2.12.2 *Silverspot Butterfly*

The Project Area does not contain wet meadow habitat, and specifically does not contain the bog violet (*Viola nephrophylla*/*V. sororia* var. *affinis*), on which silverspot larvae are obligate feeders and adults lay their eggs. Based on the absence of suitable habitat, no potential exists for the silverspot butterfly to occur within the Project Area and the Proposed Action would have no effect to this species.

3.2.12.3 *Mexican Spotted Owl*

No Mexican spotted owls were observed in the Project Area during avian surveys. The quality and structure of the overstory habitat in the Project Area is not suitable to host breeding Mexican spotted owls. The overstory is absent in some segments of the alignment. Where it does exist, the trees are not mature, nor do they provide the height and structure required by Mexican spotted owl. No cliff structure is present within or near the Project Area. Based on the absence of suitable habitat, no potential exists for the Mexican spotted owl to occur within the Project Area, and the Proposed Action would have no effect to this species.

3.2.12.4 *Yellow-Billed Cuckoo*

Avian surveys within the Project Area resulted in no yellow-billed cuckoo (YBCU) being detected. Surveys also detected the presence of breeding ravens—known predators of YBCU and YBCU eggs—and brown-headed cowbirds—known to parasitize YBCU nests. A habitat assessment for the YBCU, which included a 0.5-mile buffer around the Project Area, concluded that no location along the Webber Ditch alignment supports a riparian corridor with the appropriate area of cover and vegetation stratification to constitute suitable habitat for the YBCU. The Webber Ditch alignment contains a narrow riparian fringe (ranging from 6 to 90 feet wide) that consists of Russian olive, willow, and cottonwoods inconsistent with suitable or preferred habitat for the species. Within a 0.5-mile buffer of the ditch alignment, which includes the Mancos River corridor, marginally suitable migratory, stopover, foraging, or dispersal habitat for the YBCU is present.

The Proposed Action would reduce marginally suitable migratory, stopover, foraging, or dispersal habitat for the YBCU by piping the Webber Ditch and, therefore, may affect but would not be likely to adversely affect the YBCU. Given the marginally suitable habitat within the Project Area combined with the presence of YBCU predators and nest parasites, the absence of YBCU individuals and nests during surveys, and implementation timing outside of the breeding and nesting seasons, this effect is not likely to result in a loss of viability in the planning area nor cause a loss of species viability range wide. Therefore, the Proposed Action would not have a significant effect on the YBCU.

3.2.12.5 *New Mexico Meadow Jumping Mouse*

Vegetation surveys of the Project Area determined the presence of marginally suitable habitat for the NMMJM. The Proposed Action would remove vegetation within the Project Area, reducing the

abundance and density of riparian vegetation that provides cover and forage areas for the NMMJM. Currently, hydrology for riparian vegetation is available for the species, but the inconsistent understory cover along the ditch reduces the quality of vegetative cover along the ditch alignment to poor. Active grazing contributes to bare and eroded banks along Webber Ditch. The adjacent upland habitat is predominantly grazed or disturbed by ongoing agricultural activities. While a few segments of the ditch may provide suitable habitat for the NMMJM, the lack of connectivity between habitat patches would limit the distribution of any individuals or population of NMMJM in the Project Area. The NMMJM breeds in July or August of each year, outside of the time when construction of the Proposed Action would occur. Surveys conducted in the Project Area did not detect NMMJM.

Based on the low availability of quality habitat and the documentation of poor habitat connectivity, the temporal avoidance NMMJM breeding season and the overall the low potential of NMMJM to occur in the Project Area, the Proposed Action is unlikely to disturb suitable habitat or NMMJM individuals during construction, and this effect would not result in the loss of viability in the planning area nor cause a loss of species viability range wide. Therefore, the Proposed Action would not have a significant effect on the NMMJM.

3.2.12.6 *Gray Wolf*

Although lone and dispersing wolves may occur throughout this part of Colorado, no recent records document wolf occurrence in or around the Project Area. The Proposed Action would not affect suitable habitat or the abundance or persistence of prey populations. Additionally, the Proposed Action does not include a predator management program. Given the lack of effects to suitable habitat and prey populations for the species and that no predator management program would be implemented under the project, the Proposed Action would have no effect on gray wolf.

3.2.12.7 *Southwestern Willow Flycatcher*

During avian surveys within the Project Areas, no Southwestern willow flycatcher (SWFL) individuals were detected. The Project Area does not fall within designated critical habitat for the southwestern willow flycatcher but contains suitable migratory and stopover habitat for the SWFL. Alternative and high-quality migratory and stopover habitat is available in close proximity to the Project Area along the Mancos River corridor. SWFL arrive at breeding grounds in late April to early May and nesting begins in late May to early June. Though overlap with individual SWFL and construction activities would occur in late April, no overlap with breeding and nesting seasons would occur as the breeding and nesting season starts in late May, outside of the general construction timeframe.

The Proposed Action would reduce suitable migratory and stopover habitat for the SWFL by removing vegetation to pipe the Webber Ditch. Therefore, the Proposed Action may affect but would not be likely to adversely affect the SWFL. Given the absence of SWFL individuals during surveys, the presence of alternative and high quality migratory and stopover habitat in close proximity to the Project Area, and the implementation timing outside of the breeding and nesting seasons, this effect would not result in a loss of viability in the planning area nor cause a loss of species viability range wide. Therefore, the Proposed Action would not have a significant effect on the SWFL.

3.2.12.8 *Colorado Pikeminnow and Razorback Sucker*

Adult pikeminnow and razorback sucker cannot travel to the Webber Ditch diversion because large parts of the Mancos River downstream of the Project Area are completely dewatered or impassable due to multiple diversions and irrigation structures, and a controlled water regime causes long periods of no water flow in the fall, winter, and early spring. Additionally, the existing diversion infrastructure for the Webber Ditch consists of an in-river rock gabion structure that is an impassable barrier for fish to move upstream of the diversion because of an eight-foot drop. Given the lack of recent records of occurrence and a controlled water regime with periods of no flow, it would be unlikely for the Colorado pikeminnow or the razorback sucker to be present within or adjacent to the Project Area.

The Proposed Action includes the installation of a fishway to connect 6.0 miles of the West Fork Mancos River, 3.7 miles of the Middle Mancos River, and 6.1 miles of the East Fork Mancos River with 2.7 miles of the Main Mancos River below the proposed fishway structure. The fishway would result in a beneficial effect to the Colorado pikeminnow and razorback because it would allow for fish passage, and it would enhance stream habitat complexity by increasing resting areas for fish which would encourage fish use of the passage.

Temporary effects to water quality from in-stream work in the Mancos River during the fishway construction would be minor because water quality protection and erosion prevention measures would minimize sediment transport and eliminate the threat of chemical contamination (see Table 4-1. Environmental Commitments). Additionally, a SPCC plan and a SWMP would be in place before any construction activities occur and would ensure any incidental spills would not threaten local water resources, habitat, or individual fish, and storm surges would not create flood hazards. Furthermore, the Proposed Action would be completed during periods of low flow to minimize effects, would not alter the channel morphology or downstream water flow, and would improve available stream habitat of the Mancos River (see Section 3.2.9 Water Resources for additional details).

Water depletions within the San Juan River Basin have likely contributed to the decline in Colorado pikeminnow and razorback sucker populations in the San Juan River. The historic water depletions associated with the Webber Ditch average 1,648.7 ac-ft/year from the Mancos River. Water depletion projects before November 13, 1992 are considered historic because they occurred before the initiation of the Recovery Program by the USFWS. Following implementation of the Proposed Action, no change to WDC's historic use would occur because the proposed activities would not allow WDC to divert more water nor would WDC procure any additional water rights. The WDC would continue to use the 37 cfs they are currently using at the Webber Ditch decreed diversion point.

Based on previously issued biological opinions that all depletions within the San Juan Basin may adversely affect these fish species, the Proposed Action may adversely affect the Colorado pikeminnow and razorback sucker. However, because the Proposed Action would not result in jeopardy to the species, there would be no significant impact to the endangered fishes.

In the long term, the Proposed Action's reduction in salinity loading (2,066 tons/year) to the San Juan River Basin would result in the beneficial effect to the endangered fish species by improving water quality in the San Juan River Basin (Reclamation 2019a). Fish species can only tolerate a certain range of salinity in waterbodies and elevated levels of salinity can create a toxic environment for fish (U.S. EPA 1986). Additionally, salinity can alter environments by causing freshwater

salinization syndrome (FSS) which is a chemical process that creates mobilization of pollutants, metals, and other toxic compounds, and allows them to become more concentrated in waterbodies (U.S. EPA 2023b). Excess nutrients can also be freed as a result of high salinity; accumulation of these nutrients can lead to algal blooms in lakes and rivers which in turn cause low dissolved oxygen levels, and ultimately harm fish species (U.S. EPA 2023b). Because the Proposed Action would reduce salinity in the Upper Colorado River Basin, the effect on aquatic species like the endangered Colorado River fishes and their habitat would be beneficial.

Reclamation initiated formal consultation with the USFWS, and Reclamation and the WDC would comply with the forthcoming required terms and conditions necessary to implement the Proposed Action.

3.3 Cumulative Effects

3.3.1 Cumulative Effects Analysis Areas

The geographic extent of cumulative effects varies by the type of resource and impact. The timeframes, or temporal boundaries, for those impacts also vary by resource. Different spatial and temporal cumulative effects analysis areas (CEAAs) have been developed and are listed with their total acreages in the following table.

Table 3-5. Cumulative Effects Analysis by Resource

Resource	Cumulative Effects Analysis Areas (CEAA)	Total CEAA Acreage	Temporal Boundary
Cultural Resources	Area of Potential Effects	131 acres	Temporary (0-3 years) Short term (3-10 years) Long term (15+ years)
Access, Transportation and Public Safety Agricultural Resources Soils Air Quality Grazing Noise Vegetation Non-native Species (Weeds) Visual Resources Water Resources Wildlife-General Wildlife- Threatened, Endangered, and Candidate Species	One mile buffer around the Project Area	8,581 acres	Temporary (0-3 years) Short term (3-10 years) Long term (15+ years)

3.3.2 Past, Present, and Reasonably Foreseeable Future Actions Considered in the Analysis

Past, present, and ongoing activities near the Project Area include maintenance and repair of the Webber Ditch, grazing, ranching, and agricultural activities. Past and ongoing actions within the region include the Colorado River Basin Salinity Control Program and the San Juan River Basin Recovery Implementation Program.

The Salinity Control Program was established in 1974 and has enhanced and protected the quality of water available in the Colorado River for use in the United States and Republic of Mexico. A Salinity Control Program project within the CEAA, the 2020 Root & Ratliff Ditch Piping Project replaced approximately 5.4 miles of the Root & Ratliff Ditch with a buried pipe. The Root & Ratliff Project runs parallel to a portion of the Project Area about ½ mile north and west of Webber Ditch (see Figure 6 in Appendix A).

The San Juan River Basin Recovery Implementation Program (Recovery Program), a cooperative agreement established in 1992, seeks to recover Colorado pikeminnow and razorback sucker in concert with new and existing water development projects.

No reasonably foreseeable future actions are known within the CEAAs.

3.3.3 Cumulative Effects Analysis

Reclamation reviewed the potential for additive or interactive effects from the Proposed Action in combination with past, present, and ongoing ditch maintenance and repair, grazing, ranching, and agricultural activities, the Salinity Control Program, including the Root & Ratliff Project, and the Recovery Program for all resources. The Proposed Action would have adverse cumulative effects to cultural resources, and due to the relocation of riparian habitat, ongoing water depletions, and noxious weed spread when combined with other salinity reduction projects. The Proposed Action would have beneficial cumulative effects to agricultural resources, water quality and quantity, water rights and use, and wildlife, and by recovering Colorado fish habitat, reducing noxious weed spread, and reducing future ditch maintenance, when combined with other past, present, and ongoing actions.

The Webber Ditch has been involved in various maintenance and repair issues that have impacted the ditch only to a very minor extent. The Webber Fire of 2012 contributed to emergency maintenance and repair during precipitation events following the fire. Ongoing vegetation maintenance occurs sporadically along the ditch. In consideration of these actions, the cumulative effect of previous maintenance and repair on the ditch has been minimal. The Proposed Action would replace the ditch with pipe and decrease the future ditch maintenance, having a beneficial cumulative effect on ditch maintenance and repair.

The past, present, and ongoing grazing, ranching, and agricultural activities have had variable cumulative effects to the Webber Ditch, from erosion and trampling attributable to livestock use of the water, to the placement of various make-shift appurtenant ditch structures, such as the use of old farm equipment and found objects such as road signs, to accomplish appropriate water delivery for ranching and agricultural needs. The Proposed Action would replace the ditch with pipe, eliminating these past effects from grazing, ranching, and agricultural activities, but improving the cumulative access to water for ranching and agricultural activities.

For cultural resources, the adjacent Root & Ratliff Project caused an adverse effect to the Root & Ratliff Ditch, and Level II Documentation, consisting of a full descriptive and historical narrative, was required to ensure that piping the canal 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, similar to the cultural resources MOA for the Webber Ditch. Even though both projects would have adverse effects to these cultural resources, because each project requires stipulations designed to conserve the value of the eligible cultural resources, piping these canals 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. Because the value of the cultural resources related to the Proposed Action and the Root & Ratliff Project would be conserved, no significant cumulative effects to cultural resources would occur from implementing the Proposed Action.

For agricultural resources, water quantity, and water rights and use resources, beneficial cumulative effects would occur in concert with the Colorado River Basin Salinity Control Program, which funds ongoing efforts to control seepage by identifying ditch segments suitable for piping or lining. A regional trend exists towards the conversion of open ditches to closed pipe to control evaporation and seepage losses from earthen ditches, incrementally improving the efficiency of delivery of water rights to their holders and improving water quality in the greater Colorado River Basin. The Proposed Action, combined with the Root & Ratliff Project, would cumulatively contribute to these beneficial regional efforts. Though most Salinity Control projects have occurred outside of the CEAA for the Proposed Action, except for the Root & Ratliff Ditch Piping Project, the beneficial cumulative effects resulting from ongoing efforts of the Salinity Control Program extend beyond the CEAA and are disclosed here because they are known. As of 2017, Reclamation, the BLM, and NRCS have reduced salinity by 1,330,000 tons per year, with an additional 330,000 tons per year as a target by 2035 (Reclamation 2019b). The annual salinity reduction for the Root & Ratliff Project of 2,347 tons, combined with the 2,066 tons of annual salinity reduction for the Proposed Action, would cumulatively help the agencies meet the target goal by 2035.

Besides salinity reductions, these salinity control projects also relocate riparian and wetland values within the region, affect weed spread, and improve wildlife habitat from the salinity reductions to water quality. For example, a regional trend exists with Reclamation's Salinity Control Program that is resulting in the relocation of artificially created riparian and wetland values from earthen irrigation conveyances to habitat replacement sites. These activities are resulting in the redistribution of riparian and wetland-dependent wildlife across the landscape. Though the Proposed Action would result in the loss of 8.3 acres of riparian vegetation associated with the seepage losses from the unlined ditch, because the Proposed Action would replace the ecological value of riparian habitat through implementation of the Habitat Replacement Project, when combined with the other regional salinity reduction project, no net loss in riparian habitat would occur from the Proposed Action, and this project would not contribute to cumulative negative regional habitat trends for wildlife. Given the minor nature of these effects from the Proposed Action and given that the riparian values would be relocated rather than lost, the Proposed Action would not generate effects which would contribute to a significant cumulative effect on wildlife resources.

Though ground disturbance associated with the construction of the Salinity Control projects, including the Root & Ratliff Project and the Proposed Action, would create optimal conditions for noxious weeds, because noxious weeds are currently present in the Webber Ditch Project Area, their ongoing presence does not constitute a cumulatively significant effect. Conversely, because these projects remove segments of open water, they also remove a key element of invasive seed transport.

The combination of the Root & Ratliff Project and the Proposed Action, with other Salinity Control projects, has a beneficial cumulative effect of removing open water weed seed transport due to piping the ditches.

For wildlife and water quality resources, given the negative impact of salt loading on wildlife and water quality, beneficial cumulative effects would occur from the Salinity Control Program due to the reduction of salinity in the Mancos River and Colorado River Basin, improving water quality and thereby enhancing wildlife habitat, and specifically federally protected wildlife habitat, at a basinwide scale. The improved water quality resulting from the Proposed Action, combined with the Root and Ratliff Ditch Piping Project, and other regional salinity control projects, would contribute to the regional efforts underway to reduce salinity in the Mancos River and Colorado River Basin, thereby cumulatively improving water quality and wildlife habitat in the basin, and specifically benefiting aquatic species and their habitat, including the Colorado pikeminnow and razorback sucker.

Ongoing water depletions within the San Juan River Basin have likely contributed to the decline in Colorado pikeminnow and razorback sucker populations in the San Juan River, and an average of 1648.7 ac-ft per year of historic water depletions are associated with the Webber Ditch and these depletions would continue with implementation of the Proposed Action. However, with the implementation of the Recovery Program, despite continued historic depletions, Colorado pikeminnow and razorback sucker populations have been increasing; Colorado pikeminnow and razorback sucker have responded positively to the Recovery Program's management actions which are minimizing or removing threats and improving the species' status (USFWS 2021), and therefore, these depletions are not cumulatively significant.

The construction of the fishway for the Proposed Action specifically addresses the Recovery Program goals to provide and protect habitat and to provide passage over barriers, and the proposed water diversion improvements that include screens and punch-plates designed with velocity and juvenile fish in mind to manage water flow and prevent entrainment address the Recovery Program goal to minimize entrainment in diversion canals. Though most Recovery Program projects have occurred outside of the CEAA for the Proposed Action, the beneficial cumulative effects resulting from ongoing efforts of the Recovery Program extend beyond the CEAA and are disclosed here because they are known. These combined efforts have shown "substantial progress towards recovering Colorado pikeminnow and razorback sucker in the San Juan River Basin based on the improved status of these fish following the successful implementation of management actions" (USFWS 2021). When combined with other projects that address Recovery Program goals, the Proposed Action contributes to cumulatively beneficial effects for endangered Colorado fish species.

3.4 Summary of Effects

Table 3-6 provides a summary of the environmental consequences for the resources evaluated in detail in this Draft EA. Resource effects are outlined for both the No Action and the Proposed Action Alternatives. As described throughout Chapter 3, environmental effects from the Proposed Action were determined to be not significant.

Table 3-6. Summary of Effects for the No Action and Proposed Action Alternatives

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
Access, Transportation, and Public Safety	No effect.	Implementation of the Proposed Action would temporarily cause brief, insignificant traffic delays along public roadways adjacent to the Proposed Action and at 16 locations during pipe installation where the Webber Ditch crosses roads. Once the Webber Ditch is placed in pipe, the safety risks associated with sources of open, moving water would no longer occur within the Project Area, resulting in a beneficial effect to public safety.
Agricultural Resources and Soils	No effect.	The total Project Area soil disturbance would be 17.6 acres. The Proposed Action would have minimal adverse effects to soil resources because temporary and permanent soil disturbance would primarily occur in the previously disturbed ditch prism, and the disturbed areas outside of the ditch prism would be reclaimed. The pipeline installation and reclamation would remove the bare and eroded banks of the ditch, which would have the beneficial effect of reducing erosion from grazing to soils along the ditch line. Installation of the buried pipe would cause temporary disturbance to soils that are classified as "prime farmland if irrigated" or "prime farmland if irrigated and drained;" however, these lands are situated within the existing canal prism and are not in irrigated agricultural production, so the temporary impact does not rise to the level of significance.
Air Quality	No effect.	During construction, the proposed trenching, excavation, and dirt work would produce minimal particulate and diesel emissions from the two to four pieces of heavy equipment operating at the same time during the construction phase, resulting in a temporary, negligible adverse effect to air quality. Once construction is complete, the amount of required operation and maintenance activities would decrease, resulting in a long-term beneficial effect to air quality.
Cultural Resources	No effect	The Proposed Action would have an adverse effect on two segments of the Webber Ditch. An MOA will outline stipulations designed to conserve the value of the eligible cultural resources. Because the value of the cultural resources related to the Proposed Action would be conserved, no significant impacts to cultural resources would occur.
Grazing	No effect	The Proposed Action would have minimal effects to livestock grazing because the construction activities would occur in the winter months when livestock grazing is absent in the Project Area. For the two winters of construction, livestock owners would be temporarily affected because stock water would not be available along the ditch during active

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
		construction activities, and livestock owners would need to use alternative sources of water, such as the residential water sources abundant in the area and currently used when the ditch freezes over in the winter and stock water is not available. After construction, the Proposed Action includes stock watering capabilities for the adjacent landowners that use the ditch to water stock. Because stock water would still be available to livestock after construction (Section 2.3.1.2 Pipeline Installation), the loss of the open ditch as a watering source for livestock would not rise to the level of significance Backfilling, contouring, reclaiming, and revegetating the ditch prism following installation of the pipeline would remove the bare and eroded banks of the ditch, resulting in the beneficial effect of reducing the soil erosion caused by grazing along the ditch line. After construction, the fringe riparian habitat located along the length of the Webber Ditch would no longer be available to livestock. However, the riparian vegetation would be replaced with upland vegetation, and therefore the long-term loss of the riparian vegetation as a source of forage for grazing livestock would be negligible.
Noise	No effect	Construction noise would be temporary and minor, as it would not raise the level of noise in the area above the background level of rural and agricultural noise. In the long-term, there would be a beneficial effect to noise as noise disturbance from human activity along the ditch alignment would be reduced over the long-term given a decreased need for maintenance.
Vegetation	No effect.	Approximately 17.6 acres of temporary disturbance to vegetation would occur due to the Proposed Action. The disturbance would be temporary, as areas disturbed by the Proposed Action would be restored following construction using one of two reclamation methods. The temporary effect would be minor, as the impacted upland native vegetation is abundant in the surrounding areas and would continue to be abundant post-project. The Proposed Action would result in the permanent loss of approximately 8.3 acres of riparian vegetation associated with the unlined ditch; however, implementation of the HRP would ensure no net loss of fish and wildlife values (in this case, riparian vegetation). The HRP produces 58.3 habitat units, replacing the ecological value of 38.7 habitat units from the loss of the riparian vegetation due to the cessation of canal seepage after pipeline installation. Because there would be no loss of riparian values associated with implementation of the Proposed Action, the effects of the loss of riparian vegetation would be insignificant.

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
Visual Resources	No effect.	During construction, temporary, minor visual impacts would occur due to the presence of construction equipment and activities. A linear scar attributable to the ditch piping and vegetation removal along the ditch line would be visible intermittently along area roads. This linear feature would create only a minor visual change in the temporary time frame because it would resemble the current condition of the linear ditch feature and be strikingly similar to other linear features, such as ditch, power, and fence lines in this rural, agricultural setting. After reclamation and vegetation establishment, the visual changes from the Proposed Action would not rise to the level of significance, as they would be substantially unnoticeable and not measurably different from current conditions of the surrounding landscape.
Water Resources—*Water Quality and Quantity*	No effect.	During construction, only minimal direct and indirect temporary effects to water quality would occur from the construction of the new headgate and the fishway to the channel of the Mancos River at the location of the WDC's diversion. Where the fishway is connected to the river adjacent to the existing spillway, some minor disturbance would occur to the riverbank; however, the fishway is less than 10 feet wide. Due to the temporary nature and small scale of these effects, they do not rise to the level of significance. Implementation of the HRP would only have negligible effects to hydrologic conditions at the site, because although some river flow would be diverted through the fishway, the flow would then be returned to the Mancos River and implementation of the fishway would not change the flow rate in the upstream or downstream areas of the river. The Proposed Action would improve water quality and quantity in the Project Area in the short and long term. Piping the ditch would eliminate the water's contact with the muddy substrate and the ash and debris during large rain events, which would result in cleaner piped water, and reduce the need for emergency management. The canal piping would eliminate water lost to seepage and reduce water lost to evaporation, having the beneficial effect of potentially conserving 898 ac-ft of water annually. Though reductions in groundwater would occur from the piping efforts, the reserved water would be applied to the surrounding agricultural fields, thus preserving some level of artificial groundwater recharging. Conversely, if not applied to fields, this water would stay in the

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
		Mancos River, making the entire basin more resilient to future increases in water use or drought conditions. Therefore, only negligible effects would occur to groundwater. Piping and lining the canal would eliminate the deep percolation of canal seepage water. This would have the beneficial effect of reducing salt loading into the Mancos River and Colorado River Basin by 2,066 tons annually (Reclamation 2019a).
Water Resources—*Floodplains*	No effect	Proposed construction activities at the headgate and fishway site would temporarily disturb soil in the floodplain. The Proposed Action would have minimal adverse effects because the activities are occurring in previously disturbed areas and would occur during low river flows when flood hazards are minimal. In the long term, approximately 0.02 acres of the total 0.17 acres of floodplains in the Project Area would be affected by the construction of the vertical slot fishway to improve safe fish passage through the diversion, resulting in a minor effect to floodplains in the Project Area. The effects of the fishway construction in the floodplain would be further reduced after disabling and returning the 100-square foot downstream overflow channel to the floodplain system, leaving only 83 square feet of net floodplain occupation. The net floodplains before (0.170 acres) and after (0.168 acres) implementation would be similar, and therefore the change in floodwater storage would be negligible.
Water Resources—*Water Rights*	No effect.	The Proposed Action would have the beneficial effect of enabling WDC to have the ability to better manage its allocation of water through efficiencies gained from piping the delivery system and eliminating seepage and evaporation. The amount of water diverted from the Mancos River would not increase from historic use, but the pipeline would eliminate seepage and evaporation losses, increasing the available water to the shareholders.
Weeds	No effect.	The Proposed Action would remove segments of open water, a key element of invasive seed transport. Certain segments of the ditch would no longer require regular maintenance, lowering the potential for the continued spread and establishment of weeds. Downgradient herbaceous and woody noxious weeds which rely on ditch seepage would no longer be supported. Despite these beneficial effects to noxious weed presence, ground disturbance associated with construction would create optimal conditions for noxious weeds in the area to spread into the disturbed construction footprint, and noxious weeds would continue to be present throughout the Project Area. Because noxious weeds are currently present in the

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
		Project Area, their ongoing presence within the Project Area would not constitute a significant impact.
Wildlife— *General Wildlife*	No effect.	***Large Mammals*** Temporarily, large mammals would be displaced by the increased human presence during construction activities. Disruption effects would be limited to the construction phase only, and much of the wildlife in the area is accustomed to farm equipment, agricultural activities, and ongoing operation and maintenance of the irrigation system, similar to the equipment and activities during implementation of the Proposed Action, so the disruptions would be minimal. Although the Project Area overlaps severe winter range for mule deer and elk winter concentration areas, the temporary disturbance on 17.6 acres and the long-term loss of the 8.3 acres of riparian vegetation along the ditch line is a very small proportion of the available 75,287 acres of severe winter range for mule deer (0.02 percent) and the 42,469 acres of elk winter concentration areas (0.04 percent) (CNHP 2023), ensuring significant, population level effects to these big game species would not occur. The Proposed Action would have a minimal impact on black bear in the Project Area during construction because construction would occur largely during the season when black bears are denning. Mountain lions and coyotes in the Project Area would experience temporary displacement during construction activities because their secretive behavior would push them to stay away from the Project Area when human disturbance is present. Effects to these species and their habitat would be minor, as the species and habitat are common throughout the area, the Proposed Action would only temporarily affect 17.6 acres, and significant, population-level impacts would not occur. The loss of the upland and riparian vegetation due to construction disturbance would affect large mammals by the temporary loss of food and shelter until the area is reclaimed. Because disturbance would be limited to only those areas necessary to safely implement the project and would protect native and riparian vegetation, these effects to wildlife habitat would be minimal as they would be confined to the ditch prism and the reclamation would replace vegetation disturbed during implementation.

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
		In the long term, large mammals which use the riparian fringe habitats along the Webber Ditch would experience the long-term loss of this habitat. However, though this riparian vegetation provides food and shelter to large mammals, upland vegetation, which also provides food and shelter, would replace it, so the effects to large mammals would be minor. Additionally, the large mammals are relatively common within and adjacent to the Project Area, would continue to propagate in the area, and the landscape-level vegetation conditions following implementation would be substantially similar to existing habitat conditions in the surrounding area and on a regional landscape scale, ensuring population-level significant impacts would not occur to large mammals. Furthermore, the ecological value of the habitat associated with the lost riparian vegetation would be fully replaced with the implementation of the HRP. Because no net loss of riparian values associated with implementation of the Proposed Action would occur, the effects of the loss of riparian vegetation to large mammals and their habitat would be insignificant. The loss of the open water source from piping the ditch would affect localized habitat use by large mammals; however, because the Project Area is located within two and a half miles from the Mancos River and numerous livestock water sources exist along the ditch line, the effects of piping the open canal on big game habitat would be minor. ***Small Mammals and Reptiles*** Direct effects from construction activities to individual small animals—including burrowing amphibians, reptiles, and small mammals—would include mortality and displacement during ditch piping activities. Though individual animals would suffer mortality or displacement, because the species and habitats are common throughout the project and surrounding areas, and the effects from the 17.6 acres of habitat disruption at the landscape-level would be minor, the project would not significantly affect these species at the population level. The long-term effects to small mammals and reptiles from the Proposed Action include the loss of 8.3 acres of riparian habitat supported by ditch seepage and the loss of the open water source. Because mobility is limited in small mammals and reptiles, the transition from riparian to upland habitat and the loss of an open water source would cause mortality to individual animals if they were unable to find a water source nearby. Conversely, because of their small size, adequate alternative water sources can occur in microhabitats, and there is

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
		the potential that individuals would persist with the transition from riparian to upland habitat as food and shelter would still be available. Similar to large mammals, the small mammals and reptiles that occur in the Project Area are relatively common throughout the project and surrounding areas, which provide alternative riparian habitat and water sources, and effects from the loss of 8.3 acres of riparian habitat and the open water source would be minor and would not affect these species at the population level. Furthermore, the ecological value of the habitat associated with the lost riparian vegetation would be fully replaced with the implementation of the HRP (see Section 2.3.2). Because no net loss of riparian values associated with implementation of the Proposed Action would occur, the effects of the loss of riparian vegetation to wildlife, including small mammals, reptiles, and amphibians, and their habitat would be insignificant. From a landscape perspective, the habitat conditions following implementation would be substantially similar to existing habitat conditions in the surrounding area and on a regional scale, ensuring significant effects to small mammals and reptiles would not occur. ***Fish and Aquatic Wildlife*** The temporary effects to fish and aquatic wildlife from construction activities include only minimal direct and indirect effects to water quality during construction activities as described in Section 3.2.9 Water Resources. During construction of the fishway, a small part of the bank of Webber Ditch and the Mancos River would be disturbed where the fishway begins and ends. However, this impact would be minor because the structure would not substantially change flow rates, structure, or decrease available stream habitat as described in Section 3.2.9 Water Resources. The long-term beneficial effects from the construction of the fishway include restoring and improving aquatic habitat and reestablishing connectivity of the river system. The HRP would ensure no net loss of riparian values associated with implementation of the Proposed Action would occur. The Proposed Action would eliminate ditch seepage losses and reduce salinity loading to the San Juan and the Colorado River Basins by approximately 2,066 tons per year

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
		(Reclamation 2019a), having the beneficial effect of improving fish and wildlife habitat within the larger Colorado River Basin. ***Migratory Birds and Eagles*** The effects of the eventual loss of the 8.3 acres of fringe riparian habitat would be minor to migratory birds and raptors because the Habitat Replacement Project would replace the ecological value of the lost riparian habitat, there would be no net loss of habitat value, and impacts would not rise to the level of significance. In addition, abundant alternative and high-quality riparian habitat is available within the vicinity of the Project Area along the Mancos River corridor, and pinyon-juniper forestland is available adjacent to portions of the Project Area, and the loss of 8.3 acres would not significantly affect the habitat availability at the landscape scale, and the indirect effects on migratory birds and raptors from riparian habitat loss along the ditch would be minor.
Wildlife—*Threatened, Endangered, and Candidate Species*	No new effect.	Based on the marginally suitable foraging and stopover habitat for the ESA Candidate monarch butterfly, and because of the availability of alternative and high-quality habitat generally associated with the water sources for the ditches across the region, the Proposed Action would temporarily disrupt individuals due to increased human activity during construction and the temporary loss of marginally suitable vegetation until the area is reclaimed, but would not contribute to short- or long-term regional trends in monarch butterfly populations or habitat loss after construction is complete and would not result in a loss of species' viability nor cause a trend to federal listing. Therefore, impacts on the monarch butterfly would not rise to the level of significance. The Proposed Action would reduce marginally suitable migratory, stopover, foraging, or dispersal habitat for the ESA Threatened YBCU and, therefore, may affect but would not be likely to adversely affect the YBCU. Given the marginally suitable habitat within the Project Area combined with the presence of YBCU predators and nest parasites, the absence of YBCU individuals and nests during surveys, and implementation timing outside of the breeding and nesting seasons, this effect is not likely to result in a loss of viability in the planning area nor cause a loss of species viability range wide. Therefore, the Proposed Action would not have a significant effect on the YBCU.

Resource	No Action Alternative Effects	Proposed Action Alternative Effects
		Based on the low availability of quality habitat and the documentation of poor habitat connectivity, the temporal avoidance of ESA Endangered NMMJM breeding season and the overall low potential of NMMJM to occur in the Project Area, the Proposed Action may affect, but is not likely to adversely affect, and is unlikely to disturb suitable habitat or NMMJM individuals during construction. This effect would not result in the loss of viability in the planning area nor cause a loss of species viability range wide and is therefore not significant. The Proposed Action would reduce suitable migratory and stopover habitat for the SWFL. Therefore, the Proposed Action may affect but would not be likely to adversely affect the SWFL. Given the absence of SWFL individuals during surveys, the presence of alternative and high quality migratory and stopover habitat in close proximity to the Project Area, and the implementation timing outside of the breeding and nesting seasons, this effect would not result in a loss of viability in the planning area nor cause a loss of species viability range wide. Therefore, impacts to the SWFL do not rise to the level of significance. The fishway would result in a beneficial effect to the ESA Endangered Colorado pikeminnow and razorback because it would allow for fish passage, and it would enhance stream habitat complexity by increasing resting areas for fish which would encourage fish use of the passage. Based on previously issued biological opinions that all depletions within the San Juan Basin may adversely affect these fish species, the Proposed Action may adversely affect the Colorado pikeminnow and razorback sucker. However, because the Proposed Action would not result in jeopardy to the species, no significant impact to the endangered fishes would occur. Temporary effects to water quality from in-stream work in the Mancos River during the fishway construction would be minor because of the implementation of water quality protection and erosion prevention measures, adherence to a SPCC plan and SWMP, and completing construction during periods of low flow would minimize sediment transport and eliminate the threat of chemical contamination. In the long term, the Proposed Action's reduction in salinity loading (2,066 tons/year) to the San Juan River Basin would result in a beneficial effect to the endangered fish species by improving water quality in the San Juan River Basin (Reclamation 2019a).

CHAPTER 4—ENVIRONMENTAL COMMITMENTS

This section summarizes the environmental commitments developed to decrease the potential adverse insignificant effects of the Proposed Action. The cooperative agreement (R20AC00020) between Reclamation and WDC requires that WDC be responsible for implementing and/or complying with the environmental commitments contained in the NEPA/ESA compliance documents.

The actions in Table 4-1 would be implemented as an integral part of the Proposed Action and would be included in the contractor bid specifications.

Note that in the event the Proposed Action description changes, 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 4-1. Environmental Commitments

Environmental Commitment	Affected Resource	Authority
Obtain ROW easements based on the access needs for operation and maintenance and at the new ditch alignments as described in Section 2.4.5 Rights-of-Way and Land Ownership. Obtain and meet all required permits, licenses, clearances, and approvals as described in Section 2.5 Permits and Authorizations	Access Transportation Water Soils Cultural Resources	WDC Local Utilities Montezuma County CWA NHPA ARPA NAGPRA AIRFA 48 FR 44716
Ensure the contractor submits a Traffic Control (TC) Plan before any initial project wide construction to include the roads, staging areas, and construction access which would detail the means, methods and materials used to maintain street traffic surrounding all construction and staging areas, and to isolate construction and staging areas from the public, and would detail coordination with the Colorado Department of Transportation (CDOT), the Montezuma County and Sheriff departments, and with private landowners when traffic or access would be delayed. TC Plan would require cleaning and repairing any damage caused by installation and restoring existing and permanent facilities used during construction to original condition.	Access Transportation Public Safety	WDC CDOT Montezuma County

Environmental Commitment	Affected Resource	Authority
Post-construction, comply with the Montezuma County Weed Plan (MCWP) for the eradication or management of noxious weeds on private property.	Vegetation Weeds	MCWP CNWA
Best Management Practices Associated with Water Quality Protection and Erosion Prevention		
Conduct in-water work during the low flow periods in the fall and winter when fish are mostly absent (October 15 to February 28).	Water Soils Wildlife-Fisheries	CWA ESA
Complete all work within the designated Proposed Project footprint and during established daytime working hours.	Water Soils Vegetation Weeds Cultural Resources	CWA CNWA MCWP ARPA PRPA
When feasible, fuel construction equipment and vehicles offsite and adequately buffer riparian zones and aquatic areas. If offsite fueling is impractical, fuel in designated fueling areas.	Water Soils	CWA
Pressure wash equipment to avoid noxious weed dispersal within the Project Area.	Water Soils Weeds	CWA CNWA MCWP
Maintain and store onsite adequate spill response equipment (i.e., spill kits and cleanup materials) at all times to avoid chemical contamination in the event of a spill. Clean all spills immediately. When not in use, store construction equipment away from concentrated flows of stormwater, drainage courses, and inlets. Park equipment over plastic sheeting, or an equivalent, wherever possible. Plastic will not be considered a substitute for drip pans or absorbent pads. Protect hydraulic equipment from runoff by placing it on plywood and covering it with plastic or a comparable material prior to the onset of rain. Follow proper storage, handling, use, and disposal of petroleum products and other hazardous materials.	Water Soils	CWA

Environmental Commitment	Affected Resource	Authority
Place temporary erosion and sediment controls (TESCs), such as silt fences, fiber wattles, or other erosion control mechanisms adjacent to or below disturbance areas to prevent and minimize sediment transport into any waterway (i.e., Mancos River). Use certified weed-free erosion control materials to prevent the spread of noxious weeds. Maintain sediment control devices throughout construction activities that would result in erosion or sedimentation or when vegetation has established, as determined by the site foreman/engineer. When the risk of erosion has passed, remove the devices, and dispose the sediment in an upland location outside of the floodplain or transport it off-site.	Water Soils	CWA
Do not conduct construction activities during extreme wet weather conditions, if practicable. If heavy precipitation is predicted to occur within 24 hours, respond appropriately to cover any stockpiles.	Water Soils	CWA
During extreme weather events, use temporary sediment traps, filter fabric fences, inlet protectors, vegetative filters, and buffers, or settling basins to retain runoff water long enough for sediment particles to settle out. Store construction materials, including topsoil and chemicals, covered and isolated to prevent runoff losses and contamination of groundwater.	Water Soils	CWA
To minimize potential effects, complete all work, when possible, from the existing roadways, shoulders, and upland areas.	Water Soils	CWA
Ensure a spill prevention control and countermeasure (SPCC) plan and a stormwater management plan (SWMP) are in place before any construction activities occur.	Water Soils	CWA
Employ appropriate dust control measures during project implementation.	Air Quality Water Soils	CAA CWA
Best Management Practices Associated with Reclaiming Abandoned Segments of Webber Ditch		
Establish appropriate buffer zones to protect vegetation as identified by WDC. Clearly mark, flag, or fence areas where vegetation is to be protected. Retain vegetation on the uphill side of the reclaimed ditch, where possible. Leave standing any live cottonwoods within the Project Area associated with the reclaimed ditch.	Water Soils Vegetation	CWA WDC
Do not use cut vegetation as fill in the reclaimed ditch.	Vegetation Weeds Water Soils	CNWA MCWP CWA

Environmental Commitment	Affected Resource	Authority
Cut and chip tamarisk (*Tamarix sp.*) and Russian olive (*Elaeagnus angustifolia*) trees removed as part of the Proposed Action to use as mulch for the reclaimed ditch surface.	Weeds Water Soils	CNWA MCWP CWA
Treat weeds for 3 years post construction.	Vegetation Weeds	CNWA
Best Management Practices Associated with Vegetation		
Clearly identify areas where vegetation is to be protected (i.e., native riparian vegetation and as identified by WDC).	Vegetation Water Resources	WDC CWA
Limit disturbances to only those areas necessary to safely implement the project to ensure retention of vegetation for erosion control and to protect native vegetation, including milkweed and riparian vegetation, whenever practicable. Confine vegetation removal to the smallest portion of the Project Area as necessary to complete the work.	Vegetation Water Resources Wildlife	WDC CWA ESA
Following construction, revegetate disturbed ground using either: 1) the sterile topsoiling and natural recruitment method, or 2) the conventional revegetation method, as identified in the construction plans and described in Section 2.3.3 Restoration and Revegetation. When using the conventional revegetation method, use weed-free seed mixes appropriate for the surrounding areas. For roadsides and the margins of agricultural areas, use regionally appropriate drought-tolerant grasses. For irrigated lands, use a weed-free hay mix acceptable to the landowner. For areas surrounded by natural vegetation, use a weed-free seed mix that includes drought-tolerant and locally ubiquitous native grasses, such as western wheatgrass.	Vegetation Weeds Water Soils	CNWA MCWP CWA
Mulch and inoculate the soil with mycorrhiza for either reclamation method to ensure success of the reclamation effort.	Vegetation Weeds Water Soils	CNWA MCWP CWA
Best Management Practices Associated with Operations and Maintenance of the Fishway Established through the Habitat Replacement Project		
Conduct inspections of fishway for maintenance/repair purposes bi-weekly (twice a month) during the high flow months (June-September) in the first year, and monthly after that for 49 years. After five years, if the project is meeting or progressing towards the desired conditions, the frequency of inspections can be adjusted upon Reclamation's approval. For additional information on HRP monitoring, refer to Section 2.3 of the HRP.	Wildlife-Fisheries	HRP

Environmental Commitment	Affected Resource	Authority
Conduct fish presence monitoring bi-weekly (twice a month) during spring migration season (February to May for rainbow and cutthroat trout; May 1 to June 30 for pikeminnow and razorback sucker; and October to December for brook trout). Monitoring will consist of counting fish by visual estimations from a spot overlooking the fishway and noting additional species using the fishway (aquatic or non-aquatic) for approximately 15 minutes. Monitor for 50 years. After five years, if the project is meeting or progressing towards the desired conditions, the frequency of inspections can be adjusted upon Reclamation's approval. For additional information on HRP monitoring, refer to Section 2.3 of the HRP.	Wildlife-Fisheries	HRP
Record gauge flow data on a bi-weekly (twice a month) basis for 50 years. After five years, if the project is meeting or progressing towards the desired conditions, the frequency of inspections can be adjusted upon Reclamation's approval. For additional information on HRP monitoring, refer to Section 2.3 of the HRP.	Wildlife-Fisheries	HRP
Best Management Practices to Avoid and Minimize Effects to Wildlife and Fish Species, and Specifically Southwestern Willow Flycatchers, Yellow-billed Cuckoos, Bald Eagles, Red-Tailed Hawks, and Migratory Birds		
Time construction to occur beginning in fall/winter and ending in the spring of each construction phase.	Wildlife-Fisheries	MBTA HRP
Only perform construction outside of the CPW required 0.5-mile buffer around existing and active bald eagle and raptor (especially red-tailed hawk) nests, during eagle and raptor nesting season (Dec 15–July 31). If chicks are still present in any nest beyond July 31, season restrictions must remain in place until they fledge.	Wildlife	MBTA BGEPA
Ensure a qualified biologist performs a clearance survey within seven days before construction begins and the removal of trees and shrubs within the nesting period for eagles and raptors (December 1–July 31 for eagles; and February 15–July 15 for red-tailed hawks) to confirm the presence of the known active eagle and red-tailed hawk nests, to identify any new active nests, and to ensure the delineation of the CPW approved 0.5-mile avoidance buffer around the nests.	Wildlife	MBTA BGEPA

Environmental Commitment	Affected Resource	Authority
If vegetation removal occurs during the breeding and nesting season for migratory birds (January 15–September 30), ensure a qualified biologist conducts an incidental nest survey to identify any active nests in the Project Area before the removal of trees and shrubs. Ensure the incidental nest surveys are conducted within seven days before vegetation removal. If active nests are located during surveys, do not allow project activities until approval is granted by a Reclamation biologist. Nest monitoring (using approved methods) may be required to determine nesting status. Multiple surveys may be necessary if there is delay between construction activities.	Wildlife	MBTA
If additional species are listed or proposed, or if critical habitat is designated before completion of construction, and the species or designated habitat occur within the Project Area or may be affected by the Proposed Action, pause construction, and prepare a species evaluation. Do not readdress species for which a no effect determination has been previously prepared.	Wildlife Wildlife-Fisheries	ESA

Environmental Commitment	Affected Resource	Authority
Best Management Practices to Avoid and Minimize Effects to Cultural Resources		
Follow these site-specific requirements for avoidance, monitoring and documentation: • **Site 5MT.1860**—Minimize impacts by constricting the construction corridor and defining that corridor with temporary fencing. Conduct monitoring within 100 feet of the site boundary and between this site and site 5MT.24596. • **Site 5MT.13459**—The construction area is constricted to avoid the current site boundary by ten meters. Install temporary fencing and monitor within 100 feet of the site boundary. • **Site 5MT.20366 (Old Mormon Cemetery)**—Monitor within 100 feet of the site boundary. • **Sites 5MT.22771.2 and 5MT.22771.3 (Webber Ditch Segments)**—Contribute a story map to the webpage https://archaeologycolorado.org/, to the webpage https://storymaps.arcgis.com/stories/416dac68b2ab4654b79d7e05d2972a7e, or in an approved method as agreed to within an MOA for identified cultural resource sites. • **Site 5MT.24595 (Webber Hall)**—Install temporary fencing and monitor within 100 feet of the site boundary. • **Site 5MT.24596**—Minimize impacts by constricting the construction corridor and defining that corridor with temporary fencing along this site and also between this site and site 5MT.1860. Conduct monitoring within 100 feet of the site boundary and between this site and site 5MT.1860. • **Site 5MT24598 (Webber Cemetery)**—Minimize impacts by constricting the construction corridor and defining that corridor with temporary fencing.	Cultural Resources	NHPA
In the event of inadvertent cultural resources discovery, immediately suspend all activities in that area and contact Reclamation.	Cultural Resources	NHPA

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. The key objective is to facilitate a well-informed public that actively assists decision makers through the process, culminating in the implementation of an alternative.

5.2 Public Involvement

The WDC originally proposed the Proposed Project in September 2019 when it submitted a request for funding from Reclamation through the Colorado River Basin Salinity Program. Since then, WDC, shareholders, interested landowners, Reclamation, and J-U-B have held numerous meetings and addressed issues and concerns regarding proposed activities which led to the Proposed Action as presented in this Draft EA.

The WDC contacted representatives of other Federal agencies, state and local governments, public and private organizations, and individuals regarding the Proposed Action and its effects on resources. Based on the responses received, the effects of the Proposed Action on the quality of the human environment are not highly controversial, and instead, the Proposed Action has a high level of support based on its agricultural efficiency improvements complementary to its habitat enhancement value.

The private landowners with a vested interest in the project are excited about the opportunities to "improve the effectiveness and safety of the ditch's irrigation system for diverting, measuring, and delivering water to 70+ company members and 1,632 acres" (Yeomans et al., 2019); the Southwest Basin Roundtable Chair, Michael Preston, appreciates the commitment of the WDC, especially because the project will maintain agricultural viability as well as promote resiliency of endangered, threatened, and imperiled species by creating safe fish passage and reducing salinity levels in the Mancos River (Preston 2019); the Mancos Conservation District, the water district in the subbasin under which the project resides, has offered its highest level of support for the Proposed Action (Mancos Conservation District 2019); and the USFWS has enthusiastically offered its support of the proposal to benefit native fish and wildlife (USFWS 2019). Additionally, the Colorado Water Conservation Board (CWCB) certified the project meets the objectives of the Colorado River Basin Salinity Control Program, aligns with the Colorado Water Plan by meeting goals identified in the Critical Action Plan and additional actions, and the Proposed Action aligns with the identified themes from the Southwest Basin Implementation Plan to maintain agricultural water needs, balance needs and reduce conflict, and preserve water quality (CWCB 2019).

In compliance with NEPA, the Draft EA will be released for a 30-day public review period. Any substantive comments received from the public, regulatory agencies, or other entities during the

review period will be addressed in this section of the Final EA. Notice of the public review period and availability of the Draft EA will be distributed to private landowners adjacent to the Project Area, and the organizations and agencies listed in Appendix B. The Draft EA will be available on Reclamation's website (https://www.usbr.gov/uc/DocLibrary/index.html). Publicly available electronic versions of the Draft and Final EA will 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 Reclamation and J-U-B ENGINEERS, Inc. personnel involved in the preparation of this Draft EA are identified in the following table.

Table 6-1. Reclamation Team, Environmental Preparers

Name	Agency/ Organization	Title	Areas of Responsibility
Eric Creeden	Reclamation	Southern Lands & Recreation Group Chief	NEPA Compliance
Jennifer Ward	Reclamation	Environmental Protection Specialist	NEPA Compliance
Kristin Bowen	Reclamation	Environmental and Cultural Group Chief	NEPA Compliance
Katie Arntzen	Reclamation	Archeologist	Cultural Resources
Joshua Dunham	Reclamation	Design and Construction Group Chief	Cultural Resources
Luke Gingerich	J-U-B	Western Colorado Area Manager	Alternative Development/Plans
Dan Fedirko	J-U-B	CAD Designer-Lead	Alternative Development/Plans
Nicholas Emmendorfer	J-U-B	Project Engineer	Alternative Development/Plans
Rebecca Hendricks Miller	J-U-B	Environmental Specialist/Biologist	Biological Assessment
Tyler Schade	J-U-B	Environmental Specialist/Biologist	Aquatic Resources Delineation (ARD)
Autumn Foushee-Davies	J-U-B	Senior Biologist	General Authorship
Suzanne Acton	J-U-B	Senior NEPA Specialist	General Authorship

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CHAPTER 8—ACRONYMS AND ABBREVIATIONS

Acronyms and abbreviations used in this document and their definitions are identified in the following table.

Table 8-1. Definitions for Acronyms and Abbreviations

Acronym or Abbreviation	Definition
ac-ft	Acre feet
AMSL	Above mean sea level
APE	Area of potential effect
ARD	Aquatic resource delineation
ARPA	Archaeological Resources Protection Act
BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
BLM	U.S. Bureau of Land Management
BMP	Best management practice
CAA	Clean Air Act
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CMP	Corrugated metal pipe
CNWA	Colorado Noxious Weed Act
CPW	Colorado Parks and Wildlife Department
CRS	Colorado Revised Statutes
CWA	Clean Water Act
CWCB	Colorado Water Conservation Board
DWR	Colorado Department of Water Resources
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
fps	Feet per second
GIS	Geographic information system
HDPE	High-density polyethylene
HRP	Habitat Replacement Project
HRS	Habitat Replacement Site
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation

Acronym or Abbreviation	Definition
J-U-B	J-U-B ENGINEERS, Inc.
LLC	Limited Liability Company
MBTA	Migratory Bird Treaty Act
MCWP	Montezuma County Weed Plan
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NASS	National Agricultural Statistics Survey
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMMJM	New Mexico meadow jumping mouse
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PVC	Polyvinyl chloride (a type of pipe)
Reclamation	U.S. Bureau of Reclamation
RGP	Regional General Permit
ROW	Right-of-way
SHPO	Colorado State Historic Preservation Officer
SPCC	Spill prevention, control, and countermeasures plan
SWFL	Southwestern willow flycatcher
SWMP	Stormwater management plan
TESC	Temporary erosion and sediment controls
U.S. or US	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDC	Webber Ditch Company
WOTUS	Waters of the United States
YBCU	Yellow-billed cuckoo

APPENDICES

Appendix A. Figures

Figure 1—Project Vicinity Map
Figure 2—Project Area Map
Figure 3—Diversion Site Map
Figure 4—Intake Structure
Figure 5—Habitat Replacement Project-Vertical Slot Fishway
Figure 6—Relationship to Other Projects

Appendix B—Distribution List

Distribution List: Webber Ditch Piping Salinity Control Project

Appendix C—Endangered Species Act Compliance Documentation

Pending

Appendix D—Cultural Resources Compliance Documentation

Pending

Appendix A

Maps

Figure 1—Project Vicinity Map

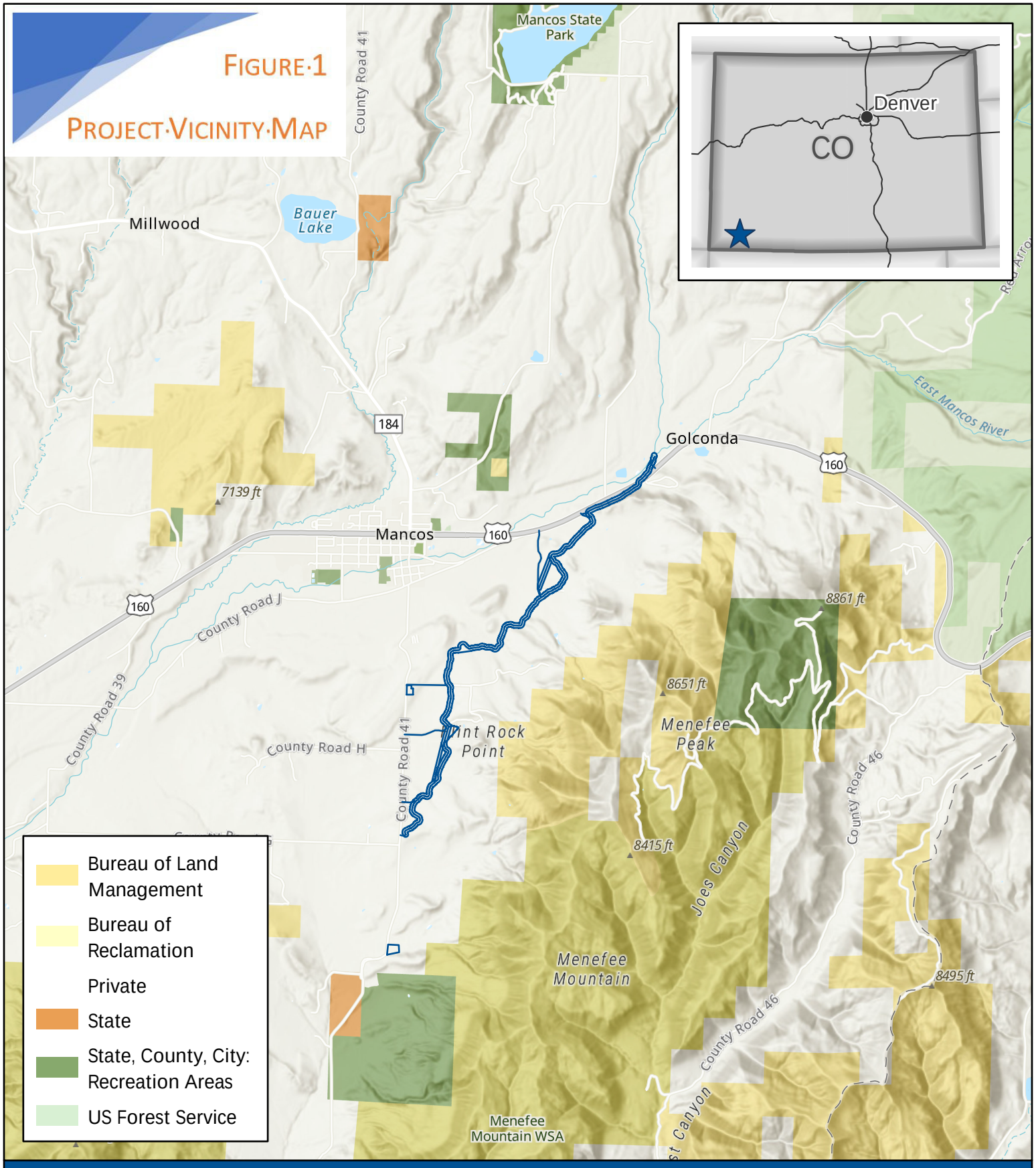
Figure 2—Project Area Map

Figure 3—Diversion Site Map

Figure 4—Intake Structure

Figure 5—Habitat Replacement Project-Vertical Slot Fishway

Figure 6—Relationship to Other Projects



PROJECT VICINITY MAP

Webber Ditch Piping
Mancos, Montezuma County, Colorado
Assistance Agreement R20AC00020

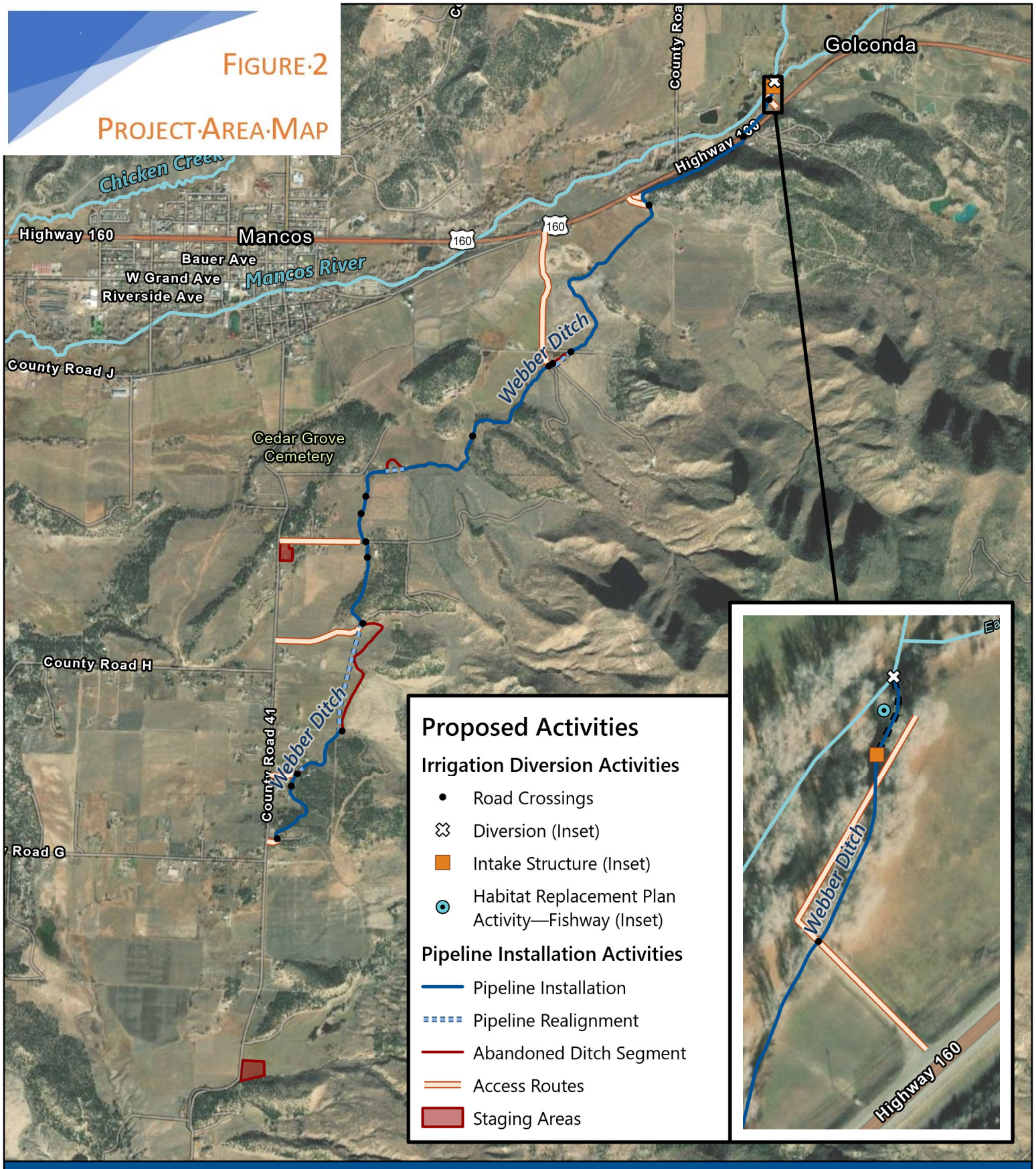
0 1 2
Miles

N

March 2023

FIGURE·2

PROJECT·AREA·MAP



PROJECT AREA MAP

Webber Ditch Piping
Mancos, Montezuma County, Colorado
Assistance Agreement R20AC00020

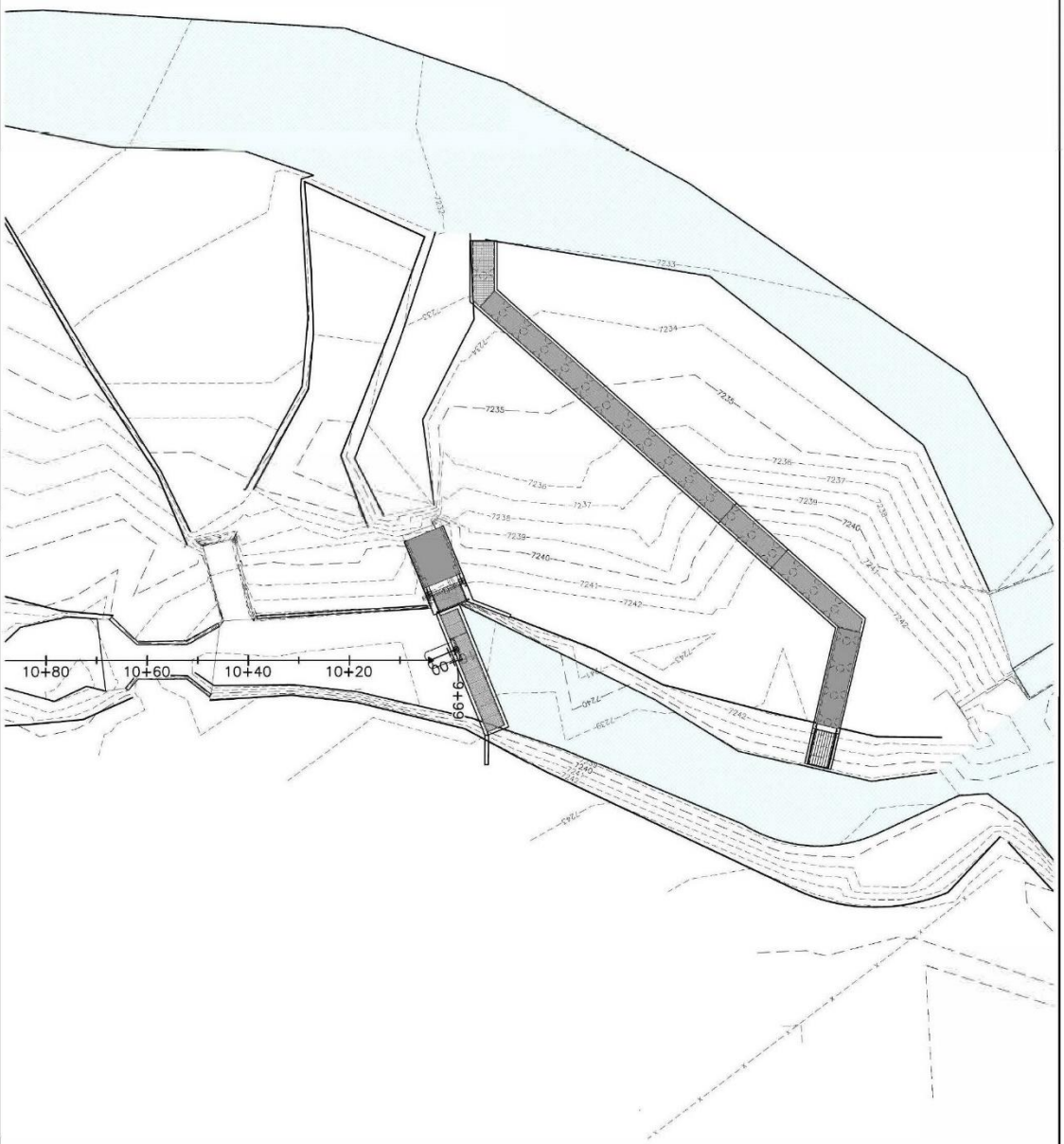
0 0.5 1
Miles

N

April 2023

FIGURE 3

DIVERSION SITE

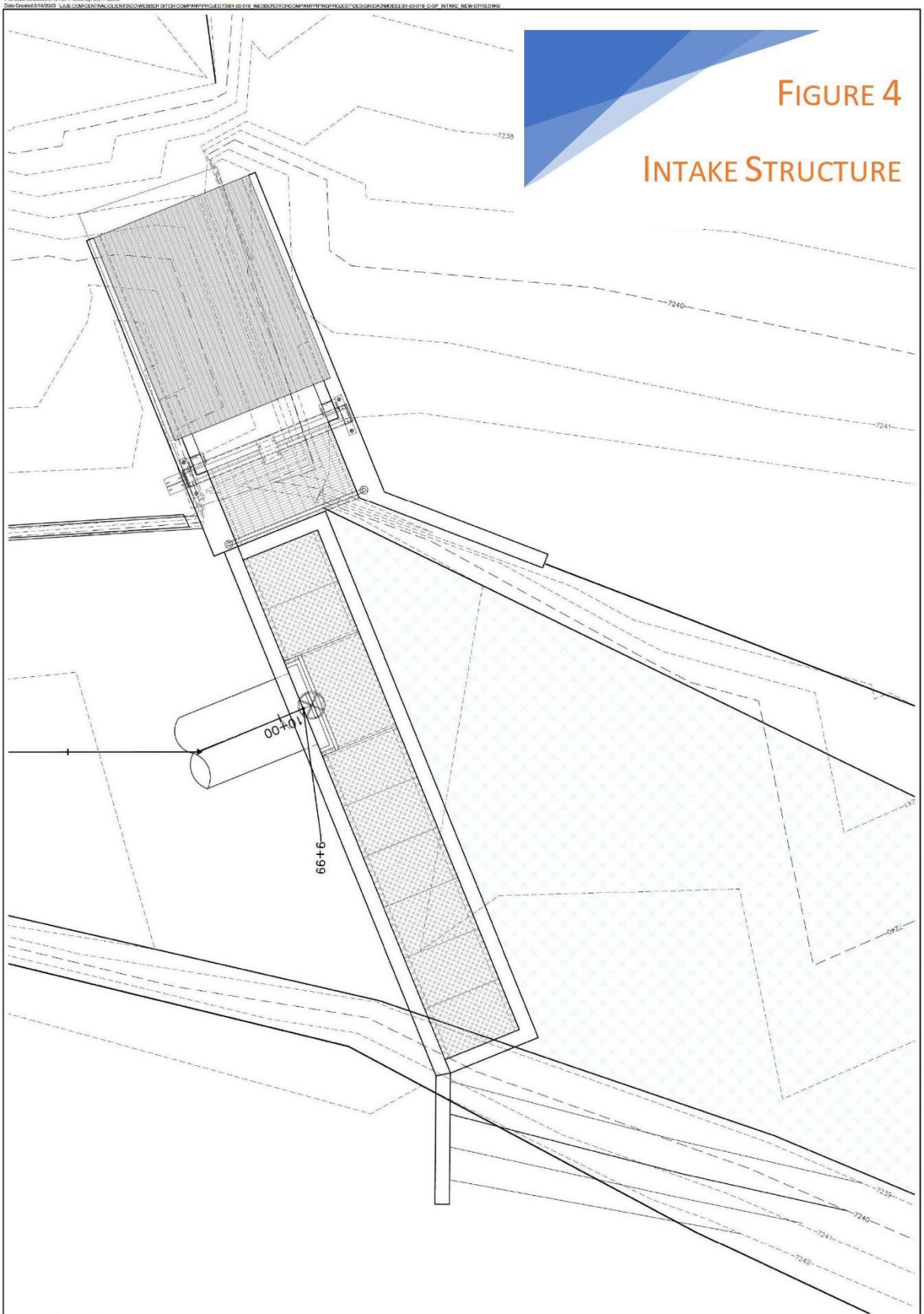


SHEET NUMBER: C-101	WEBBER DITCH PIPING PROJECT WEBBER DITCH COMPANY	REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF J-U-B, UNLESS, AND THIS SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT. ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B	PRELIMINARY PLANS	J-U-B ENGINEERS, INC. 305 S. Main Street Unit 6 Palisade, CO 81526 Phone: 970.208.8508 www.jub.com	J-U-B ENGINEERS, INC.
	DIVERSION SITE PLAN	REVISION NO. DESCRIPTION BY APP. DATE	NOT FOR CONSTRUCTION		

Plot Date: 4/28/2023 8:46 AM Plotted By: Dan Fadilko
Date Created: 3/16/2023 \\JUB.COM\CENTRAL\CLIENTS\CO\WEBBER DITCH COMPANY\PROJECTS\61-20-019_WEBBER\DITCHCOMPANY\PIPING\PROJECT\DESIGN\CAD\MODEL\61-20-019_C-SP_INTAKE_NEW-STR3.DWG

FIGURE 4

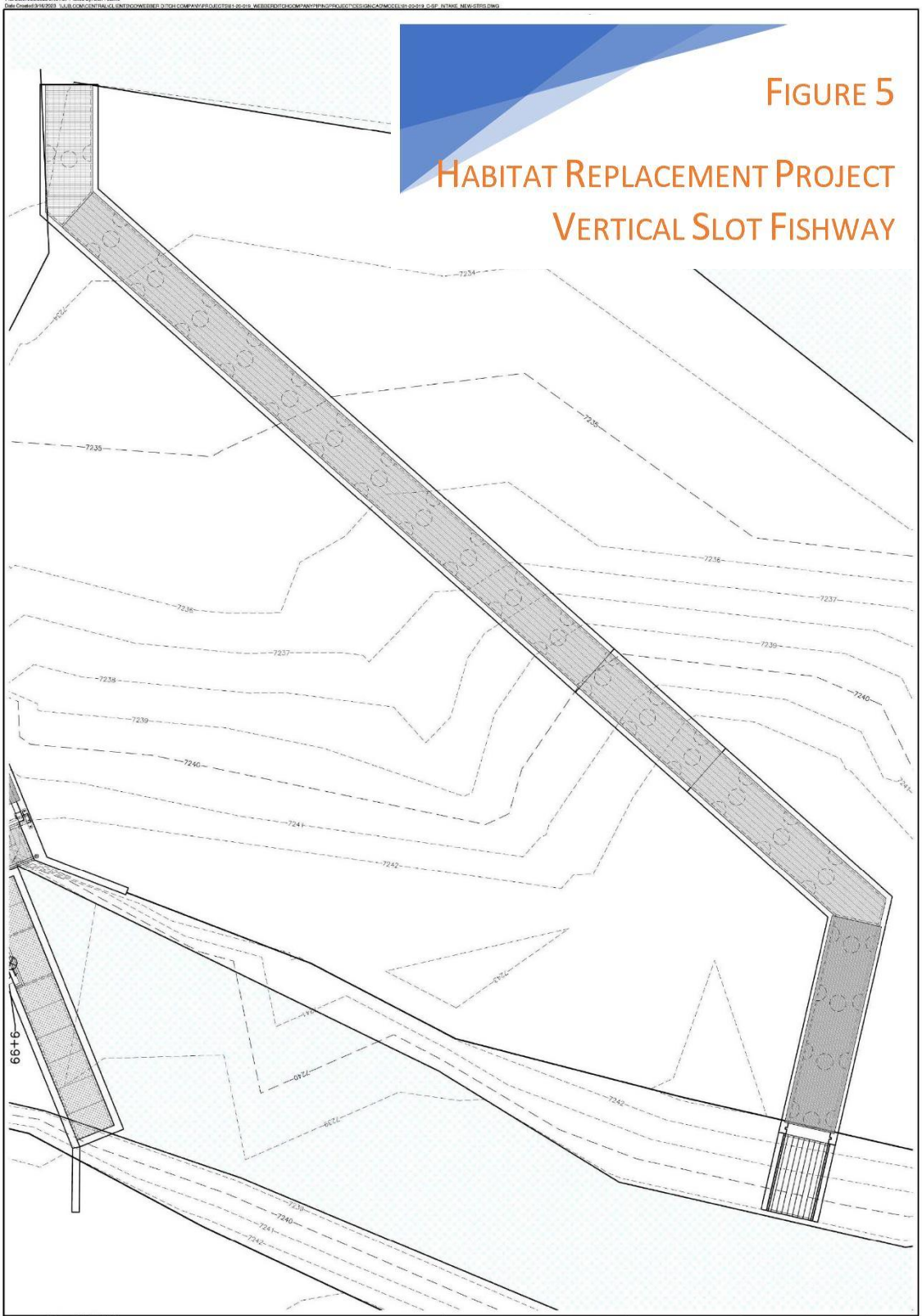
INTAKE STRUCTURE



SHEET NUMBER: C-103	WEBBER DITCH PIPING PROJECT WEBBER DITCH COMPANY	REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT. ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.	PRELIMINARY PLANS	J-U-B ENGINEERS, INC. 305 S. Main Street Unit 6 Palisade, CO 81526 Phone: 970.208.6508 www.jub.com	J-U-B ENGINEERS, INC.
	INTAKE STRUCTURE SITE PLAN	REVISION NO. DESCRIPTION BY APP. DATE	NOT FOR CONSTRUCTION		

FIGURE 5

HABITAT REPLACEMENT PROJECT
VERTICAL SLOT FISHWAY



C-102

WEBBER DITCH PIPING PROJECT
WEBBER DITCH COMPANY

FISH PASSAGE

REUSE OF DRAWINGS
J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT. ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.

REVISION

NO.	DESCRIPTION	BY	APP'L	DATE

PRELIMINARY PLANS

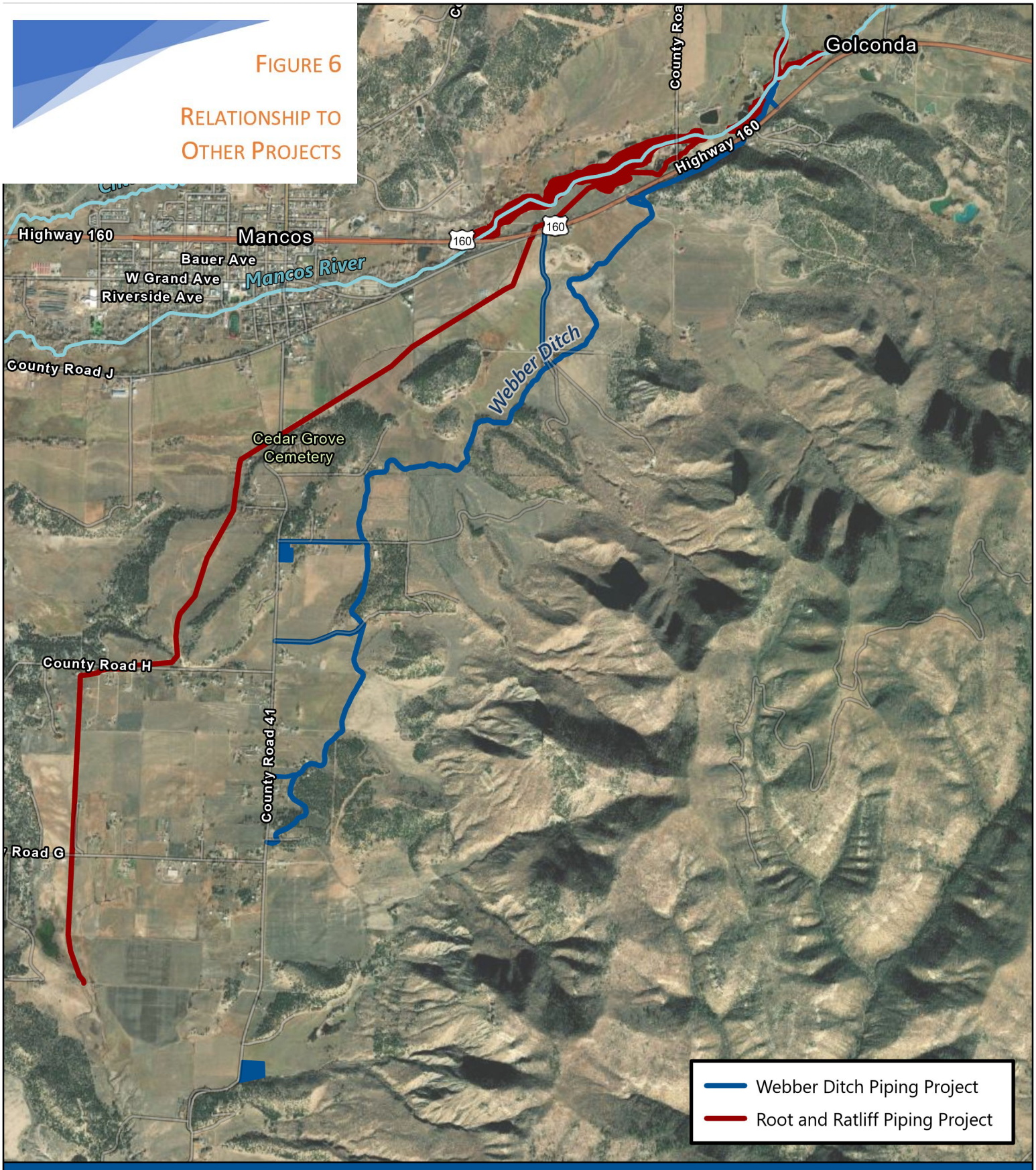
NOT FOR CONSTRUCTION

J-U-B ENGINEERS, INC.
305 S. Main Street
Unit 6
Palisade, CO 81526
Phone: 970.208.8508
www.jub.com

J-U-B ENGINEERS, INC.

FIGURE 6

RELATIONSHIP TO OTHER PROJECTS



RELATIONSHIP TO OTHER PROJECTS

Webber Ditch Piping
Mancos, Montezuma County, Colorado
Assistance Agreement R20AC00020

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Miles

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May 2023

Appendix B

Distribution List

Distribution List
Webber Ditch Piping Project

The Draft EA will be distributed to the following agencies, Tribes, organizations, and individuals.

Federal Agencies

- U.S. Fish & Wildlife Service, Grand Junction, CO
- U.S. Army Corps of Engineers, Colorado West Regulatory Branch, Durango, CO
- U.S. Bureau of Land Management, Tres Rios Field Office, Delores, CO
- Natural Resources Conservation Service, Cortez Service Center, Cortez, CO

State Agencies

- Colorado Parks and Wildlife, Durango, CO
- Colorado Department of Agriculture, Salinity Program, Delta, CO
- Colorado Department of Transportation, Durango, CO
- Colorado Office of Archeology & Historic Preservation, Denver, CO
- Colorado Water Conservation Board, Denver and Durango, CO
- Colorado Water Conservation Board, Denver, Durango, Denver, and Cortez, CO

Local Agencies

- Montezuma County Planning and Development, Cortez, CO
- Montezuma County Road and Bridge Department, Cortez, CO
- Montezuma County Commissioners, Cortez, CO
- City of Mancos, Mancos, CO

Tribes

- Hopi Tribe
- Jicarilla Apache Nation
- Kewa Pueblo
- Navajo Nation
- Ohkay Owingeh Pueble
- Pueblo of Acoma
- Pueblo of Cochiti
- Pueblo of Isleta
- Pueblo of Jemez
- Pueblo of Laguna
- Pueblo of Nambe
- Pueblo of Picuris
- Pueblo of Pojoaque
- Pueblo of San Felipe
- Pueblo of San Ildefonso

- Pueblo of Sandia
- Pueblo of Santa Ana
- Pueblo of Santa Clara
- Pueblo of Taos
- Pueblo of Tesuque
- Pueblo of Zia
- Southern Ute Indian Tribe
- Ute Mountain Ute Tribe
- Ute Indian Tribe (Uintah and Ouray Reservation)
- Zuni Tribe of the Zuni Reservation

Organizations or Individuals

- Don and Deanna Yeomans, Habitat Replacement Plan Property Owner
- Gretchen Rank, Mancos Conservation District, Mancos, CO
- Michael Nolan, Mancos Conservation District, Mancos, CO
- Barry Rhea, Rhea Environmental Consulting, Mancos, CO
- Empire Electric Association, Cortez, CO
- Mancos Rural Water Company, Mancos, CO
- Montezuma County Water District, Mancos, CO
- The Journal, Cortez, CO
- Mancos Common Press, Mancos, CO
- Webber Ditch Company Board and Shareholders/Water Users
- Adjacent Landowners (111)

Appendix C

Endangered Species Act
Compliance
Documentation

Endangered Species Act Compliance Documentation

Pending

Appendix D

Cultural Resources
Compliance
Documentation

Cultural Resources Compliance Documentation

Pending