COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	The Nature Conservancy	
Name of Water Project	Project-01885 Maybell Diversion Construction on the Yampa River	
Grant Request Amount		**$750,000.00**
Primary Category		$650,000.00
Agricultural Projects		
Additional Funding Category		$100,000.00
Watershed Restoration & Recreation		
Total Applicant Match		**$0.00**
Applicant Cash Match		
Applicant In-Kind Match		
Total Other Sources of Funding		**$829,173.00**
The Nature Conservancy		$829,173.00
Total Project Cost		**$1,579,173.00**

Applicant & Grantee Information

Name of Grantee: The Nature Conservancy
Mailing Address: 4245 Fairfax Drive, Suite 100 Arlington VA 22203
FEIN: 530,242,652

Organization Contact: Jennifer Wellman
Position/Title: Freshwater Project Director
Email: jennifer.wellman@tnc.org
Phone: 5052356280

Grant Management Contact: Jennifer Wellman
Position/Title: Freshwater Project Director
Email: jennifer.wellman@tnc.org
Phone: 5052356280

Description of Grantee/Applicant

No description provided

Type of Eligible Entity

- ☐ Public (Government)
- ☐ Public (District)
- ☐ Public (Municipality)
- ☐ Ditch Company
- ■ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ☐ Non-governmental Organization
- ☐ Covered Entity

☐ Other

Category of Water Project

■ Agricultural Projects
Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.

☐ Conservation & Land Use Planning
Activities and projects that implement long-term strategies for conservation, land use, and drought planning.

☐ Engagement & Innovation Activities
Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.

■ Watershed Restoration & Recreation
Projects that promote watershed health, environmental health, and recreation.

☐ Water Storage & Supply
Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	40.473190
Longitude	-107.992060
Lat Long Flag	Ditch diversion structure location: Coordinates based on ditch’s diversion structure
Water Source	Yampa River
Basins	Yampa/White/Green
Counties	Moffat
Districts	44-Lower Yampa River

Water Project Overview

Major Water Use Type	Agricultural
Subcategory	Construction
Scheduled Start Date - Design	
Scheduled Start Date - Construction	6/1/2022

Description

The Nature Conservancy (TNC) and Maybell Irrigation District (MID) submit this proposal to construct a modernized irrigation diversion in the Lower Yampa River in Moffat County. Improvements to the diversion will enable irrigators to more easily control water in the Maybell Ditch and access their decreed water rights while improving fish and boat passage. CWP funding will provide $750,000 (47% of total costs) toward diversion and in-river construction; TNC will provide matching funding of $829,173 for the project elements in this proposal. The entire project is estimated to cost upwards of $4 million.

The project will rehabilitate irrigation infrastructure, increase agricultural efficiency, benefit designated critical habitat of three endangered fish (the Bonytail, Colorado pikeminnow, and Razorback sucker) and one threatened fish (Humpback chub), and improve safety for river recreation.

MID diverts approximately 20,000 acre-feet annually to serve 18 producers with 1,200 acres of hay pasture. This project will improve flows and habitat connectivity in at least 18 miles of the Yampa River and support movement

of endangered fish while meeting water users' long-term irrigation needs. Partnerships between agricultural, environmental, and recreational interests are critical to increasing drought resilience for the local community, river recreationists, native fish, and the riparian corridor.

Measurable Results

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
	Existing Storage Preserved or Enhanced (acre-feet)
	New Storage Created (acre-feet)
3,000	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (dollars/year)
5,000	Efficiency Savings (acre-feet/year)
2	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
45	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
	Number of Coloradans Impacted by Engagement Activity

Water Project Justification

The Maybell Diversion Construction project is a Tier 1 IPP within the Yampa-White-Green (YWG) Basin Implementation Plan (BIP) (updated August 2021). In addition to addressing local agricultural, environmental, and recreation concerns, these improvements will broadly contribute to improving irrigation efficiencies in the Colorado River Basin. The project has strong potential to preserve water security for agricultural producers on the Maybell Ditch while benefitting the natural environment, both of which are goals of the Colorado Water Plan.

More specifically, the project conforms to Colorado's Water Plan by the following criteria:
• Improves agricultural efficiency, watershed and environmental health, and recreation (2020 WPG Criteria and Guidelines pg. 1)
• Involves multiple stakeholders (Maybell Irrigation District, The Nature Conservancy, Friends of the Yampa, US Fish and Wildlife Service) (2020 WPG Criteria and Guidelines pgs. 3, 12; CWP p. 8-3)
• Consults a broad set of local stakeholders (Y-W-G Basin Roundtable, water users, Upper Colorado River Endangered Fish Recovery Program) (2020 WPG Criteria and Guidelines pgs. 3, 12; CWP p. 9-43 & 9-44)
• Identified priority based on shovel-ready construction in 2021-2022 (see project schedule in Exhibit C) (2020 WPG Criteria and Guidelines pg. 3)
• Identified in a BIP (Y-W-G BIP draft update, Nov. 2020, IPP# YW-2020-0012) (2020 WPG Criteria and Guidelines pg. 10)
• Demonstrates commitment to collaboration between CWCB, Y-W-G Basin Roundtable, Maybell Irrigation District, TNC, Maybell community, US Fish and Wildlife Service, Friends of the Yampa (2020 WPG Criteria and Guidelines pg. 10)
• Addresses an identified water gap (project was identified as a priority in Yampa Integrated Water Management Plan diversion assessment) (2020 WPG Criteria and Guidelines pg. 10)
• Enhances resilience to drought and climate change (2020 WPG Criteria and Guidelines pg. 10)
• Project avoids adverse effects to environmental and recreational interests (2020 WPG Criteria and Guidelines pg. 10; CWP 9-44)
• Project supports rural economic development and viability by modernizing irrigation diversion (2020 WPG Criteria and Guidelines pg. 10; CWP p. 10-10)
• Updates and improves aging infrastructure through modernization (2020 WPG Criteria and Guidelines pg. 10)
• Demonstrated intent to leverage any state grant with private and federal funding (The Nature Conservancy is

contributing private funds, as well as applying for a grant under the Colorado River District Partnership Project Funding Program and a grant under the Bureau of Reclamation WaterSMART Environmental Water Resources Projects for FY22) (2020 WPG Criteria and Guidelines pgs. 11, 12; SWSI p. ES-28)
• Promotes recovery of endangered, threatened, and imperiled aquatic and riparian-dependent species (2020 WPG Criteria and Guidelines pg. 12)
• Involves stream restoration and riparian habitat improvement (2020 WPG Criteria and Guidelines pg. 12)
• Implements recommendations developed in the Yampa integrated water management planning and diversion assessment (2020 WPG Criteria and Guidelines pg. 12)

The Project adheres to the Yampa-White-Green Basin Implementation Plan by:
• Protecting the YWG Basin from compact curtailment of existing decreed water uses (increased efficiency and flows)
• Defending agricultural uses of water in the YWG Basin within the context of private property rights (increased ease of operation and functionality of the headgate will allow irrigators to better measure and manage the diversion and thereby demonstrate beneficial use and compliance with water rights administration on the Yampa)

• Protecting environmental and recreational water uses at locations identified in the non-consumptive needs study of the YWG BRT. (Project will dramatically increase safety of boat passage at both high and low flows)
• Restoring, maintaining, and modernizing water storage and distribution infrastructure. (Headgate replacement – see pictures In Exhibit C).
• Developing an integrated system of water use, storage, administration, and delivery to reduce water shortages and meet environmental and recreational needs (Diversion and headgate replacement serve multiple interests).
• Improving agricultural water supplies to increase irrigated land and reduce shortages (Project goals include drought resilience and improving water supply to producers, thereby preventing shortages during low flows).

Related Studies

This project relates to the following studies:

1. Maybell Ditch Diversion Rehabilitation and Headgate Modernization, final design and engineering, funded by CWCB (WPG & WSRF) and the Yampa-White-Green Basin Roundtable (In progress, 2021)
2. Maybell Diversion Assessment, Yampa-White-Green Basin Roundtable, Integrated Water Management Plan, August 2020.
3. Yampa-White-Green Basin Implementation Plan (BIP) update: Identified project and process (IPP#YW-2020-0012), August 2021 draft.
4. Environmental Assessment and Finding of No Significant Impact, US Bureau of Reclamation, Maybell Ditch Lining project, November 2019.

Taxpayer Bill of Rights

The Nature Conservancy is a non-profit organization and TABOR does not apply.

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that: (1) Summarizes the project and how the project was completed. (2) Describes any obstacles encountered, and how these obstacles were overcome. (3) Confirms that all matching commitments have been fulfilled. (4) Includes photographs, summaries of meetings and engineering reports/designs. The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions. Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following: (a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in the Budget & Schedule Exhibit B. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment. (b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment. (c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary. (d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

COLORADO
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Department of Natural Resources

Last Updated: May 2021

Colorado Water Conservation Board
Water Plan Grant - Exhibit A

Statement Of Work	
Date:	November 30, 2021
Name of Grantee:	The Nature Conservancy
Name of Water Project:	Maybell Diversion Construction on the Yampa River
Funding Source:	CWCB Water Plan Grant, Agricultural/Environmental/Recreation categories

Water Project Overview:

Promote watershed health, riparian benefit, recreation.

The goals of the Maybell Diversion Construction project are: 1) provide drought resilience for people and nature in the Lower Yampa River system by increasing diversion efficiency on the historic Maybell Ditch, 2) improve flows to benefit three endangered and one threatened fish species, and 3) provide safe recreational boat passage. This CWP grant would cover construction costs of the Maybell Irrigation District's diversion rehabilitation in the Lower Yampa River in Moffat county. The project will also enable Maybell irrigators to more easily manage their decreed water rights.

A 2020 CWP grant was awarded for another phase of this project - the construction of new headgates and telemetry to allow for easier operation and more precise control of irrigation water after many decades of disrepair. Under this proposal, CWP funding will provide $750,000 (47% of total costs) toward construction of diversion improvements; TNC will provide matching funding of $829,173. The entire project is estimated to cost upwards of $4 million. The project will modernize irrigation infrastructure, increase agricultural efficiency, benefit designated critical habitat of three endangered fish (Bonytail, Colorado pikeminnow, and the Razorback sucker) and one threatened fish (the Humpback chub), and improve safety for recreational boaters.

Maybell Irrigation District diverts approximately 20,000 acre-feet annually to serve 18 producers and nearly 1,200 acres of hay pasture. This project will improve flows and habitat connectivity in at least 18 miles of the Yampa River and support the recovery of endangered fish while meeting water users' long-term irrigation needs. The Maybell Diversion Improvements project is a Tier 1 priority of the Yampa-White-Green Basin Roundtable's Basin Implementation Plan and Yampa IWMP technical assessments because it addresses multiple-use criteria: agricultural efficiency, environmental conservation, native fish passage, and recreational boat safety concerns.

Last Updated: May 2021

Over the past three years, project partners invested significant funds in Maybell's irrigation operation through lining segments of ditch, installing check dams, and designing a new irrigation diversion and headgate. Construction of a modern diversion will benefit the rural community of agricultural producers; endangered fish, local wildlife, and riparian plant species; and recreators seeking safe passage along a popular float in the Lower Yampa. Partnerships between agricultural, environmental, and recreational interests are critical to increasing resilience to drought and climate impacts for the local community, river recreationists, native fish, and the riparian corridor.

Key project partners include the Maybell Irrigation District, the Yampa-White-Green Basin Roundtable, the US Fish and Wildlife Service - Upper Colorado River Endangered Fish Recovery Program, Moffat County, Friends of the Yampa, and the Yampa River System Legacy Project.

Project Objectives:

1) Increase the efficiency and operational flexibility of the Maybell irrigation diversion.
2) Promote safety for recreational boaters at the Maybell diversion.
3) Improve ecological conditions for three endangered fish [Bonytail, Colorado pikeminnow, and Razorback sucker] and one threatened fish [Humpback chub], and other aquatic and riparian species.
4) Improve flows and habitat connectivity for at least 18 miles while meeting water users' long-term irrigation needs.

Tasks

Task 1 – Construction Elements of the Maybell Diversion Improvements

Description of Task:

This task includes the following elements relate to the in-stream improvement work for the Maybell diversion:

- Care of water and erosion control
- Re-configure existing diversion structure using in-situ material
- Grouted diversion structure
- Place existing substrate stockpiled onsite

Method/Procedure:

The in-river work necessary for this project includes care of and diversion of the Yampa River and placing imported rock and fill material according to the design plans and specifications. The construction elements described in this task are designed to address the three primary goals of the project: reliable water delivery, fish passage, and boat passage. The proposed construction schedule would begin in-river work around September 1st to minimize disruptions to irrigation water delivery and maximize the window for in-channel work in autumn when river flows are historically low and before colder winter temperatures.

Project partners and technical consultants are currently developing the final design, plans and specifications, and bid package for construction in partnership with the agricultural water users, recreational boating advisors, and fish passage experts.

Last Updated: May 2021

Care of water and erosion control: This construction process will begin by implementing the "care of water" plan provided in the 60% design plans and specifications that dictate how and when water is to be bypassed through or around the existing infrastructure to ensure that irrigation deliveries continue up to September 15th, and later if possible. Next, the project team will construct a temporary coffer on the south bank and improve existing bypass locations along the canal which will allow the team to "dry down" the center of the main channel for construction of the new diversion structure. We estimate approximately 6-9 weeks of instream work, without weather or flow delays, to complete the in-channel construction. These construction times are estimates only and will vary depending on the selected contractor and site conditions during construction.

Re-configure existing diversion structure: Much of the rock and material currently in-channel will be stockpiled for use in construction the of new diversion. This involves working with the streambed to protect the existing channel morphology and install grade control structures downstream.

Grouted diversion structure: The existing diversion crest, consisting of a loose collection of boulder and cobble is fairly porous, allowing water to flow through versus over the diversion crest. As a result, during extremely low flow periods, like in the summer of 2021, the diversion's ability to capture river flow decreases. Grout to fill void spaces between boulders will make the structure less porous and able to withstand higher flows. For the Maybell Diversion, only the most upstream boulder grade control feature is planned to be grouted, as this structure is the only feature that controls water flowing into the Maybell Ditch headgates. The grouted section of boulder would extend from several feet below the river level to 6 inches below the tops of the boulders to limit visibility and provide spaces for bottom swimming fish to pass thru the structure.

Place existing substrate stockpiled onsite: Since the availability and quality of on-site material is either unknown or does not meet the specification requirements for the project, construction of the in-river infrastructure will rely heavily on imported rock material. Local high-quality limestone can be quarried and is available specifically for this project. The Contractor will stockpile rock and other material during the irrigation season and then place that material in accordance with the construction plans for this task.

Deliverable:

Detailed report of the "Maybell Diversion Construction" tasks accomplished with this CWP grant. The contents of this report will include:

1. Summary of construction elements and how they were completed.
2. Description of obstacles encountered and how they were overcome or mitigated.
3. Confirmation that all matching commitments were fulfilled.
4. Photographs, summaries of meetings and engineering reports/designs.

Last Updated: May 2021

Tasks

Task 2 – Project Management & Administration

Description of Task:

The goal of this task is to oversee the project, supervise contractors, and provide updates to stakeholders and funding agencies. The task consists of the following:

1. Host and attend project management meetings with Maybell Irrigation District, construction crew, project engineer, and other interested parties.
2. Prepare contract documents, addendums and clarifications as necessary.
3. Monitor and maintain overall project budget and CWCB reporting.
4. Review material and component submittals.
5. Respond to MID questions and concerns during construction.
6. Perform operational test of new headgates and telemetry in partnership with MID.

Method/Procedure:

1. Oversee construction contract for in-river diversion work.
2. Draft project reports to CWCB on a biannual basis.
3. Provide updates to Yampa-White-Green Basin Roundtable.
4. Engage local stakeholders and interested parties by providing site visits as requested.
5. Staff and host meetings between project proponents, design engineer, and construction crew to ensure open project communication and safety requirements.
6. Provide education and outreach regarding project engineering and construction elements.

Deliverable:

Progress reports every 6 months that describes the status of the tasks, budget expenditures, and a description of any major issues that have occurred and any corrective action taken to address these issues.

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

TNC provided the Budget and Schedule in the Portal in a separately uploaded page.

Reporting Requirements

Last Updated: May 2021

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit C. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

(b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.

Last Updated: May 2021

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

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Water Plan Grant - Exhibit C
Budget Template Instructions

**** Please select the most appropriate budget template for your project from the worksheet tabs below. A general budget template is provided, as well as templates for studies, construction, and engineering projects.****

COLORADO
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Colorado Water Conservation Board

Water Plan Grant - Exhibit C
Budget and Schedule

Prepared Date: 11/30/2021

Name of Applicant: The Nature Conservancy

Name of Water Project: Maybell Diversion Construction on the Yampa River

Project Start Date: 6/1/2022

Project End Date: 12/30/2023

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request	Match Funding	Total
1	Construction - Maybell diversion improvements			$611,098	$675,607	$1,286,705
2	Project Management and Administration			$138,902	$153,566	$292,468
						$0
						$0
						$0
						$0
						$0
						$0
						$0
			Total	$750,000	$829,173	$1,579,173

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date: 11/30/2021
Name of Applicant: The Nature Conservancy with Maybell Irrigation District
Name of Water Project: Maybell Diversion Construction on the Yampa River

Exhibit C: Construction budget

Task 1 - Construction elements for Maybell diversion project

	Unit	Quantity	Unit Cost	Total Cost	CWCB Funds	Matching Funds
Care of Water and Erosion Control	LS	1	$ 345,000	$ 345,000	$ 170,000	$ 175,000
Re-configure Existing Diversion Structure Using In-Situ Material	CY	4020	$ 175	$ 702,696	$ 350,000	$ 352,696
Grout Diversion Structure	CY	4020	$ 17	$ 69,345	$ 36,098	$ 33,247
Place Existing Substrate Stockpiled Onsite	CY	1792	$ 92	$ 164,864	$ 55,000	$ 109,864
					$ -	$ -
Task 2 - Project Management and Administration						
2.1 Personnel	HR	80	60	$4,800		$4,800
subtotal				*$ 1,286,705*	*$ 611,098*	*$ 675,607*
2.2 Indirect costs	NICRA 22.73%			$292,468	$138,902	$153,566
TOTAL				**$ 1,579,173**	**$ 750,000**	**$ 829,173**

		June	July	Aug	Sep
Task 1: Construction Elements	Care of Water and Erosion Control				
	Re-configure Existing Diversion Structure Using In-Situ Material				
	Grout Diversion Structure				
	Place Existing Substrate Stockpiled Onsite				
Task 2: Project Management	Project Management Meetings				
	Oversee Construction				
	CWCB Reporting				
	Stakeholder updates				

J-U-B ENGINEERS, INC.

J-U-B COMPANIES | THE LANGDON GROUP | GATEWAY MAPPING INC.

DRAFT - MEMORANDUM

DATE: September 7, 2021

TO: Jennifer Wellman, TNC and Mike Camblin, MID

CC:

FROM: Maybell Project Technical Team

SUBJECT: Maybell Diversion Constructability and Opinion of Probable Construction Costs

This memorandum is intended to summarize the constructability and potential cost for both alternatives shown in the 30% plan sets presented to the agricultural stakeholder group in Maybell, Colorado on August 20th, 2021. A summary of the alternatives presented are described briefly below. Please reference the Alternatives Analysis report for full descriptions.

In Channel Alternative 1: Submerged Weirs (See page R-101A of 30% plans)
Alternative 1 utilizes a series of submerged weirs to dissipate energy and is distinguished from Alternative 2 by its length (Nearly 700' from the upstream most grade control structure to the final Boulder weir). The sequential submerged weir drops of Alternative 1 will likely provide adequate fish passage conditions and will not require a Boulder Fish Ladder to assist in passage. Additional considerations for Alternative 1:

- Utilizes more imported material (5,727 Tons of Boulder Grade Control, 2,323 Tons of Coarse Substrate Backfill, 106 tons of flow diversity boulders)
- Submerged weirs reduce the head energy over each drop by incorporating nine additional structures downstream of the first and main grade control structure.

In Channel Alternative 2: Roughened Rock Ramp (See page R-101B of 30% plans)
Alternative 2 utilizes a series of roughened rock ramps to dissipate energy and is distinguished from Alternative 1 by its shorter total length (approximately 365' from the upstream most grade control structure to the final rock ramp). Additional considerations for Alternative 2:

- Utilizes less imported material (741 tons of Boulder Grade Control, 3,429 Tons of Coarse Substrate Backfill, 97 tons of flow diversity boulders)
- The Roughened Rock Ramp design utilizes 3 structures downstream of the main grade control structure.
- Alternative 2 incorporates a boulder step fish ladder within the upper most grade control structure because at lower flows the design team anticipates that fish passage is potentially more difficult due to the larger energy drop across each roughened rock ramp structure.

Headgate alternatives A and B:
Two headgate alternatives were presented in the 30% plans (see sheets C-101A and C101B) and were recently shared with the agricultural stakeholders. The agricultural stakeholders expressed a strong preference for "Alternative A" (sheet C-101A). Alternative A included an angled headgate to promote debris clearing flow across the face of the headgate at higher flow levels.

Constructability

The constructability of a project of this scale, at a site as remote as the existing diversion, creates significant risk and uncertainty from a cost perspective to the project. Our team at J-U-B has endeavored through this "Cost and Constructability" analysis to better identify and plan for elements of the construction process. It should be stated that our team is composed of engineers and construction management professionals and this is an opinion of probable costs. Contractors may price the inherent risk and uncertainty associated with the large scale and difficult access differently. The selected contractor for this project will approach the project in a manner that allows them to complete the project using their expertise while following the plans specifications and access plan approved by BLM, USACE and others. Our team has identified several crucial processes that we believe a contractor will need to complete to construct the project, we have further attempted to estimate the costs of such processes.

This project presents several difficult issues related to construction. Likely the most challenging of these issues is the remote nature of the project and the access issues associated with the remote site. Significant quantities of large boulders and coarse substrate will require reliable access for heavy equipment. Therefore, we have focused a significant portion of time identifying the most appropriate access route for construction. We have further broken the project down into five categories of construction activities, including:

1.) Mobilization, access improvements and staging areas
2.) Materials hauling/stockpiling
3.) In-river work
4.) Inlet structure & irrigation piping
5.) Site restoration and demobilization

Schedule and sequencing
The wild nature of the Yampa River and the notably harsh winter climate at the site play significant roles in the feasibility of constructing the project. Before discussing general constructability, it may be useful to outline major scheduling and sequencing considerations. These items are as follows:

1.) Environmental clearances – Surface disturbing actions cannot begin until a proper environmental clearance is given by the Bureau of Land Management (BLM). The BLM has still not determined if this will need to be a Finding of No Significant Impact (FONSI) issued through an EA or as a categorical exclusion. The NEPA process could stall the project or push the construction into a less ideal construction window or season if any problems are encountered.

2.) The Maybell Irrigation District has asked that the diversion continue to provide water to their users throughout the irrigation season (Typically, approximately May 1 through November 1). Thus, construction activities must not interfere with the delivery of water during the irrigation season. –The water users have given some indication that an earlier than normal shutdown of irrigation deliveries is a possibility. Therefore, we have assumed that construction activities that prohibit irrigation deliveries are possible after September 15.
3.) Winter construction activities may prove to be quite difficult. Short daylength, ice, cold temperatures and snow removal amongst other concerns can add costs and difficulty to any project. Given the potential in this geography for temperatures well below zero our project should avoid major wintertime construction activities if at all possible, Springtime construction activities in-river could also present serious risks due to unpredictable runoff conditions.

Given the above considerations we believe the most cost-effective project will begin on the uplands in early/mid-summer. This will allow a head start on improving the access roads and staging areas as well as having the imported boulders, structural fill and any other imported aggregates delivered to the proposed stockpile/staging area at the turnoff from County Road 53. Benefits to starting these items in the early summer are:

- Constructing as much of the project as we can during ideal weather conditions and longer daylength.
- Hauling of materials during non-winter conditions
- Having the material on hand prior to starting construction activities increases productivity of time spent after irrigation deliveries cease.
- Maximizes the in-channel work window.

A proposed construction schedule is attached to the memorandum.

Mobilization, access improvements and staging areas

Mobilization

Mobilization is the first item of any construction project. The contractor must begin the project by acquiring and transporting the appropriate equipment, personal and other items necessary to begin the project. Mobilization for this project will likely to be a standard mobilization.

Access Improvements

Access to this project is a key project consideration and will likely be a cost and schedule driver. The access to the site is very poor under existing conditions and both alternatives will require that access to the site be improved significantly. It should be noted that the proposed access route follows the historically utilized access route for major improvements to the Maybell Diversion. Historically, the water users have accessed the diversion from the South when it has become necessary to place large boulders in the river. It does not appear that material import

efforts have occurred on this route; importing materials for this project is the primary impetus for the access improvement effort. Improving the access to the site from the south side can be broken down into 3 separate construction efforts:

1. BLM road 1663. Access from County Road 53 to the "two-track" road. This would be improved using a standard road grader. A good portion of this section of road will not require significant improvement other than leveling and importing aggregate material along steep sections or sections without proper drainage. We see improvements including ensuring a 12-foot width, hauling in imported aggregate base, grading existing rutting, grading the road with positive drainage and removal of trees as necessary to maintain width. This action would include approximately 4, 50' "turnouts" strategically placed to allow for two-way traffic operations.
2. Improving the south side "two-track" road to the staging area above the river – this portion will need to be constructed utilizing a large dozer and road grader. A number of trees will need to be removed to attain the 12' required width and reduce the curve radius in one place to allow large "rock trucks" to maneuver appropriately. This portion of road will also require imported aggregate base and positive drainage.
3. Access from the staging area to the river. This section will require a cut into the hillside with a large dozer down from the top of the staging area to an area approximately 50' above the diversion. Most likely a "rock truck" would back down this section of road and unload at an existing area of minimal slope. We envision a dozer pushing the material over the bank down to the diversion where a trackhoe can access the material for construction of the in-river grade control structures.

The south side access will need to be maintained throughout the project and if construction continues into the winter season, snow removal will be necessary.
The existing access on the North side of the river will also be available for access to the site, but no improvements are proposed. This access is sufficient for access to the site for specific equipment (a trackhoe performed some work using this access during the summer of 2021) and for smaller 4x4 vehicles. One section of steep slope along this north access prevents the type of improvements necessary to import the required materials. See attached "Temporary Road ROW Exhibit" for further clarification.

Staging Areas

The proposed south side stockpile/staging area adjacent to County Road 53 will need to be cleared and grubbed and graded to positively drain. It is anticipated that this staging area will primarily be used to transfer imported material from highway legal dump trucks to "Rock Trucks" that can access the site. We would also propose this area as a place for an office trailer and construction worker parking lot. This staging area will need to be large enough to stockpile the quantity of required material and room for equipment to load/unload material.

A second staging area above the river will need to be cleared and grubbed and graded to positively drain. We would propose this area to be used to park equipment at the end of shift to be fueled and cleaned. A containment area will be constructed in this location to meet any environmental requirements. This area can be used as a second material storage area and a possible area for a small concrete batching operation and a flat area to fuse the HDPE pipe.

Materials hauling/stockpiling

Both alternatives for the construction of this project rely heavily on imported material for construction of the in-river infrastructure. Large boulders are available on site for a portion of the construction; however, a few factors have pushed our design towards imported material including:

1.) The quantity of rock needed is significant. To utilize solely on-site material would require an onsite borrow operation including significant excavation and materials handling in a very small area and would produce an unknown quantity and quality of material.
2.) The on-site rock consists of 3 separate types of rock (as observed by our engineers) including a “conglomerate” sedimentary rock and a “mudstone” both of which likely will not meet even a loosely written specification for quality.
3.) Local high-quality limestone that can be quarried specifically for this project is available.

The large quantity of import material however requires that the construction operations account for the space and time necessary to haul, stockpile, haul and place the material. The current plan is for contractors to stockpile rock and other material during the irrigation season.

In-River work

The in-river work necessary for this project includes caring and diverting the Yampa River and placing imported rock and fill material according to the design plans and specifications.

For either alternative, our current proposed construction schedule would begin in-river work around September 1st. This is a desirable time to begin construction for a number of reasons including that the river historically demonstrates lower flows during September (See Figure 1). The large amount of imported boulder would be staged at the access point prior to the start of the in-channel work. The contractor will begin the process by adhering to the “care of water” plan provided in the plans and specifications that dictate how and when water is to be bypassed through or around the existing infrastructure to ensure that irrigation deliveries continue up to September 15th, and later if possible. The care of water plans will be developed for the preferred alternative as part of the 60% design process. A temporary pipeline will be constructed on the south bank and existing bypass locations along the canal will be improved. Both operations will be completed to allow the contractor to “dry down” the center of the main channel to allow for installation of the submerged weirs (Alt 1) or roughened rock ramps (Alt 2). Outside of proposed areas of grouted boulder, the in-channel work area does not need to be completely dry, but water needs to be drawn down enough for the contractor to accurately place and stack boulder footers. If grouted boulder is used on the upper drop, an increased level of work area isolation will be

required before installing the grout and one to two weeks of curing time will be required. For either alternative, the contractor will likely begin at the upstream and downstream ends of the project and work back towards the access point on the south bank. Once the first stage of in-channel construction and the headgate construction is complete the flowing river will be moved to the north side of the river and then the section within the footprint of the initial temporary pipeline along the south bank will be finished.

We estimate about 9 weeks of instream work, without weather or flow delays, to complete the submerged boulder weirs for Alternate 1. The fewer structures and smaller footprint of Alternative 2 would reduce the in-channel construction to approximately 6 weeks. These construction times are estimates only and will vary depending on the selected contractor and site conditions during construction.

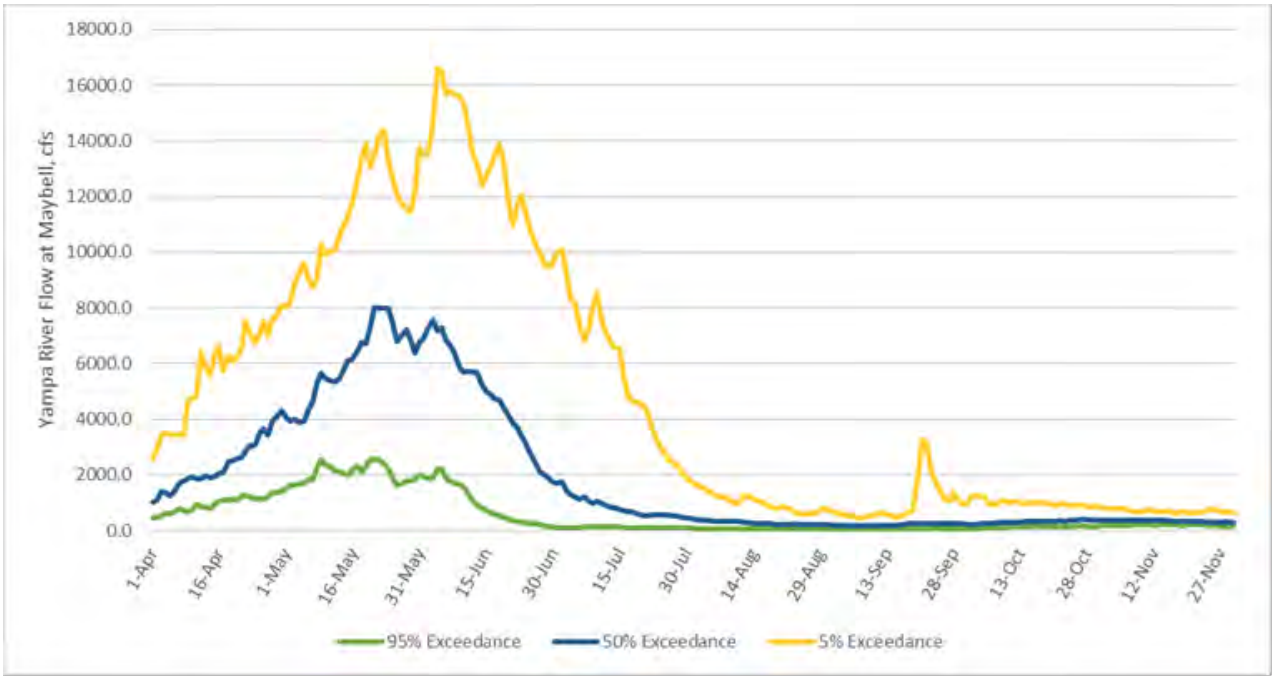


Figure 1: Yampa River Gauge exceedance probabilities.

Inlet Structure & Irrigation Piping

Construction of the inlet structure will likely take place after the upper most boulder grade control structure is complete, or nearly complete. Completion of the upper grade control structure may be necessary to access the inlet structure from the south side of the river. We envision utilizing an extendable boom forklift amongst other heavy equipment to construct the inlet structure. The largest challenge will be furnishing of the concrete to construct the headwall necessary to mount the gates.

It may be possible to use small concrete batch equipment to mix concrete onsite and transport the concrete in a hopper attached to a large excavator. The proposed staging area adjacent to

the river is likely a good place to setup batching equipment. From there, the concrete can be transported via concrete bucket hauled by the trackhoe to the inlet structure. Construction would likely occur during the October/November time frame, so cold weather protection of the concrete (blankets and heaters) is assumed and factored into the cost estimate. As an alternate to cast in place concrete, elements of the structure could be precast and assembled in place. The precast elements could be cast during the summer months onsite in the main staging area by County Road 53. This staging area can be easily accessed by concrete ready-mix trucks. Transportation to the site could be done via rock trucks and trackhoes, in a similar fashion to importing boulders. Precast constructability will be analyzed during the 60% design phase to ensure feasibility. If it is feasible to precast the headwall without sacrificing quality, both options will likely be available to contractors in the final design and specs.

48" irrigation pipe fusion can likely be done at the staging area as it is a relatively flat area and close to the river. Once fused, the pipe can be transported with the trackhoe from the staging area down to the river and across the river on top of the boulder diversion to the inlet structure. Structural fill and pipe backfill material will be transported from the main staging area to the boulder unloading area above the river via rock trucks. This material could also be transported using the north bank access road with small equipment as an additional option for the Contractor.

Site Restoration and Demobilization

Without knowing the specific final environmental requirements, we estimate that there will need to be site restoration tasks. Our Site Restoration cost item includes the stockpiling of existing topsoil at the staging areas, regrading of this topsoil, hydro mulch & seeding the staging areas with a seed mix approved by BLM. We estimate the demobilization of equipment and site restoration to take 2 weeks.

Opinion of Probable Construction Costs

Because alternative selection has not been finalized, OPCC's are provided below for alternatives based on the different elements within the project (In-River and Headgate). The OPCC's have been developed to be "mix and match", so that either headgate option can be paired with either in-river option. It is important, however, that all elements of the project be accounted for when assessing total project costs. This means that any cost assessment needs to include: General Construction (which includes SCADA), an In-River Alternative, and a Headgate Alternative. The Tables below provide OPCC's for the 30% project alternatives.

Table GC. OPCC for General Construction Costs, Access, and SCADA

Item	Description	Unit	Estimated Quantity	Unit Price	Amount
1	Mobilization	LS	1	$ 25,000	$ 25,000
2	Office Trailer & Generator	LS	1	$ 50,000	$ 50,000
3	Equipment Cleaning Station	LS	1	$ 10,000	$ 10,000
4	Quality Control Testing	LS	1	$ 5,000	$ 5,000
5	Erosion Control/Dust Abatement	LS	1	$ 8,000	$ 8,000
6	Construction Survey	LS	1	$ 20,000	$ 20,000
7	Construct Staging Areas	LS	1	$ 5,000	$ 5,000
8	Tree Removal	LS	1	$ 5,000	$ 5,000
9	Construct Access Road	LS	1	$ 200,000	$ 200,000
10	Aggregate Base for Access Road	TON	1000	$ 15	$ 15,000
11	Access Road Maintenance & Snow Removal	LS	1	$ 13,000	$ 13,000
12	Site Restoration	LS	1	$ 10,000	$ 10,000
13	SCADA Components*	LS	1	$ 207,000	$ 207,000
14	Bonding (2%)				$ 11,460
15	Profit and Overhead (12%)				$ 68,760
Subtotal					$ 653,220
15% Contingency					$ 97,983
Grand Total					**$ 751,203**

*A detailed breakdown of SCADA costs was provided in the SCADA and Telemetry Plan, dated 7/30/2021

Table IR1. OPCC for In-River Alternative 1

Item	Description	Unit	Estimated Quantity	Unit Price	Amount
1	Care of Water and Erosion Control	LS	1	$ 300,000.00	$ 300,000
2	Channel Excavation, Stockpile Onsite	CY	2240	$ 20.00	$ 44,800
3	Furnish, Deliver, and Place Boulder Grade Control	TON	5727	$ 160.00	$ 916,320
4	Furnish, Deliver, and Place Coarse Substrate Backfill (18-inch D50)	TON	2323	$ 130.00	$ 301,990
5	Place Existing Substrate Stockpiled Onsite	CY	1792	$ 80.00	$ 143,360
6	Haul-off and dispose of excavated material	CY	448	$ 30.00	$ 13,440
7	Furnish, Deliver, and Place Flow Diversity Boulders	TON	106	$ 160.00	$ 16,960
8	Re-configure Existing Diversion Structure Using In-Situ Material	CY	4020	$ 152.00	$ 610,972
9	Grout Existing Diversion Structure	CY	4020	$ 15.00	$ 60,300
10	Bonding (2%)				$ 48,163
11	Profit and Overhead (12%)				$ 288,977
Subtotal					$ 2,745,282
15% Contingency					$ 411,792
Grand Total					**$ 3,157,075**

Table IR2. OPCC for In-River Alternative 2

Item	Description	Unit	Estimated Quantity	Unit Price	Amount
1	Care of Water and Erosion Control	LS	1	$ 200,000.00	$ 200,000
2	Channel Excavation, Stockpile Onsite	CY	1215	$ 20.00	$ 24,300
3	Furnish, Deliver, and Place Boulder Grade Control	TON	741	$ 160.00	$ 118,560
4	Furnish, Deliver, and Place Coarse Substrate Backfill (18-inch D50)	TON	3429	$ 130.00	$ 445,770
5	Place Existing Substrate Stockpiled Onsite	CY	972	$ 80.00	$ 77,760
6	Haul-off and dispose of excavated material	CY	243	$ 30.00	$ 7,290
7	Furnish, Deliver, and Place Flow Diversity Boulders	TON	97	$ 160.00	$ 15,520
8	Re-configure Existing Diversion Structure Using In-Situ Material	CY	4020	$ 152.00	$ 610,972
9	Grout Existing Diversion Structure	CY	4020	$ 15.00	$ 60,300
10	Install Boulder Fish Ladder	LS	1	$ 30,000.00	$ 30,000
11	Bonding (2%)				$ 27,809
12	Profit and Overhead (12%)				$ 166,857
Construction Costs - **Subtotal**					$ 1,785,139
Construction Costs - **15% Contingency**					$ 267,771
Grand Total					**$ 2,052,909**

Table HGA. OPCC for Headgate Alternative 1

Item	Description	Unit	Estimated Quantity	Unit Price	Amount
1	Remove Existing Inlet Structure	LS	1	$ 2,000.00	$ 2,000.00
2	Remove Existing 48" Pipe	LS	1	$ 2,000.00	$ 2,000.00
3	Install 48" DR 32.5 HDPE Pipe	LF	140	$ 390.00	$ 54,600.00
4	Structure Excavation & Subgrade Prep	CY	100	$ 100.00	$ 10,000.00
5	Structural Backfill	CY	21.2	$ 350.00	$ 7,420.00
6	Concrete Inlet Structure	CY	60	$ 1,200.00	$ 72,000.00
7	Imported Pipe Bedding Material	CY	263.3	$ 60.00	$ 15,798.00
8	5'x7' Custom Sluice Gates	EA	2	$ 55,000.00	$ 110,000.00
9	Debris Boom and Trashrack	EA	1	$ 41,000.00	$ 41,000.00
10	Ramp Flume Stilling Well	LS	1	$ 5,000.00	$ 5,000.00
11	Bonding				$ 6,396.36
12	Profit and Overhead (12%)				$ 38,378.16
Construction Costs - **Subtotal**					$ 364,592.52
Construction Costs - **15% Contingency**					$ 54,688.88
Grand Total					**$ 419,281.40**

Table HGB. OPCC for Headgate Alternative 2

Item	Description	Unit	Estimated Quantity	Unit Price	Amount
1	Remove Existing Inlet Structure	LS	1	$ 2,000.00	$ 2,000
2	Remove Existing 48" Pipe	LS	1	$ 2,000.00	$ 2,000
3	Install 48" DR 32.5 HDPE Pipe	LF	100	$ 390.00	$ 39,000
4	Structure Excavation & Subgrade Prep	CY	100	$ 100.00	$ 10,000
5	Structural Backfill	CY	14	$ 350.00	$ 4,900
6	Concrete Inlet Structure	CY	42	$ 1,200.00	$ 50,400
7	Imported Pipe Bedding Material	CY	178.7	$ 60.00	$ 10,722
8	4'x4' Custom Sluice Gates	EA	2	$ 25,000.00	$ 50,000
9	Debris Boom and Trashrack	EA	1	$ 55,000.00	$ 55,000
10	Debris Boom Anchor	EA	1	$ 25,000.00	$ 25,000
11	Ramp Flume Stilling Well	LS	1	$ 5,000.00	$ 5,000
12	Bonding				$ 5,080
13	Profit and Overhead (12%)				$ 30,483
Construction Costs - **Subtotal**					$ 289,585
Construction Costs - **15% Contingency**					$ 43,438
Grand Total					**$ 333,023**

Note that if the stakeholders choose the submerged weirs (alternative 1) and the Headgate Alternative B our Opinion of Probable Construction Costs is $4,327,559, see table 1.

Table 1: OPCC for submerged weirs (alternative 1) and Headgate option A

General Construction	$ 751,203
Submerged weirs	$ 3,157,075
Headgate Alt A	$ 419,281
Project OPCC	**$ 4,327,559**

If the stakeholders choose the roughened rock ramp (alternative 2) and the Headgate Alternative B our Opinion of Probable Construction Costs is $3,223,394, see table 2.

Table 2: OPCC for Roughened Rock Ramps (alternative 2) and Headgate option A

General Construction	$ 751,203
Roughened Rock Ramp	$ 2,052,909
Headgate Alt A	$ 419,281
Project OPCC	**$ 3,223,394**

CONCLUSION

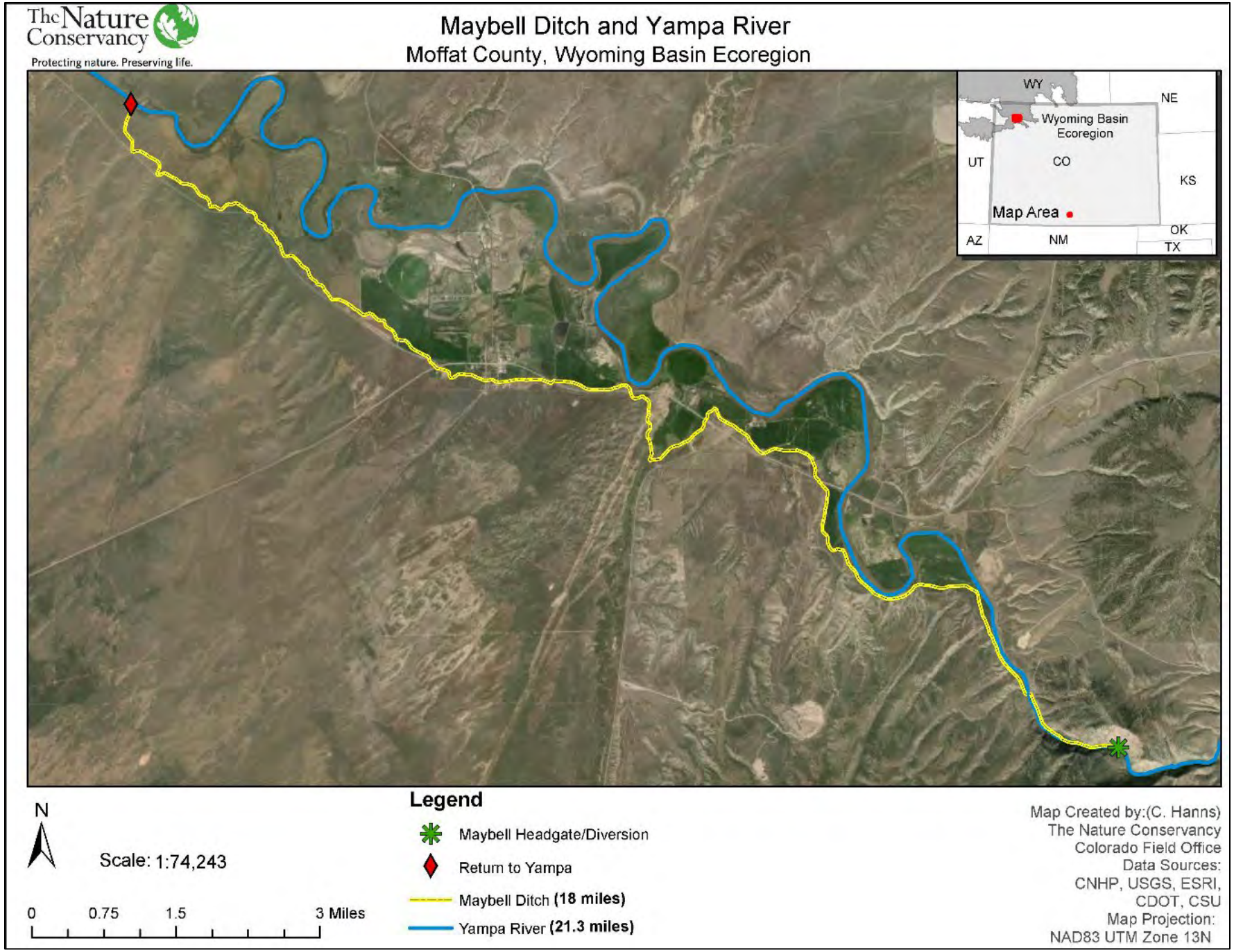
In our professional opinion all alternatives for this project are constructable. The access to the site is a huge driver of the schedule and budget along with the import of materials. A wide range of bids may be expected from contractors due to the high level of risk and uncertainty associated with access to the project and difficult methodologies of construction. The above project element descriptions define how our team envisions the project being completed. However, as the design process moves forward, and environmental commitments are finalized our team will continue to refine the potential approaches and OPCC and provide flexibility to contractors where possible.

In addition, given the uniqueness of this project our team would suggest a proposal-based selection process in which contractors provide to TNC and MID their unique approach to the project and a contractor is selected based on qualifications and project approach in addition to cost. This may result in selecting a contractor who is not necessarily the lowest bidder but selecting a contractor who provides a combination of value, expertise and project knowledge.

Attachments:

Sheets R-101A, R-101B, C-101A and C-101B
Temporary Road ROW Exhibit
Proposed Construction Schedule

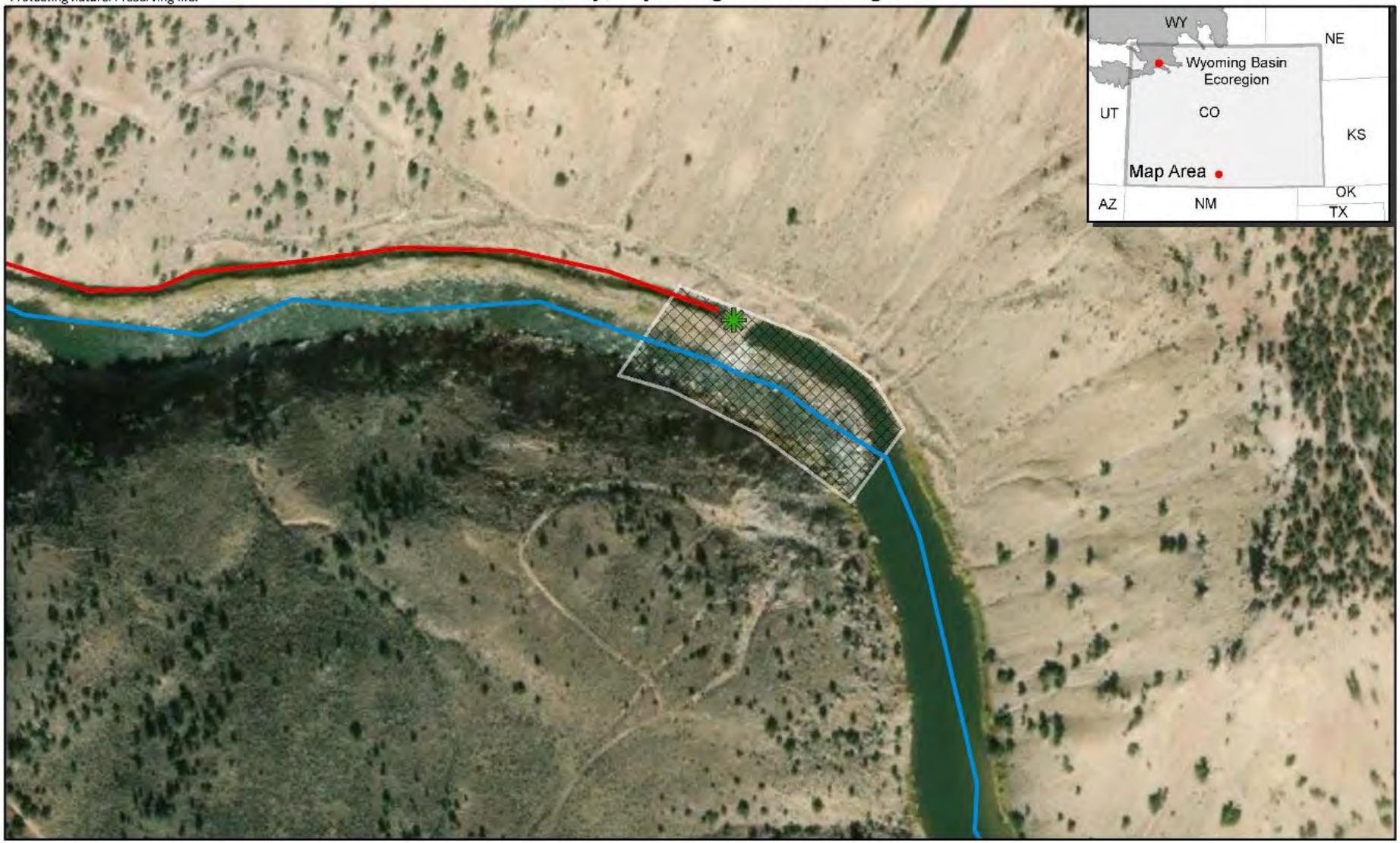
Exhibit C: Project Maps & Photos



The Nature Conservancy
Protecting nature. Preserving life.

Maybell Diversion and headgate on the Yampa River

Moffat County, Wyoming Basin Ecoregion



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Scale: 1:3,711

0 0.035 0.07 0.14 Miles

Legend

- Maybell Headgate/Diversion
- Yampa River
- Maybell Ditch
- Proposed Restoration Area

Map Created by:(C. Hanns)
The Nature Conservancy
Colorado Field Office
Data Sources:
CNHP, USGS, ESRI,
CDOT, CSU
Map Projection:
NAD83 UTM Zone 13N

Scale 1" =600', 11 x 17, 1" = 300' 22 x 34

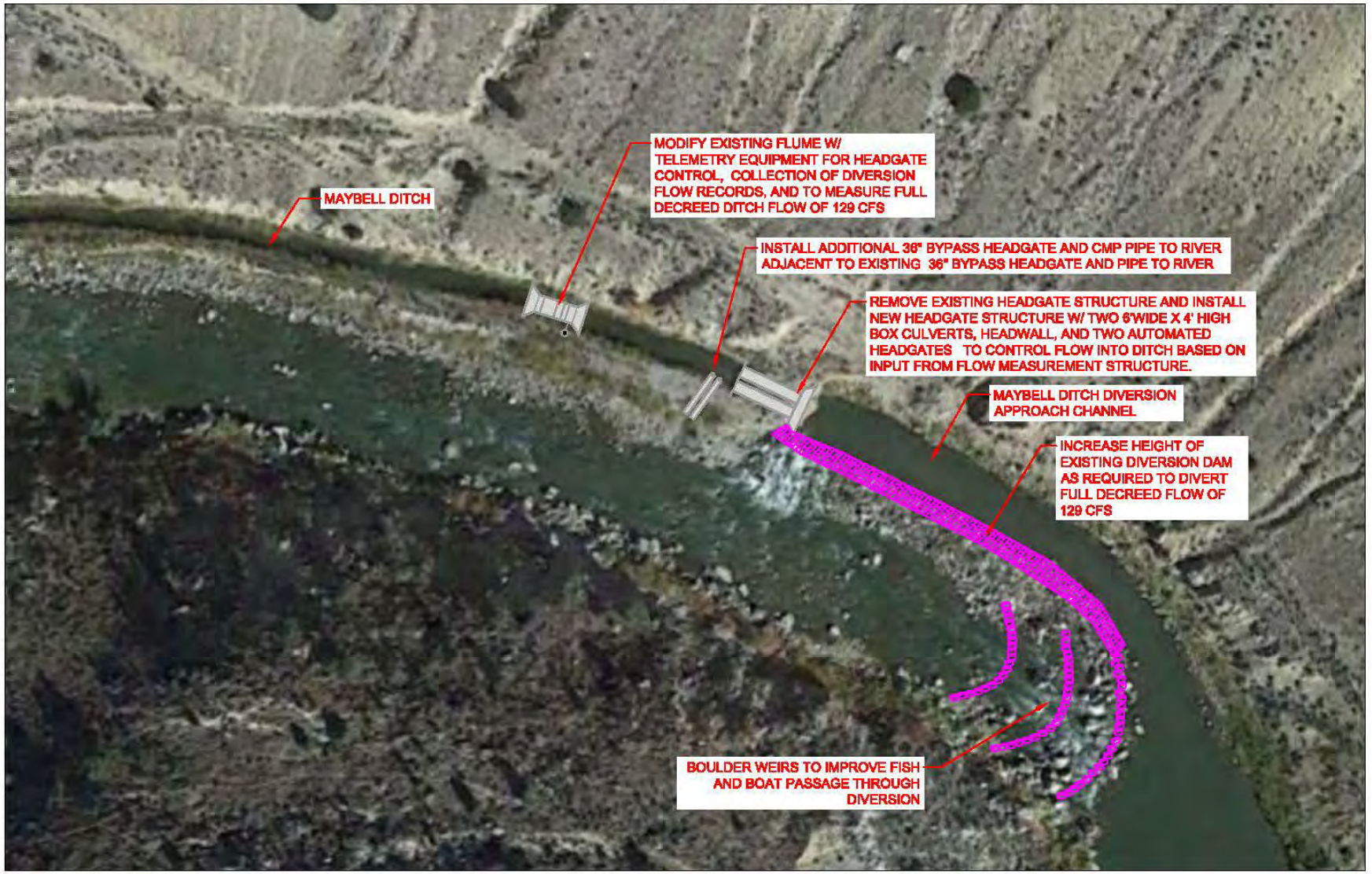
NORTH 1" = 300'

Maybell Ditch
Diversion Improvements

Maybell Ditch – Existing Structures Overall Plan

Wayne E. Eckes, P.E.

Designed By WEE
Drawn By WEE
Checked By WEE
Date 12-21-2015
Sheet No.
EX–1



Scale 1" =60', 11 x 17, 1" = 30' 22 x 34

NORTH 1" = 30'

0 30 60 90 feet

No.	Revisions	Date

Maybell Ditch
Diversion Improvements
Moffat County, Colorado

Maybell Ditch – Diversion Improvements

Wayne E. Eckas, P.E.
1514 Antenna Court
Fort Collins, CO 80525
970-690-1000 (Cell)

Designed By	WEE
Drawn By	WEE
Checked By	WEE
Date	12-21-2018
Sheet No.	P–1

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Little Snake Field Office
455 Emerson Street
Craig, Colorado 81625-1129
https://www.blm.gov/office/little-snake-field-office

In Reply Refer To:
2800 (CON010)
COGS0-022987

November 24, 2021

ELECTRONIC MAIL – Return Receipt Requested

To Whom It May Concern:

On December 5, 1904, the Maybell Irrigation District (District) was issued a pre Federal Land Policy and Management Act of 1976 (FLPMA) right-of-way (ROW) authorization, in perpetuity, for an irrigation canal pursuant to the Congressional Act of March 3, 1891, 43 U.S.C. 946 (Act). The Act authorized ROW's to any canal ditch company, irrigation or drainage district formed for the purpose of irrigation or drainage through the public lands (Bureau of Land Management (BLM)) of the United States. The extent of the ground occupied by the water of any reservoir and of any canals and lateral and fifty feet on each side of the marginal limits thereof. Upon proof of construction, the Act authorizes the right to take from the public lands adjacent to the line of the canal or ditch, material earth, and stone necessary for the construction of such canal or ditch.

The canal ROW was authorized under a congressional Act, which limits the Secretary's regulatory control by the current Federal land management agency over normal operation and maintenance of the ROW. The Secretary or designated Authorized Officer, has no more than a ministerial duty. The BLM Manual provides that prior and current regulations shall be utilized to the extent they do not impair the rights of the holder. The Manual further provides for reasonable regulation, so that the ROW Holder's activities on public lands are subject to reasonable oversight by the BLM. Reasonable regulations are partly defined as those which do not, impair the rights the Holder had under the pre-FLPMA law and regulations in effect at the time of the ROW grant.

The District is currently proposing to replace the current headgate at the Maybell diversion of the canal which is located on public lands. The existing headgates are broken and difficult to manage at low flows. The replacement of the headgate is needed to provide drought resilience and improve collaboration amongst water users and stakeholders in the Lower Yampa River. The project will provide the District with remote monitoring and control of the headgate to more precisely control water in the ditch to match irrigation needs, thereby reducing unused ditch tail water. The project is needed because the current diversion is an obstruction to fish and dangerous for boat passage at certain flows.

Under the Act, the pre-FLMPA ROW allows for reasonable and historical maintenance and is considered a vested right prior to the passage of FLMPA. The replacement of the headgate is considered maintenance and is not a change in use or substantial deviation from the original authorized use that would require a FLMPA ROW. The replacement of the headgate does not create a burden on the land and its resources and is considered to be within the scope of the vested ROW. Therefore, as long as the replacement of the headgate is completed within the limits of the authorized limits of the existing canal, BLM would not require an environmental analysis under the National Environmental Policy Act (NEPA). BLM essentially has no decision to make under a maintenance activity.

However, as part of the project, the District will require the use and improvement of existing access roads and staging areas. Since this part of the project falls outside the scope of the original pre-FLPMA ROW authorization, a short-term and long term FLPMA ROW would be required. The access roads and staging areas would require the submission of a ROW application, would be subject to cost recovery fees, rental, and a NEPA analysis.

If you have any questions regarding your right-of-way application or the fees connected with it, please contact Janell Corey, at (970) 826-5053, or email jcorey@blm.gov.

Sincerely,

Bruce Sillitoe
Field Manager

cc:
The Nature Conservancy
Jennifer Wellman
jennifer.wellman@TNC.ORG

Upper Colorado River Endangered Fish Recovery Program

Matt Hogan, Chairperson
Implementation Committee

Julie Stahli
Program Director

U.S. Fish and Wildlife Service – 44 Union Blvd – Lakewood, Colorado 80228 – 303-236-9881

November 24, 2021

Colorado Water Conservation Board
Water Plan Grant Administrator
1313 Sherman Street, Room 721
Denver, CO 80203

Re: Maybell Diversion Structure and Headgate Rehabilitation Project

Dear CWCB Water Plan Grant Reviewers:

This letter of support is to encourage the CWCB Water Plan grantors to help fund this important reconstruction project of the Maybell Canal diversion structure in Moffat County, Colorado. The Maybell Irrigation Company, The Nature Conservancy, the Upper Colorado River Endangered Fish Recovery Program (Recovery Program), and many other partners have a long history implementing conservation actions and improving flow conditions for native fish in the Yampa River in accordance with the intent and conservation actions described in the Yampa River Management Plan and Programmatic Biological Opinion (USFWS, 2004). The Program Director's Office of the Recovery Program supports this project, which will improve the operations and management of the Maybell Canal diversion and facilitate fish and boat passage at the point of diversion.

The Yampa River is vital to four endangered species in the upper Colorado River system: humpback chub (*Gila cypha*), bonytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), and razorback sucker (*Xyrauchen texanus*). The U.S. Fish and Wildlife Service has designated critical habitat for all four of these species within the lower reaches of the river, and critical habitat for Colorado pikeminnow extends through the reach where the Maybell Canal diversion is located. Adequate base flows are important to ensure sufficient resting and foraging habitat for these species, along with opportunities to move up and down the river while avoiding predation. Yampa River flows and sediment also benefit habitat for endangered fishes in the middle Green River downstream from the Yampa River confluence.

This proposed project has great potential to benefit instream flow conditions for the endangered fish during the irrigation season. The Recovery Program, in coordination with various Yampa River water

interests, seeks to maintain certain minimum flows for through critical habitat during the irrigation season on the Yampa River, and storage releases are made from Elkhead Reservoir for this purpose. This proposed project, together with other improvements that have recently been made to the Maybell Canal delivery system, will allow irrigators to more reliably utilize their full allotment of water and minimize over-diversion at the headgate, which will translate into improved flow conditions down river for native fish. As noted above, this rehabilitation effort also offers a welcome opportunity to improve fish and boat passage at the diversion.

We are particularly pleased that these improvements benefiting endangered fish also will benefit agricultural water users and recreational interests in the lower Yampa River. The Recovery Program strongly supports solutions that benefit multiple water interests.

Feel free to contact me at (303) 236-4573 with any questions. Thank you for your interest in this effort.

Sincerely,

Julie Stahli

Julie Stahli
Program Director
Upper Colorado River Endangered Fish Recovery Program

Colorado River Energy Distributors Association - Colorado Water Congress - National Park Service - State of Colorado
State of Utah - State of Wyoming - The Nature Conservancy - U.S. Bureau of Reclamation - U.S. Fish and Wildlife Service
Utah Water Users Association - Western Area Power Administration - Western Resource Advocates - Wyoming Water Association

November 24, 2020

Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

Dear CWCB Water Plan Grant Reviewers,

The Moffat County Commissioners offer our support of Maybell Irrigation District (MID) and The Nature Conservancy's (TNC) efforts to rehabilitate the diversion and replace the headgates on the Maybell Ditch. This project has been a priority in Moffat County for quite some time as the current headgates do not operate properly and large-scale repairs are needed to update the diversion. We are appreciative of TNC's proposal to jointly work with the Maybell Ditch Company and CWCB to improve the Maybell Diversion and associated headgates.

The *Maybell Diversion Restoration and Headgate Modernization* project is a prime example of the importance of working collaboratively in the basin with many agencies, organizations, and private entities. The project is a locally driven, multi-benefit project to protect water security and increase efficiency for agricultural producers on the Maybell Canal while benefiting the natural environment, recreation, and fish passage. Maybell has a vested, long-term commitment to agriculture and the environment as they are one of the largest and oldest water users on the Yampa.

If you have any questions about Moffat County's support for the Maybell project, please contact any of the Moffat County Commissioners, or our Natural Resources Director, Jeff Comstock at the number listed below.

Respectfully,

Ray Beck, Chairman
Moffat County Commissioner

Don Cook, District 1
Moffat County Commissioner

Donald Broom, District 3
Moffat County Commissioner

221 West Victory Way, Ste 130
Craig, CO 81625
(970) 824-5517
(970) 824-9191 (fax)

Don Cook
District 1

Ray Beck
District 2

Donald Broom
District 3

The Nature Conservancy
Colorado

The Nature Conservancy in Colorado
2424 Spruce Street
Boulder, CO 80302

tel (303) 444-2950
fax (303) 444-2985

nature.org/colorado

November 30, 2021

Chris Sturm & Cole Bedford
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

RE: Commitment of matching funds for Maybell Diversion construction

Dear Mr. Sturm and Mr. Bedford:

The Nature Conservancy (TNC) is grateful for the opportunity to submit a Water Plan Grant application to support construction of Maybell Irrigation District's diversion structure on the Yampa River. In 2022, we plan to begin the construction phase involving earthwork, site preparation, and surveying. TNC and Maybell Irrigation District are seeking an array of additional funding sources for this project to cover construction of the in-stream diversion and replacement of the headgates.

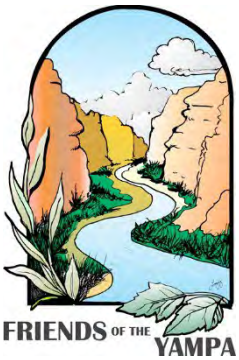
Our current proposal to CWCB would cover costs for the in-river work to construct the new diversion. Once complete, this new diversion will increase reliability for water supply to the Maybell Irrigation District, sustain critical habitat for endangered fish, and provide recreational passage for boaters on the Yampa.

If this proposal is selected and fully funded, The Nature Conservancy will provide a cash match of $829,173, equal to 53% of this phase of construction costs. Our request to the CWCB is for $750,000 which will provide a significant contribution towards the entire diversion modernization project, estimated at upwards of $4 million.

Our partnerships with the US Fish and Wildlife Service -- Endangered Fish Recovery Program, the Yampa-White-Green Basin Roundtable, Moffat County, Friends of the Yampa, and the Bureau of Land Management highlight the essential community-based nature of this project. TNC is committed to safety and anticipates moving the project forward with appropriate Covid-19 precautions. We appreciate the CWCB's continued support of this project.

Sincerely,

Carlos E. Fernandez, State Director
The Nature Conservancy in Colorado



Friends of the Yampa

PO Box 774703

Steamboat Springs, CO 80477

Colorado Water Conservation Board

Water Plan Grant Application

1313 Sherman Street, Room 718
Denver, CO 80203

November 19, 2021

Dear CWCB Water Plan Grant Review Committee:

On behalf of Friends of the Yampa (FOTY), we wholeheartedly support The Nature Conservancy's (TNC) proposal to improve the Maybell diversion and replace the headgate on the Maybell Ditch. We have partnered with TNC on this project from its onset three years ago and improvement to this structure is identified as a goal of our organization's strategic plan. It would be difficult to find a project in Colorado that better aligns with an objective to improve infrastructure and riverine habitat through a multi-benefit lens. Moreover, this project would address a *significant* safety concern created by the in-channel Maybell diversion structure that is in place today.

The current Maybell diversion presents a nearly impassable and, if unfamiliar with the area, surprising rapid due to its inconsistency with the relatively calm river surrounds. During high flows its spillway arrangement and flow spread presents confusing, dramatic, and scary conditions. The current head gate arrangement presents another hazard as the force of the river pushes toward the structure creating a potential issue for any user that finds itself in an unfortunate situation of being pulled toward it. In low water conditions a less forceful but similarly dangerous condition presents itself to river users in the form of jagged boulders and rubble formed at a diagonal to the river's path. Due to the safety issues present to river users and the private property that surrounds the diversion, recreationalists currently face the lose-lose situation of choosing to disregard their personal safety or illegally trespassing on the streambank to scout and, more often than not, portage the diversion. The current structure presents the most significant barrier to safe, passable recreation along the approximately 200-mile stretch of the Yampa River leading from the headwaters to Maybell and Cross Mountain. Improvement to the diversion structure will vastly improve river user safety and reduce private property trespass.

Your consideration is greatly appreciated to award a WPG grant to construct a new diversion and contribute to making the Maybell reach of the Yampa River safer for boating and better for fish passage. This project will generate positive impacts for endangered fish and other species in the Yampa River as well as benefiting downstream irrigators. FOTY believes this project fits well within Colorado Water Plan priorities. Specifically, the project will contribute to "Enhancement and restoration of hydrology and connectivity for native species including aquatic habitat restoration and fish barrier installation/removal".

We believe this project aligns with the CWCB's commitment to fund projects that generate benefits for agriculture, outdoor recreation, wildlife habitat, and endangered fish in the Yampa River. Additionally, it has strong potential to preserve water security for agricultural producers while benefiting the natural environment – both of which are goals of the Colorado Water Plan. It is with the utmost enthusiasm that we submit this letter of support for consideration of allocation of grant dollars toward this worthy cause. If you have any further questions about Friends of the Yampa or our support for this request, I can be reached at bensbeall@gmail.com. Thank you for your consideration of this important project.

Warmest Regards,

Ben Beall
President, Friends of the Yampa
257 Spruce Street
Steamboat Springs, Colorado 80487

Friends of the Yampa's mission is to protect and enhance the environmental and recreational integrity of the Yampa River and its tributaries, through stewardship, advocacy, education and partnerships.

MAYBELL IRRIGATION DISTRICT

PO BOX 131, MAYBELL, CO 81640

Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

November 30, 2021

Dear Colorado Water Conservation Board (CWCB) Water Plan Grant reviewers:

On behalf of Maybell Irrigation District, I am writing to support our request for funding through our partnership with The Nature Conservancy (TNC) to rehabilitate the Maybell diversion and replace the headgate on the Maybell Ditch. Improvements to the diversion structure are an integral part of our larger project to improve irrigation efficiency.

Over the past few years, Maybell Irrigation District worked to improve and modernize our irrigation system by installing a wastegate, several check structures, and lining critical sections of the historic Maybell ditch with geomembrane material. We appreciate the support that the CWCB provided for the planning and engineering design phases of the diversion project, including the permitting and bid package, and for assistance with construction of our new automated headgates. Through these advances, the Maybell Irrigation District can better work with the river to control the amount of water diverted on a real-time basis – generating positive impacts for habitat along the Yampa River as well as benefiting the Maybell irrigators. Project engineers are designing the diversion to improve fish and boat passage as well as provide a reliable water source to Maybell irrigators. The current structure impedes fish passage at low flows and is a known hazard to boaters.

Maybell Irrigation District will continue to contribute shareholder time and expertise through construction of this project. This includes site visits, meeting attendance with contractors and technical staff, and project oversight. We understand the importance of working collaboratively in the basin -- this project is noted as a priority in the Yampa-White-Green Roundtable's updated Basin Implementation Plan as a Tier 1, multi-benefit project.

The Maybell Diversion & Headgate Construction project is a highlight for the Yampa Basin as it strengthens awareness about projects that generate benefits for irrigators, wildlife habitat, and outdoor recreation. This project serves as a model for others who want to protect irrigation water security and benefit the natural environment. We are grateful for the CWCB's ongoing support of this project and thank you for consideration of our proposal.

Sincerely,

Mike Camblin
President
Maybell Irrigation District