

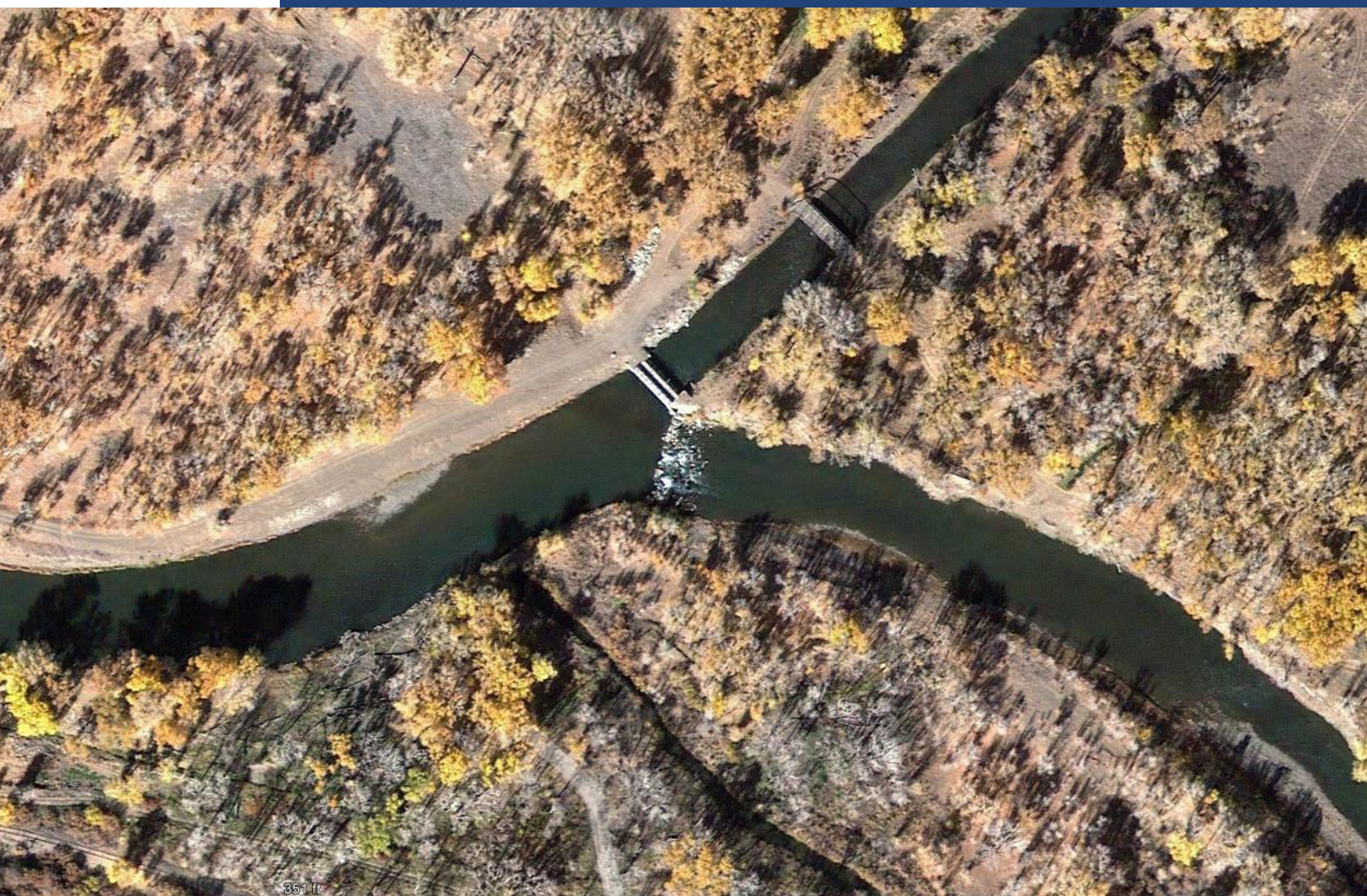
Submitted by:



In partnership with:



Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project Loan Feasibility Report



Aerial Image of SLVID North Branch Splitter

Feasibility Study Approval

Pursuant to Colorado Revised Statutes 37-60-121 & 122, and in accordance with policies adopted by the Board, the CWCB staff has determined this Feasibility Study meets all applicable requirements for approval.

Prepared by:



May 2025

Signed

Date

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1. INTRODUCTION

The San Luis Valley Irrigation District (District) is an irrigation district formed and operating pursuant to Title 37, Article 42 of the Colorado Revised Statutes. The District's offices are in Center, Colorado. The District owns and operates 135 miles of irrigation ditches, including its primary ditch, the Farmers Union Canal, which diverts water from the Rio Grande River and delivers this water to nearly 62,000 acres of land located in the San Luis Valley in Alamosa, Rio Grande and Saguache Counties. The District has partnered with the Colorado Rio Grande Restoration Foundation (CRGRF) to complete the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project.

The District owns and operates the "North Branch Splitter" diversion structure on the Rio Grande River which regulates and bifurcates flows into two river channels near Del Norte, CO. The Farmers Union Canal and several other irrigation ditches are located on the North Branch of the Rio Grande River and rely on the diversion structure to ensure water can be delivered. The Rio Grande #1 Ditch diverts water just upstream of the North Branch Splitter and relies on the North Branch Splitter to provide adequate hydraulic head for diversion of its water rights. Currently, the diversion structure is old, inefficient, and creates a barrier for fish and boat passage. This rehabilitation project will replace the existing infrastructure, improving the ability for irrigation ditches to divert water when river flows are lower and will include a boat passage, and a rock ramp fishway. Additionally, as part of the structure rehabilitation project, stream and riparian habitat enhancements will be completed in the areas upstream and downstream of the new diversion structure. This project was also identified as a priority in both the 2020 Rio Grande Stream Management Plan and the 2022 Rio Grande Basin Implementation Plan to meet agricultural, environmental, recreational, municipal/industrial, and river administration needs.

This project will include the following work:

- Removal of the existing diversion dam servicing the Rio Grande #1 Ditch
- Replacing and automating the headgate and splitter infrastructure servicing the Farmers Union Canal and the Rio Grande #1 Ditch which will also benefit the Weiss, Brey, Rio Grande #2, Kane Callan, Anna Raber, Off, Raber, Hall Voss, Cochran Pioneer, and McIntosh Arroya ditches
- Enhancing 542 linear feet of aquatic habitat through improved sediment transport at the upgraded diversion dam and the installation of fish habitat features
- Stabilizing 646 linear feet of streambank
- Restoring 0.2 acres of riparian habitat using 1,200 willow transplants

The total cost of the project is anticipated to be \$2,281,625. Of the total project cost, \$1,274,625 in funding has been secured through a Bureau of Reclamation WaterSMART grant, and \$600,000 has been secured through a CWCW Water Plan grant. The remaining costs will be covered by

contributions from the District, Rio Grande Headwaters Land Trust, and Rio Grande #1 Ditch water users. As described in this feasibility report, the District is seeking a \$249,470 loan (\$247,000 with 1 % fee added to principal) to fund a portion of the cost for the North Branch Splitter rehabilitation project.

2. PROJECT SPONSOR

The San Luis Valley Irrigation District was formed in 1908 under the Irrigation District Law of 1905, C.R.S. §§ 37-41-101, et seq., as amended. The District's offices are in Center, Colorado and the District encompasses portions of Alamosa, Rio Grande, and Saguache County. The District owns and operates 135 miles of irrigation ditches, including the main canal, the Farmers Union Canal, which diverts from the Rio Grande River and delivers water to several lateral ditches and includes approximately 63,000 acres of land within the central and northern portion of the San Luis Valley. In addition to ditches, the District owns and operates Rio Grande Reservoir, an on-channel reservoir at the headwaters of the Rio Grande River in Hinsdale County that has a storage capacity of approximately 54,000 AF. The purpose of irrigation districts is to bring into cultivation the arid lands of the state and make them highly productive through irrigation.

The District Board for 2025 are:

Randall Palmgren, President
Sheldon Rockey, Vice-president
Mark Beiriger, Director
Tuck Slane, Director
Patrick Brownell, Director

The management staff of the District are:

Rob Phillips, Superintendent
Amy Dean, Secretary

3. PROJECT SERVICE AREA AND FACILITIES

The Irrigation District is comprised of 62,920 acres of assessed irrigated land as shown in **Figure 1**. The 2025 annual assessments by the District on these acres are \$11.38 per acre for a total of \$716,029.60. The Rio Grande County Assessor, its annual property tax notice to landowners within the Irrigation District, includes the Irrigation District's assessment and also collects the assessments and distributes the collected assessments to the Irrigation District. In addition to the annual assessment, the District landowners also pay a variable fee to Groundwater Management Subdistrict No. 1 for replacement of well pumping that is not covered by the Irrigation District's annual diversions.

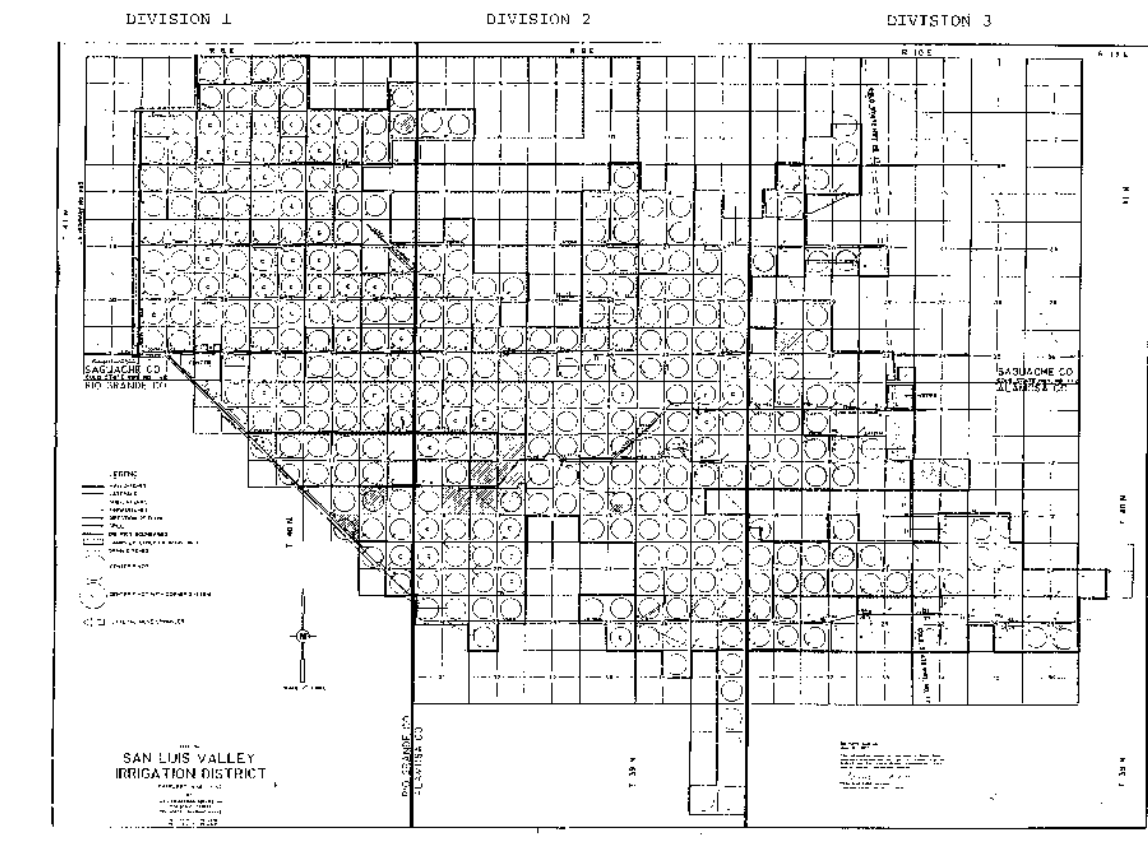


Figure 1. District service area

The North Branch Splitter and associated canal diversion infrastructure are located on the Rio Grande River in Rio Grande County Colorado, just downstream of the Town of Del Norte (**Figure 2**). At the North Branch Splitter, the flow in the mainstem of the Rio Grande River bifurcates into a north and south channel. The locations of the existing infrastructure are shown on the map in **Figure 3**.

The existing diversion dam at the head of the south channel is a push up dam constructed of steel plates, concrete blocks, and river rocks which create a barrier to fish passage, creates unsafe conditions for recreational boaters, disrupts sediment transport, and requires frequent instream maintenance which impacts aquatic habitat. The existing diversion dam for the Rio Grande #1 Ditch on the mainstem of the river is constructed of large boulders and does not provide adequate hydraulic head for the Rio Grande #1 Ditch to divert during periods of lower streamflow.

The existing river headgate of the Rio Grande #1 Ditch is an aging steel slide gate which is difficult to operate and in poor condition. The headgate structure for the Farmers Union Canal is located at the head of the north branch and consists of eight wooden gates set in a concrete structure which has areas of erosion making the gates leaky and difficult to operate.

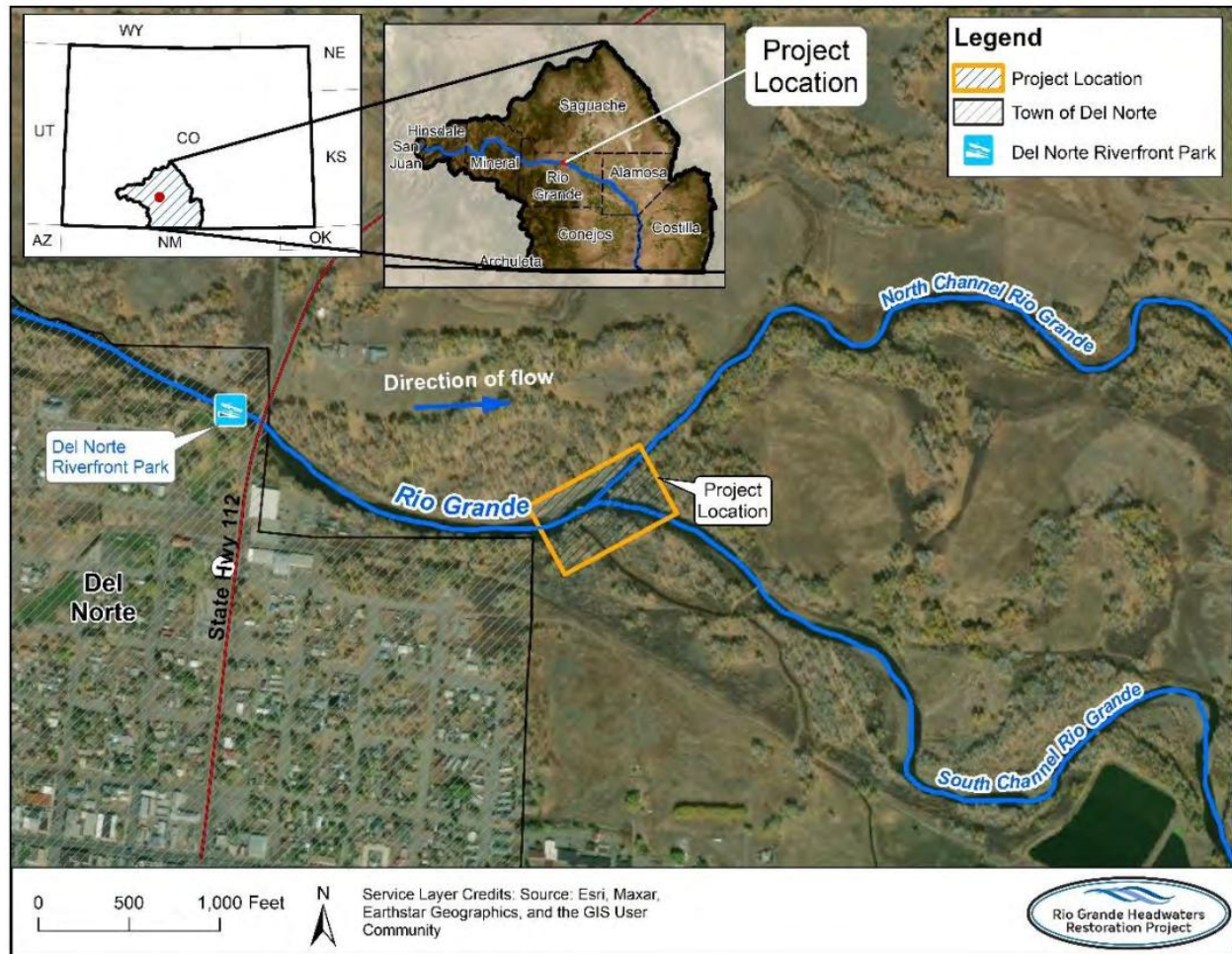


Figure 2. Overview map of project location

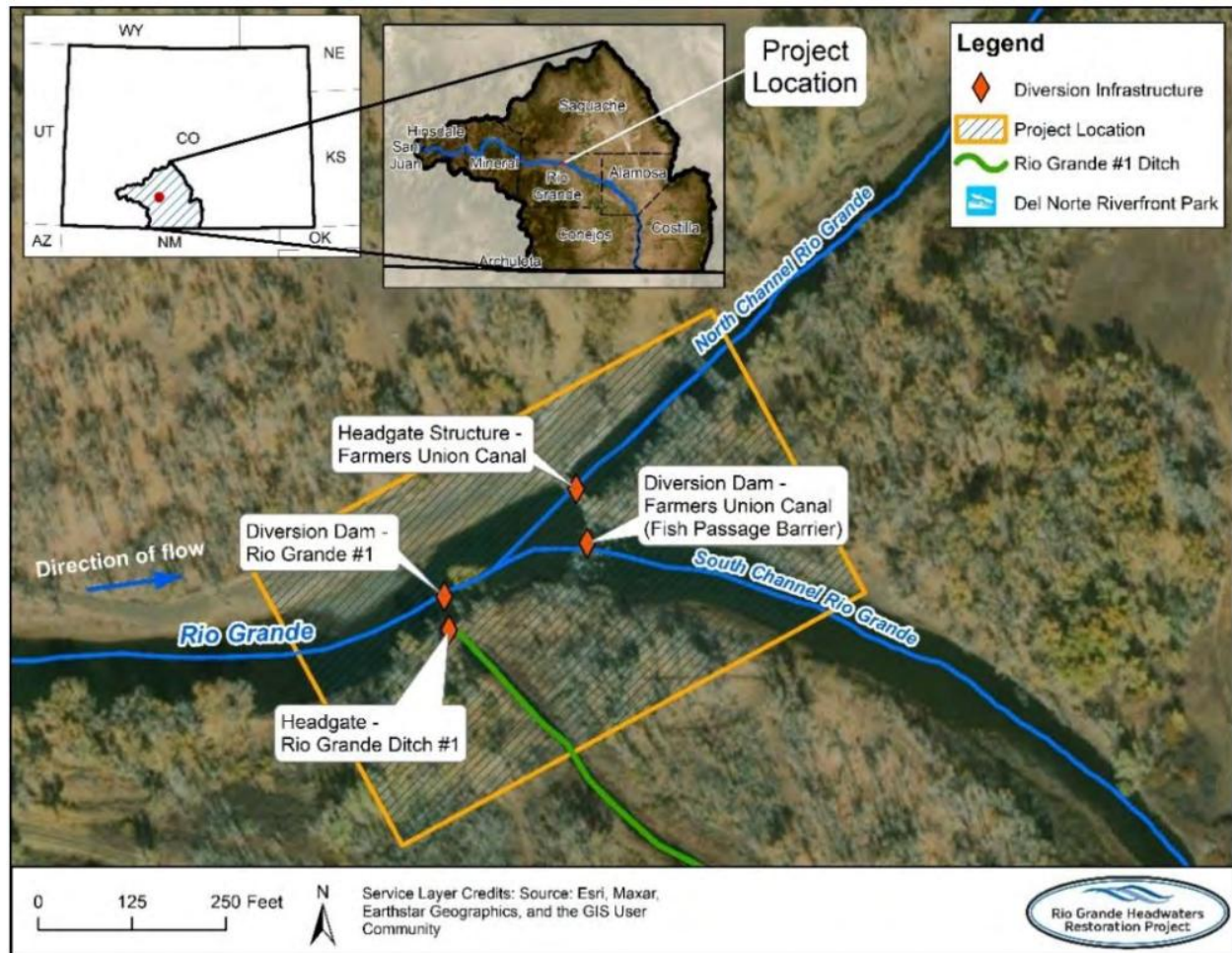


Figure 3. Location map of existing diversion infrastructure

4. HYDROLOGY AND WATER RIGHTS

The District has direct flow rights decreed to the Farmers Union Canal. It also has storage right for Rio Grande Reservoir. The Districts water rights are summarized in Table 1.

Table 1. San Luis Valley Irrigation District Water Rights

Structure	Appropriation Date	Priority Number	Amount
Farmers Union Canal	April 1, 1887	308	0.25 cfs
Farmers Union Canal	November 9, 1887	314	138.80 cfs
Farmers Union Canal	April 1, 1988	328	0.25 cfs
Farmers Union Canal	April 1, 1889	353	0.95 cfs
Farmers Union Canal	June 30, 1889	1903-17-B	5.45 cfs
Farmers Union Canal	June 30, 1890	1903-22-E	105.41 cfs
Farmers Union Canal	June 30, 1891	1903-24-F	280.47 cfs
Farmers Union Canal	June 30, 1892	1903-30-F	159.69 cfs
Farmers Union Canal	June 30, 1893	1903-34-G	110.18 cfs
Rio Grande Reservoir	June 3, 1903	1916-63A	45,833 AF
Rio Grande Reservoir	June 1, 1903	1934-2	5,280 AF

The Farmers Union Canal diverts from the North Chanel of the Rio Grande east of Del Norte (**Figure 4**). The main canal travels NE approximately 10 miles before its first diversion. The Districts' delivery system has 7 laterals that generally travel from west to east to provide irrigation water for the Irrigation District's 61,920 acres. The delivery system has a series of concrete check structures that provide head pressure at farm delivery headgates. The Farmers Union Canal diversions are mainly used for recharging the unconfined aquifer. There are approximately 135 miles of laterals in the Farmers Union Canal system.

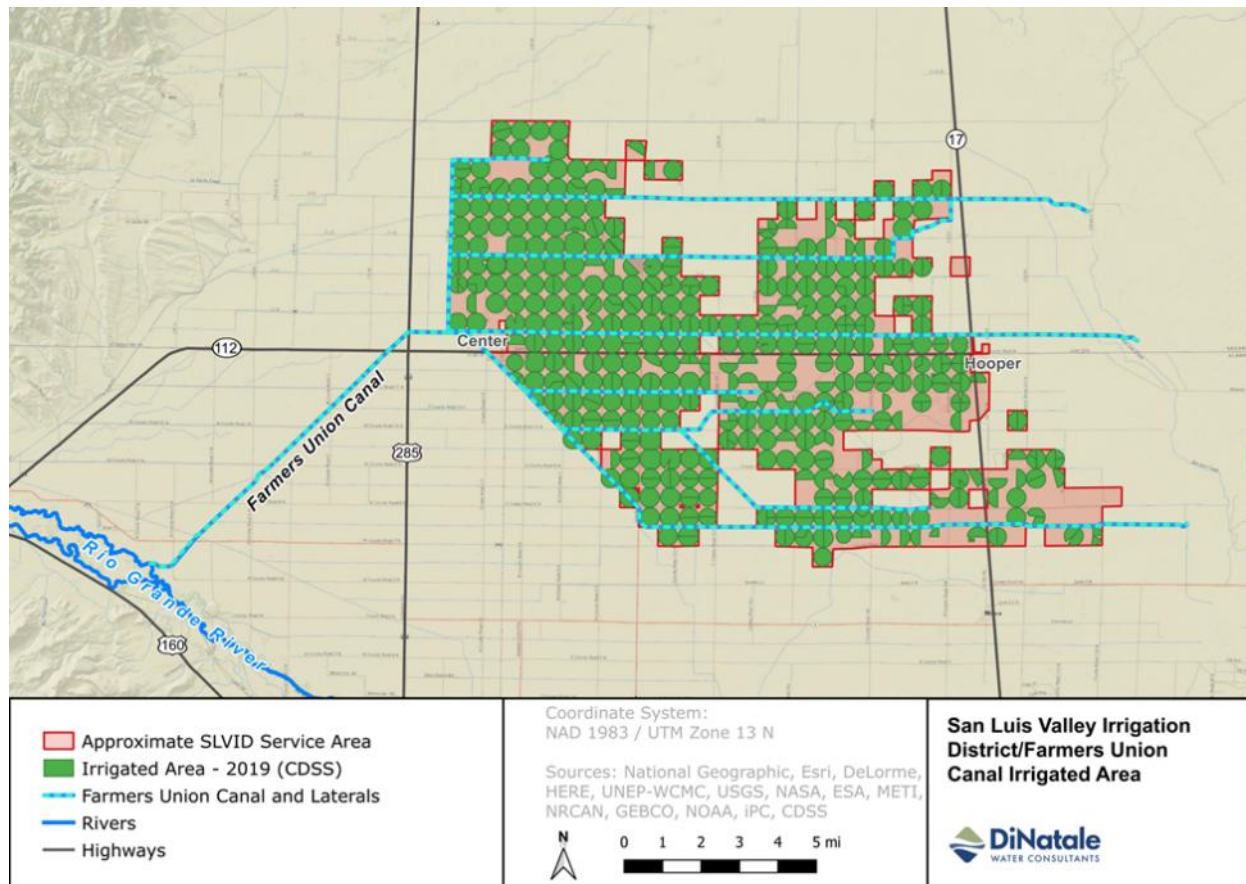


Figure 4. Map of District canals and approximate irrigated area



Farmers Union Canal headgate

The District diverted an average of approximately 24,428 AF per year for the period 2020-2024 at the Farmers Union Canal as shown in Table 2. Of this annual average amount, 16,859 AF or 69%, is attributable to direct flow rights decreed to the Farmers Union Canal. Reservoir releases diverted at the Farmers Union during this period averaged 7,568 AF, or 31%, of the water diverted at the Farmers Union. The reservoir releases are of water stored under the District's priorities for Rio Grande Reservoir, released from the Reservoir, and diverted into the Farmers Union Canal. A small amount of water diverted into the Farmers Union is attributable to water that has been leased from other entities or provided to the District in lieu of payments for storage in Rio Grande Reservoir.

Table 2. Water Diverted into Farmers Union Canal

Year	Direct Flow River Water	Reservoir Water	Total Delivered
2020	13,030	3,299	16,329
2021	11,641	7,117	18,758
2022	7,697	8,217	15,914
2023	40,869	11,794	52,662
2024	11,059	7,416	18,475
5 Year Total:	37,842	84,296	122,139
5 Year Average:	7,568	16,859	24,428



Farmers Union Canal downstream of river headgate

The District owns Rio Grande Reservoir located in Sections 5, 6, 7, 8, 9, 10, 13, 14, 15, and 16, Township 40 North, Range 4 West, and Sections 31 and 32, Township 41 North, Range 4 West of the N.M.P.M., Hinsdale County, Colorado (**Figure 5**). The Reservoir is located approximately 20 miles southwest of Creede, Colorado. The Reservoir is located on the headwaters of the mainstem of the Rio Grande and has a present storage capacity of approximately 52,500 acre-feet (AF). Although water from the Reservoir could be delivered via the Rio Grande mainstem for use in Hinsdale, Mineral, Alamosa, Rio Grande, Costilla, and Saguache Counties, all of the water presently used is for irrigation and augmentation in Saguache, Mineral, Rio Grande, and Alamosa Counties. Located at an altitude of approximately 9,500 feet, the Reservoir has a drainage area of approximately 165 square miles. The two water storage rights for the Reservoir are 45,833 AF under Priority No. 1916-63A and 5,280 AF under Priority No. 1934-2 for a total of 51,113 AF. Both water storage rights pre-date the Rio Grande Compact.

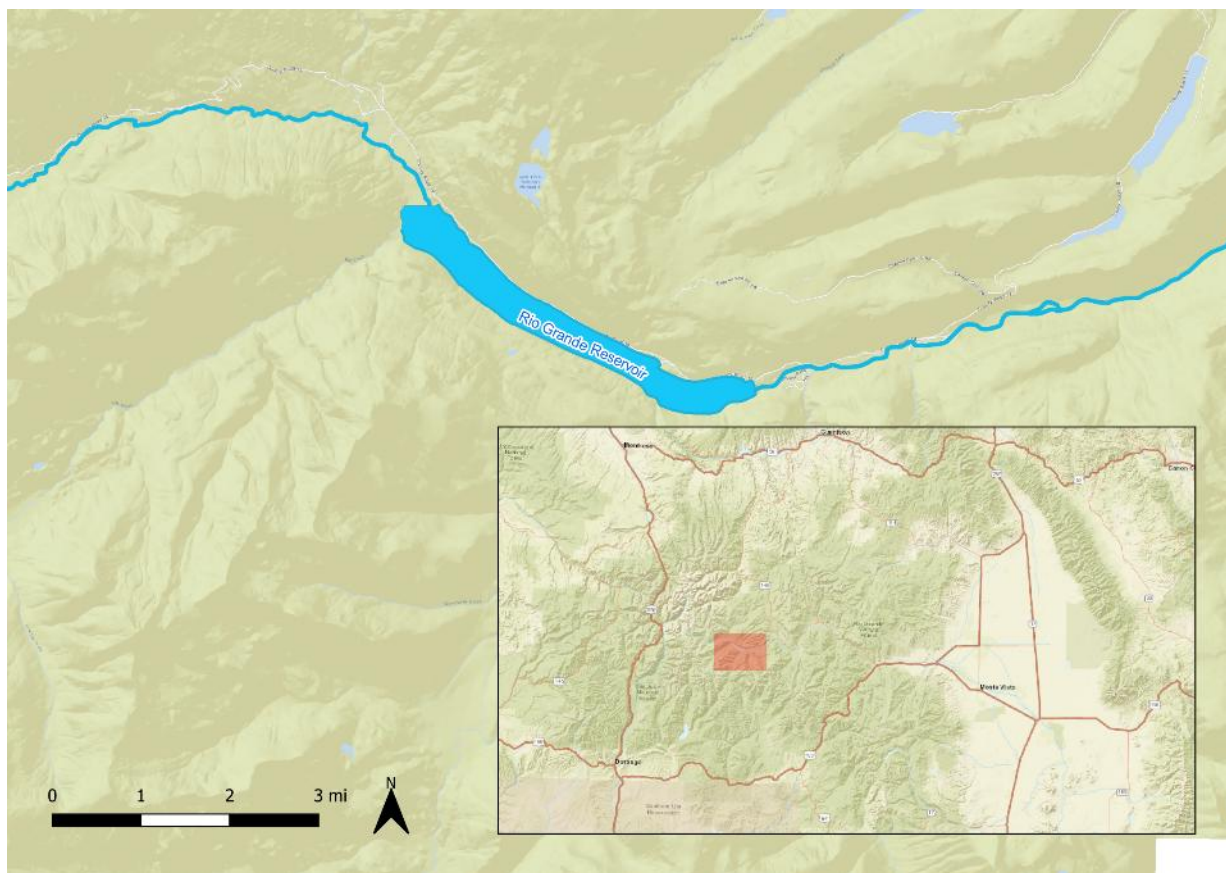


Figure 5. Location of Rio Grande Reservoir

5. ALTERNATIVES EVALUATED

As described in further detail below, three alternatives were considered for this project:

1. No-action alternative
2. Improve/repair existing headgates
3. Replace diversion dams and improve headgates with additional aquatic and riparian habitat enhancement

To compare alternatives, each alternative was assigned a relative score from 1-3 based on the benefits provided among several categories important to the project participants and non-participant stakeholders (**Table 3**). The selected alternative was Alternative #3: replace diversion dams and improve headgates with additional aquatic and riparian habitat enhancement, which has the highest total benefits ranking.

Table 3. Relative ranking of alternatives by benefit category

Alternative	Estimated Capital Cost Score	Agricultural Benefits Score	Environmental Benefits Score	Recreation Benefits Score	River Admin Benefits Score	Total Score
1 - No-action	3	1	1	1	1	7
2- Improve/repair existing headgate	2	2	1	1	2	8
3- Replace/improve infrastructure and habitat	1	3	3	3	2	12

5.1 No-Action Alternative

Alternative #1 was the no-actional alternative, which involved continued operations and regular maintenance of the existing infrastructure. This alternative was rejected due to the condition and effectiveness of the existing infrastructure and lack of benefits to other water users. Additionally, this alternative would not provide additional benefits in operational efficiency, enhanced fish passage and habitat, and safety for recreation boaters that other alternatives would provide. While there is no new capital cost associated with this alternative, the existing structures are over 100 years old and require frequent maintenance and would likely see increasing annual maintenance costs as the structures continue to deteriorate.

5.2 Improve/Repair Existing Headgates

Alternative #2 would involve the improvement and repair of the existing river headgates for the Farmers Union Canal and Rio Grande #1 Ditch. The headgate structures for both ditches were originally constructed in the late 1890's and are generally in poor operating condition, including leaks and eroding concrete, and must be operated manually. This alternative would provide for improved and more efficient operations of the existing headgate structures by replacing the existing gates with new Fresno slip gates, replacing headwall sheet piling and repairing concrete in poor condition, and installing new headgate automation systems.

While this alternative would allow for more efficient river operations of the headgate structures, it would not solve the issues created by the existing diversion dam at the head of the south channel. This would result in continued operational difficulty during low flow conditions due to insufficient hydraulic head created by the existing dam, making agricultural operations less efficient than under Alternative #3. This alternative also would not provide additional benefits to other water users, such as recreational boaters, nor would it provide any environmental benefits. The estimated construction cost to complete the headgate improvements is \$782,000.

5.3 Replace Diversion Dams and Improve Headgates with Additional Aquatic and Riparian Habitat Enhancement

Alternative #3 would involve all the same headgate improvements as Alternative #2 but also includes the construction of a new diversion dam at the head of the south channel, the removal of the existing Rio Grande #1 Ditch diversion dam upstream on the mainstem, and additional habitat and streambank mitigation. The total estimated construction cost for this alternative is \$1,963,650.

Although Alternative #3 has the highest estimated capital cost of those evaluated, it is the selected alternative due to the greater benefits to a wider variety of stakeholders. Replacement of the diversion dam at the head of the south channel would provide the additional hydraulic head needed to allow the Farmers Union Canal to divert more efficiently and provide sufficient head to improve diversions at the Rio Grande #1 Ditch while removing the existing Rio Grande #1 Ditch diversion dam, improving agricultural operations beyond the improvements offered by Alternative #2. The more regular diversions also provide for improvement to river administration.

Additionally, alternative 3 provides greater benefits to the environment and recreators by enhancing 542 linear feet of aquatic habitat through improved sediment transport at the upgraded diversion dam and the installation of fish habitat features, stabilizing 646 linear feet of streambank, restoring 0.2 acres of riparian habitat using 1,200 willow transplants, and adding boat and fish passage.

6. PROJECT DESCRIPTION AND BENEFITS

This project serves to benefit multiple stakeholders by improving irrigation infrastructure, enhancing fish and boat passage, and improving overall river health. The existing diversion infrastructure used to deliver water to the Farmers Union Canal and several other irrigation ditches on the north channel, and the upstream Rio Grande #1 Ditch (**Figure 6**) is over 100 years old and inefficient. The existing Farmers Union diversion dam creates a barrier to both fish and boat passage. This project will replace the existing Farmers Union diversion dam with a new dam that includes a rock ramp fishway and a section specifically designed for boat passage. The new diversion dam will also provide adequate hydraulic head to serve the Rio Grande #1 Ditch, allowing for the existing Rio Grande #1 Ditch diversion dam to be removed. In addition, the existing headgates, which deliver water to the Farmers Union Canal, Rio Grande #1 Ditch, and ten other downstream ditches will be replaced with new automated headgates. This project will also include significant restoration to aquatic and riparian habitat by installing rock and root wad structures and riparian revegetation.

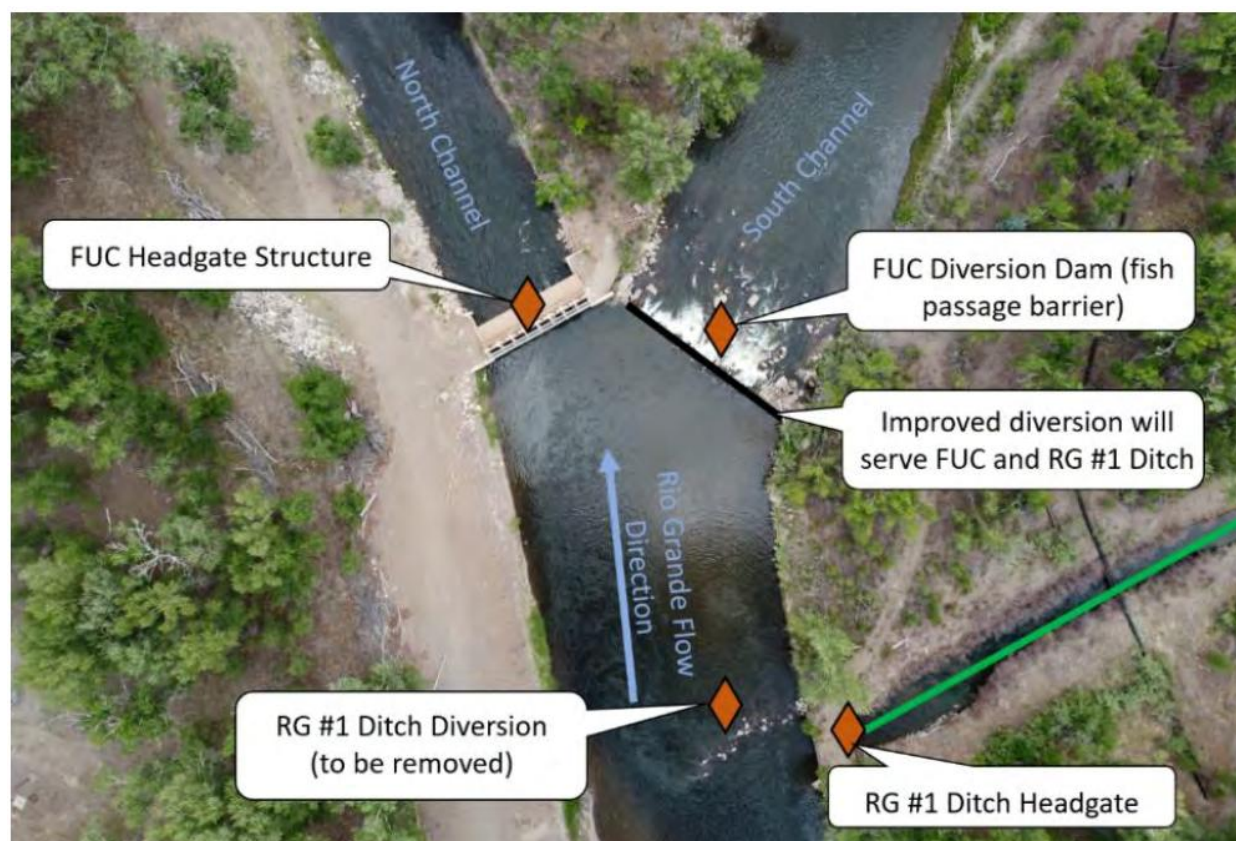


Figure 6. Aerial photo showing existing diversion infrastructure



Photos of existing diversion infrastructure

The District and CRGRF hired Huitt-Zollars, Inc (HZI) to complete engineering and project designs for the construction of the new grouted rock diversion structure, headgate improvements and automation, and river restoration. Project designs have been reviewed and approved by the project's Technical Advisory Group (TAG), which is made up of the following entities: The District, CRGRF, Colorado Division of Water Resources (DWR), Colorado Parks and Wildlife (CPW), Trout Unlimited (TU), San Luis Valley Water Conservancy District (SLVWCD), and project landowners.

Since the project is located about ½ mile downstream of the Del Norte Riverfront Park which has a recently installed recreational playwave, boat ramp, and pedestrian river access, it is expected that recreation use in the project area will continue to increase. The new diversion dam's incorporated boat passage will improve community safety compared to the current, more hazardous diversion dam.

The estimated water savings for the Farmers Union Canal resulting from this project is about 730 AFY. This was estimated by calculating the annual amount of water over a 5-year period, from 2018 to 2022, that could not be delivered to the Farmers Union headgate due to inadequate diversion infrastructure at the project location. As noted above, the current FUC diversion infrastructure is not capable of creating adequate head pressure at the Farmers Union headgates, especially during low flow conditions, to deliver water rights to the north channel Rio Grande. Additionally, diurnal streamflow fluctuations result in inaccurate water delivery to the north channel. The improved

diversion structure will create adequate head pressure and the automated headgates will adjust to account for diurnal fluctuations in order to accurately deliver the appropriate amount of water to the north and south channels of the Rio Grande, even during low-flow conditions.

Overall, the project will have the following quantifiable benefits:

- Opening 1.42 miles of fish habitat with a rock ramp fishway
- Restoration of 0.2 acres of riparian area using 1,200 willow transplants
- Stabilization of 646 linear feet of streambank
- Enhancement of 542 linear feet of aquatic habitat through improved sediment transport and installation of fish habitat features
- About 730 AFY of improved ditch diversion efficiency through diversion structure improvement and headgate replacement/automation

6.1 Diversion Structures

The District and CRGRF will hire a contractor to remove the current diversion dams, clear and shape the river channel, and enact pollution control. The contractor will then complete grade preparation, dewatering, and temporary erosion control measures and build a new grouted rock ramp diversion to replace the existing Farmers Union diversion. The new diversion will be made up primarily of grouted boulders and will include a rock ramp fishway as well as a boat passage section (see project designs in Appendix B). The rock ramp fishway will feature boulders that protrude above the grout to break up flow vectors and provide refugia for fish as they navigate the structure. The fishway is also designed to maintain a slope of 4.5% or less and provide adequate water depth for fish passage during low flow conditions. Rock materials are expected to be locally sourced basalt.

6.2 Aquatic and Riparian Habitat Enhancement

The contractor will also implement streambank stabilization and aquatic and riparian habitat restoration in the project area. Restoration activities will include streambank shaping, channel shaping, rock and root wad structure installation, and riparian revegetation. Streambank and streambed will be completed upstream and downstream of the diversion infrastructure and will result in a low-flow channel and deeper pools at the newly improved diversion structure described above. Riparian revegetation will include, but is not limited to, willow clump plantings and seeding of native riparian forb species.

6.3 Headgates

Additionally, the contractor will remove four of the eight Farmers Union Canal headgates and the Rio Grande #1 headgates and replace them with new steel slide gates. At the new headgates, the contractor will install headgate automation using solar power, electric motors, and Supervisory Control and Data Acquisition (SCADA) technology. The contractor will also fabricate and install headgate footing scour plate protections and repair eroding concrete at seven of the eight Farmers Union headgates. Throughout all construction activities, the contractor will enact pollution control to minimize adverse impacts. Following construction activities, all upland areas disturbed during onsite activities will be reseeded with appropriate native species.

6.4 Permitting

CRGRF will handle environmental and regulatory compliance and will work with the Bureau of Reclamation to ensure compliance with all environmental and cultural resource regulations. It is anticipated that the work, which involves some minor disturbances of streambeds and streambanks, will be completed under a Clean Water Action Section 404 Nationwide Permit.

CRGRF has spoken with Bureau of Reclamation staff at the Albuquerque Area Office regarding environmental compliance needs and estimated costs. Reclamation staff indicated that a contractor will likely need to complete environmental and cultural resources compliance, including all required permits and agency approvals. NEPA, ESA, and NHPA compliance will be needed, as well as a CWA 404 permit through the U.S. Army Corps of Engineers (USACE). The project is expected to fit within a USACE Nationwide stream restoration and irrigation infrastructure CWA 404 permit. The CWA 404 Nationwide permit will require an Environmental Assessment, which will include a Biological Assessment, Aquatic Resources Delineation Report, and Cultural Resources Assessment. Reclamation staff will review all required permits and approvals.

7. BUDGET AND SCHEDULE

The total estimated construction cost is \$1,963,650 and is broken down into additional detail in **Table 4**. Including project management, environmental compliance/permitting, construction, and a 10% bottom line contingency, the total estimated project cost is \$2,281,625 and is summarized in **Table 5**. A breakdown of the project funding sources is shown in **Table 6**. This loan will cover the \$247,000 of funding from the San Luis Valley Irrigation District.

Table 4. Project construction cost estimate

Item	Unit	Quantity	Unit Price	Item Cost
Grouted Boulder Ramp Structure				
Materials Testing Allowance	ALLOW	1	\$ 20,000.00	\$ 20,000.00
Removals of Structures & Obstructions	LS	1	\$ 9,500.00	\$ 9,500.00
Mobilization	LS	1	\$ 125,000.00	\$ 125,000.00
Control of Water / Dewatering / Cofferdams / Pe	LS	1	\$ 75,000.00	\$ 75,000.00
Grouted Boulder Ramp Structure - Furnish & Install	CY	1050	\$ 350.00	\$ 367,500.00
Concrete for Minor Structures (GROUTING BOUL	CY	180	\$ 450.00	\$ 81,000.00
Rio Grande #1 Overbank - Furnish & Install Bould	CY	480	\$ 350.00	\$ 168,000.00
Concrete for Minor Structures (GROUTING BOUL	CY	85	\$ 450.00	\$ 38,250.00
Excavation, Backfill, and compaction for channel	CY	2760	\$ 35.00	\$ 96,600.00
Void Filled Riprap	CY	980	\$ 135.00	\$ 132,300.00
Subtotal				\$ 1,113,150.00
Farmers Union Headgate				
Materials Testing Allowance	ALLOW	1	\$ 5,000.00	\$ 5,000.00
Removals of Structures & Obstructions - REMOVI	LS	1	\$ 12,500.00	\$ 12,500.00
Mobilization	LS	1	\$ 35,000.00	\$ 35,000.00
Modify Existing Gate Slots - Adapt for Slip Gate Fr	EA	4	\$ 7,500.00	\$ 30,000.00
Furnish & Install Fresno Sluiceways Per Plans, CIP	EA	4	\$ 23,000.00	\$ 92,000.00
Furnish & Install Complete Automation System pe	EA	4	\$ 52,500.00	\$ 210,000.00
Fabricate & Install 7 Headgate Footing Scour Plat	EA	7	\$ 4,500.00	\$ 31,500.00
Subtotal				\$ 416,000.00
Rio Grande #1 Ditch Headgate				
Materials Testing Allowance	ALLOW	3	\$ 7,500.00	\$ 22,500.00
Removals of Structures & Obstructions - REMOVI	LS	3	\$ 7,500.00	\$ 22,500.00
Mobilization	LS	3	\$ 15,000.00	\$ 45,000.00
Install Sheet Pile Headwall Per Plans	LS	3	\$ 16,666.67	\$ 50,000.00
Furnish Fresno Sluiceway - Install with Sheet Pile H	EA	2	\$ 23,000.00	\$ 46,000.00
Furnish & Install Complete Automation System pe	EA	3	\$ 52,500.00	\$ 157,500.00
Control of Water / Dewatering / Cofferdams / Pe	LS	3	\$ 7,500.00	\$ 22,500.00
Subtotal				\$ 366,000.00
Stream and Bank Mitigation				
Rock/Trunk Barbs - CIP	EA	5	\$ 6,500.00	\$ 32,500.00
Willow Transplants - Onsite Materials - CIP	EA	1200	\$ 30.00	\$ 36,000.00
Subtotal				\$ 68,500.00
Grand Total				\$ 1,963,650.00

Table 5. Project budget summary

Budget Item	Unit	Quantity	Unit Price	Total Cost
CRGRF Salaries and Wages and Benefits				
Daniel Boyes, Executive Director	Hour	400	\$ 36.03	\$ 14,412
Cassandra McCuen, Program Manager	Hour	400	\$ 33.16	\$ 13,264
Emma Reesor, Administrative Director	Hour	150	\$ 35.48	\$ 5,322
Travel				
Twenty site visits from Alamosa to Del Norte	Miles	1240	\$ 0.66	\$ 812
Construction				
Bidding Services and Construction Management	LS	1	\$ 50,000.00	\$ 50,000
Project Construction	LS	1	\$ 1,963,650.00	\$ 1,963,650
Environmental and Regulatory Compliance	LS	1	\$ 30,000.00	\$ 30,000
Contingency				
Total Contingency Funds	%	9.83%	\$ 204,165	\$ 204,165
Total				\$ 2,281,625

Table 6. Project funding sources

Funding Source	Amount
Colorado Water Conservation Board Water Plan Grant	\$ 600,000
Bureau of Reclamation WaterSMART Grant	\$ 1,274,625
San Luis Valley Irrigation District	\$ 247,000
Rio Grande Headwaters Land Trust (Gates Family Foundation)	\$ 150,000
Rio Grande #1 Ditch Water Users	\$ 10,000
Total	\$ 2,281,625
	\$ 2,281,625

The Project schedule is shown in **Table 7**. Work on environmental compliance and preparing the bid package will begin in mid-2025 and is expected to be completed by November 2025. Construction is expected to begin around November 2025 and may take up to two construction seasons if there are construction delays. Construction is expected to be completed by April 2027

Table 7. Proposed project schedule

Task	Timeline	Notes
Environmental Compliance and Public Bid		
Contractor completes environmental and cultural resources compliance	June 2025 - August 2025	
BOR reviews environmental and cultural resources permits and approvals	September 2025	
Public bid package prepared, released, and contractor selected	October 2025 - November 2025	
Construction and Monitoring		
Construction contractor mobilizes equipment and delivers materials	November 2025 - February 2026	Timeline allows for possible delays and includes
Project construction, including diversion infrastructure replacement and river restoration	February 2026 - April 2027	Allows for two construction seasons to account for possible delays
Project monitoring and evaluation of outcomes	May 2027 - July 2027	Post-construction monitoring depends on construction
Final project wrap up and reporting	June 2027 - July 2027	

8. FINANCIAL ANALYSIS

8.1 Current Income

The Irrigation District currently has 62,920 assessed irrigated acres. The current assessment is \$11.38 per acre. Annual assessment income in 2025 is expected to total \$716,030. In addition to the Irrigation District landowner assessment, landowners within the Irrigation District are required to pay a variable fee to the Groundwater Management Subdistrict No. 1. The current variable fee is \$150 per AF. The variable fee pays for the additional water consumed by each landowner that is not brought in and recharged by the Irrigation District under its direct flow and storage water rights. The average supply per acre that is credited to landowners from the Irrigation District's direct flow and storage rights is 0.67 AF per acre or 107 AF per quarter. The required water supply per quarter is 240 AF. This results in a shortfall of 133 AF per quarter that is covered by the variable fee paid to Subdistrict No. 1.

In addition to the \$716,030 in landowner assessment income, the Irrigation District also receives annual income from multiple parties for the lease of storage space in Rio Grande Reservoir, with a total storage lease income of \$647,896 projected for 2025. The District also receives other revenue from interest on investments, water storage fees, and district operations. In 2024, these other revenue sources combined for a total of \$174,289. Assuming other sources of revenue will be the about the same as in 2024, the total estimated revenue for the District in 2025 is \$1,538,215.

8.2 Current Landowner Payments

A summary of the average water supply and shortfall, and current annual payments, including the landowner assessment and variable fee per quarter is shown in **Table 8**. The average water supply is 0.67 AF per acre and the required supply is 1.5 AF per acre, resulting in a shortfall of 0.83 AF per acre. Annual payments per acre for the landowner assessment are \$11.38 per acre and the variable fee paid to Subdistrict No. 1 to cover the water shortfall is \$131.25 per acre for a total payment of \$142.63 per acre.

Table 8. Current Annual Landowner Payments

	Per Acre	Per Quarter
Average supply, AF	0.67	107.2
Required supply, AF	1.5	240
Water shortfall to be acquired from Subdistrict No. 1, AF	0.83	132.8
Current assessment	\$11.38	\$1,821
Subdistrict variable fee	\$124.50	\$19,920
Subdistrict administration and CREP fees	\$6.75	\$1,080
<i>Total current assessment + variable fee</i>	<i>\$142.63</i>	<i>\$22,821</i>

8.3 Estimated Loan Payments

The Irrigation District is requesting \$247,000 as a CWCB loan. The current CWCB agricultural loan interest rates are 2.2% for a 30-year loan. The CWCB charges a 1% loan service fee. Including the 1% loan service fee in the loan principal, results in a principal balance of \$249,470. A 30-year loan would have an annual payment of \$ 11,447.46

8.4 Analysis of Ability to Pay

The Irrigation District Statement of Revenues, Expenditures and Changes in Fund Balance is available for fiscal year ending December 31, 2024, and is attached in Appendix A. In 2024, revenues from all sources totaled \$1,498,680. Total expenditures, including existing CWCB loan payments were \$1,563,524, resulting in net decrease of \$64,844 in the fund balance. The decrease in the fund balance is largely due to increased capital expenditures in 2024 which are not predicted to occur in most future years. At the end of 2024, the fund balance in various accounts totaled \$2,057,014. The 2024 Statement of Net Position is attached in Appendix A and provides additional detail on the assets and liabilities and net position of the Irrigation District as of the end of 2024.

The Irrigation District has existing debt service payments of \$704,728 for three existing CWCB loans as listed in **Table 9**. These loans were for previous rehabilitation at Rio Grande Reservoir. The combined balance on the three loans is \$13,990,057.

Table 9. Existing CWCB Loans

Loan Contract No.	Balance	Annual Payment
C153386	\$30,536	\$32,063.05
C153478	\$150,303	\$34,716.20
CT2018-3303	\$13,809,218	\$637,949.36
Total	\$13,990,057	\$704,728.61

An analysis of how the Irrigation District would make payments for a 30-year loan is shown in the schedule of revenue and expenditure in Appendix C. Storage lease revenues are projected to grow by the CPI every 5 years, while other expenses are projected to grow by an inflation rate of 3% every year. The schedule of revenue and expenditure shows that the District will be able to pay for the loan each year without raising landowner assessments if the projected storage leases are realized. If revenues from storage leases and other revenue decreases in the future, the District will be able to continue to make the loan payments by increasing landowner assessments if necessary.

By annual resolution under C.R.S. Sec. 37-41-120, the Irrigation District Board establishes and may raise, as necessary, landowner assessments. The Irrigation District Board has committed to increasing landowner assessments when required to ensure the District's ability to meet the annual loan repayment obligation.

Acceptance of the CWCB loan requires approval of the District's board. Upon board approval, the District will finalize the loan package with CWCB.

The District has the following collateral it can offer for the CWCB loan:

- The project infrastructure itself
- A pledge of assessment revenue of the landowners

9. SUMMARY/CONCLUSIONS

- The District is a quasigovernmental agency authorized to enter a contract with the CWCB for loans.
- The project is technically and financially feasible.
- The project was identified as a priority in the 2020 Upper Rio Grande Stream Management Plan and the 2022 Rio Grande Basin Implementation Plan.

- The project will benefits for a broad range of water users and stakeholders, including improving agricultural efficiency, aquatic habitat and the environment, and recreational boater safety.
- CWCB has previously approved a \$600,000 grant for the project.
- The Irrigation District has the financial capability to pay a \$250,000 loan. Primary funding will be from annual revenues from leases of storage capacity in Rio Grande Reservoir with additional funding as required from District landowner assessments.
- The Irrigation District Board has the authority to increase the assessments as necessary to make the annual loan payment.

10. APPENDIX A – FINANCIAL STATEMENTS



11. APPENDIX B – CONSTRUCTION DRAWINGS/PLAN SET

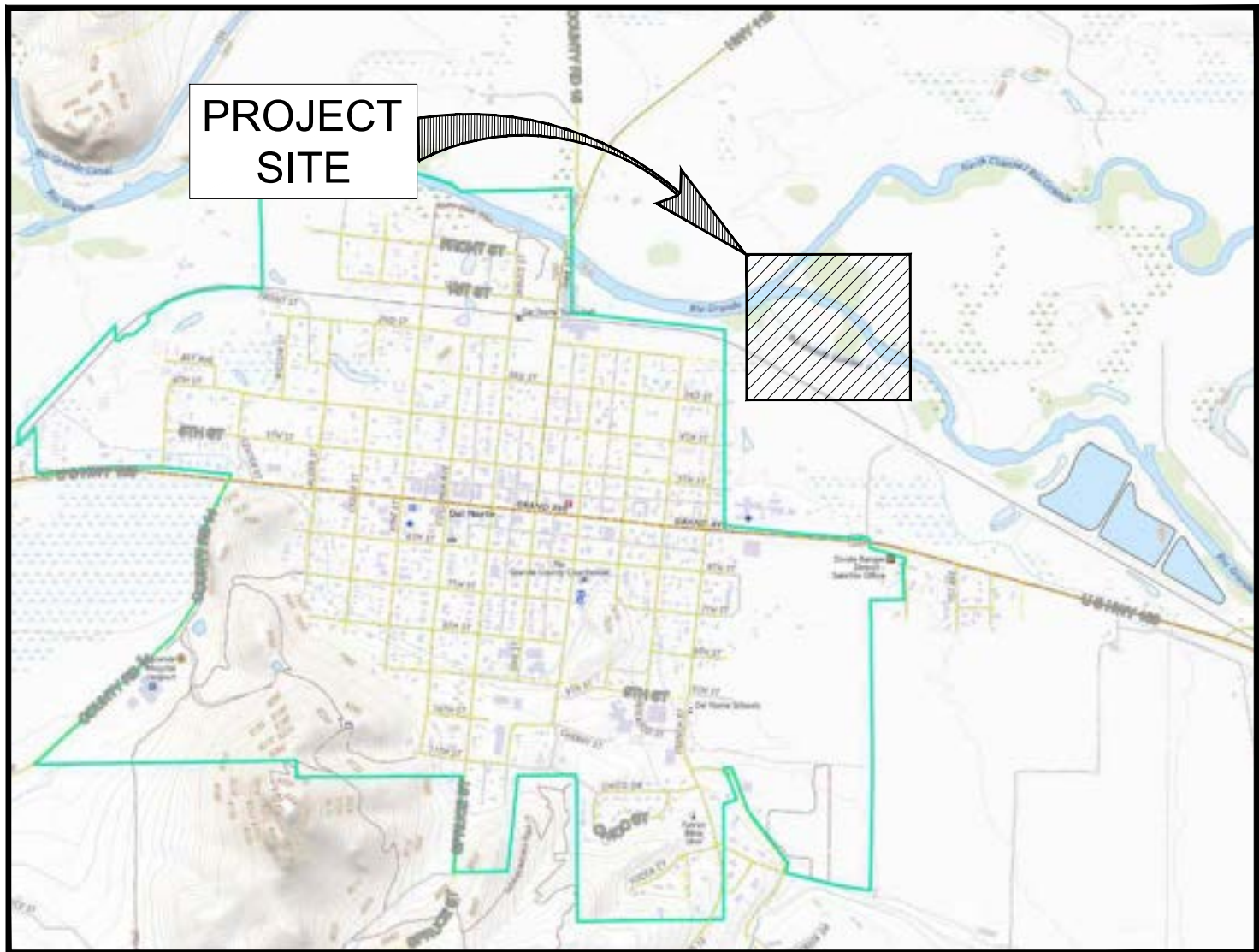


FARMERS UNION CANAL IMPROVEMENT PROJECT

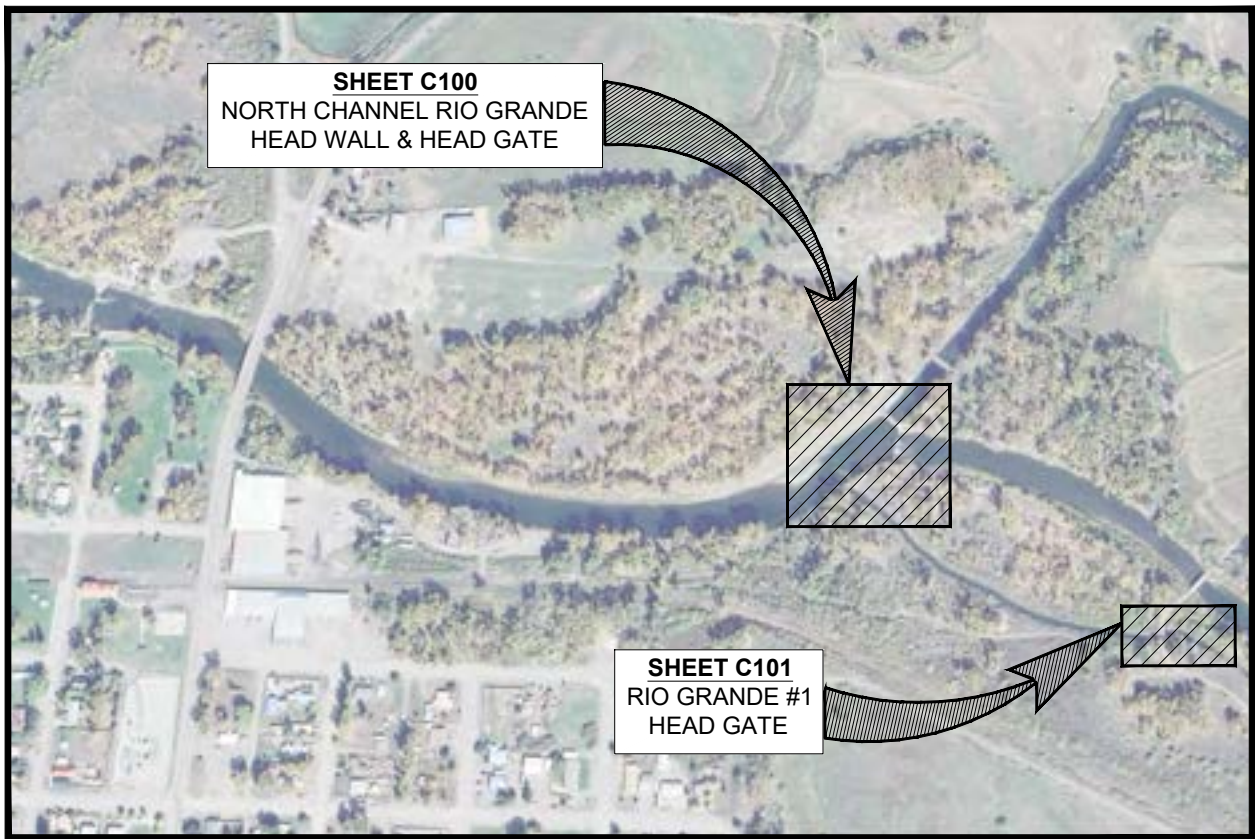
DEL NORTE, COLORADO

CONSTRUCTION PLANS

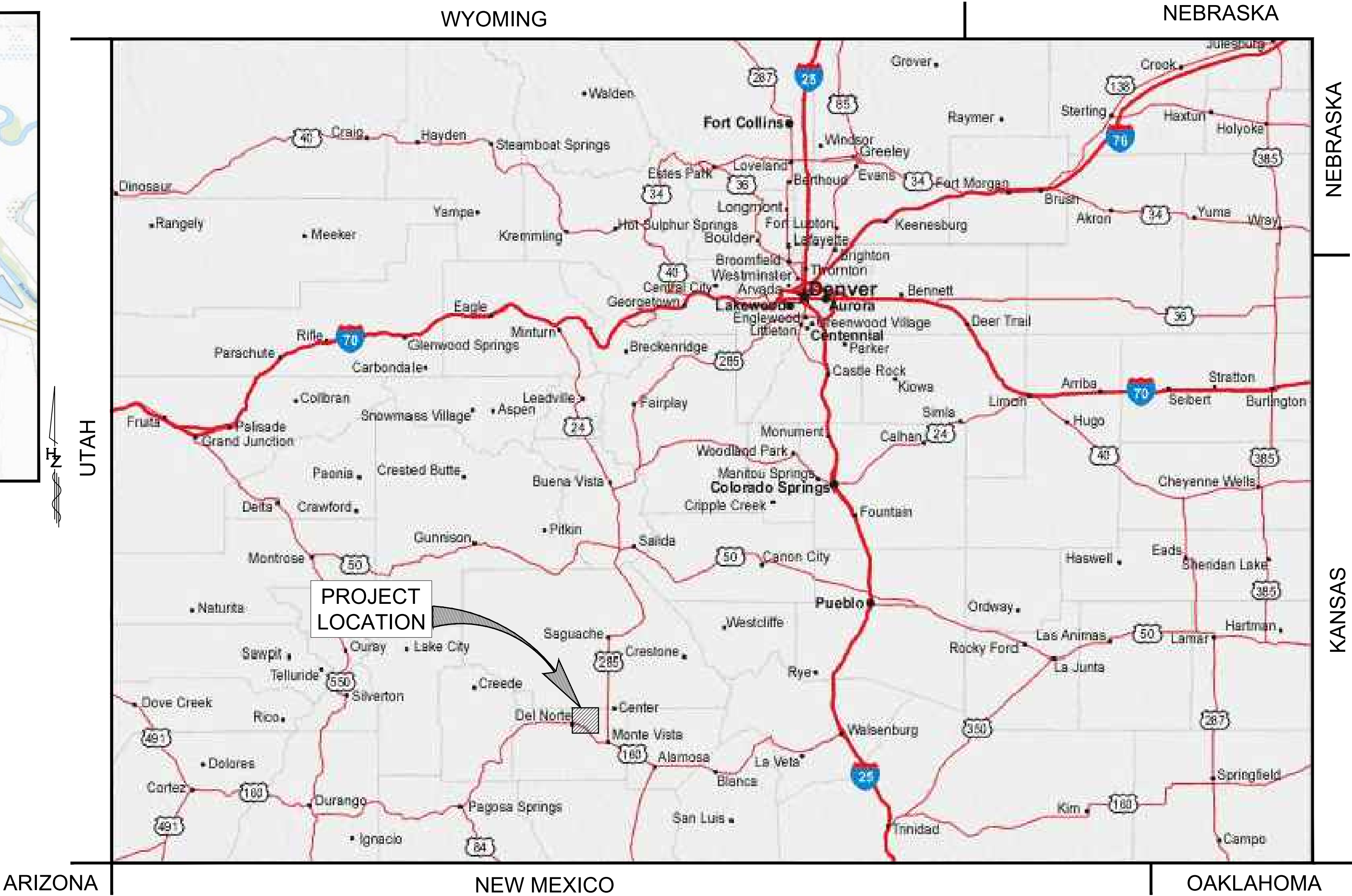
APRIL, 2025



VICINITY MAP
NOT TO SCALE



FARMER'S UNION HEADGATE
NOT TO SCALE



STATE LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS	
SHEET NUMBER	SHEET TITLE
G-100	COVER SHEET
G-101	GENERAL NOTES, ABBREVIATIONS & LEGEND
C-100	SITE PLAN - CHECK DAM, ROCK RAMP & METAL HEAD WALL #1
C-101	SITE PLAN - METAL HEAD WALL #2 & #3
C-501	DETAILS - EMBEDDED ROCK AND HEADWALL
C-502	DETAILS - BARB & FISH PASSAGE
C-503	DETAILS - CHECK DAM & SLIP GATE
C-504	DETAILS - METAL HEADWALL #'s 1, 2, & 3
C-600	PROJECT STAGING AREA MAP

Designed By:
HUETT-ZOLARS
Rio Rancho
Huetz-Zolars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

ADVANCEDESIGNSM
Designed For:
**COLORADO RIO GRANDE
RESTORATION FOUNDATION**

COVER SHEET

FARMERS UNION CANAL
IMPROVEMENT PROJECT
DEL NORTE COLORADO

PROJECT NO.	R312571.01
DESIGNED BY:	RD
DRAWN BY:	STAFF
CHECKED BY:	NV
DATE:	APRIL, 2025
DPW CHK:	

SHEET:	G-100
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San Luis Valley Irrigation District

NAME _____ DATE _____

Rio Grande Headwaters Restoration Project

NAME _____ DATE _____



THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULFILLING ALL NECESSARY NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, OBTAINING AN NPDES PERMIT BEFORE CONSTRUCTION, FILLING OUT THE NOTICE OF INTENT (NOI) APPLICATION, AND FILLING OUT THE NOTICE OF TERMINATION (NOT) APPLICATION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE IMPLEMENTATION OF AND INSPECTION REPORTS FOR THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL SUBMIT THE SWPPP WITH THE PROPOSED CONSTRUCTION STAGING AREA AND TEMPORARY SANITARY FACILITIES CLEARLY SHOWN. ANY CHECK DAMS, SILT FENCES, OR OTHER BEST MANAGEMENT PRACTICES (BMP) THAT ARE REQUIRED IN THE APPROVED SWPPP SHALL BE INCLUDED IN AND ARE INCIDENTAL TO THE SWPPP BID AMOUNT.

THE CONTRACTOR IS REQUIRED TO KEEP A CURRENT COPY OF THE SWPPP AT THE CONSTRUCTION SITE OR AT AN EASILY ACCESSIBLE LOCATION SO THAT IT CAN BE MADE AVAILABLE AT THE TIME OF AN ON-SITE INSPECTION OR UPON REQUEST BY THE EPA, A STATE, TRIBAL, OR LOCAL AGENCY APPROVING STORM WATER MANAGEMENT PLANS. THE OPERATOR OF A STORM SEWER SYSTEM RECEIVING DISCHARGES FROM THE SITE, OR REPRESENTATIVES OF THE U.S. FISH AND WILDLIFE SERVICE (USFWS) OR THE NATIONAL MARINE FISHERIES SERVICE (NMFS).

THE CONTRACTOR SHALL CONFORM TO ALL COUNTY, STATE AND FEDERAL DUST AND EROSION CONTROL REGULATIONS. THE CONTRACTOR SHALL PREPARE AND OBTAIN ANY NECESSARY DUST OR EROSION CONTROL PERMITS FROM THE REGULATORY AGENCIES.

THE CONTRACTOR SHALL EITHER PROMPTLY REMOVE ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY OR INSTALL BMPs ACCORDING TO NPDES REQUIREMENTS TO PREVENT DISCHARGE OF EXCAVATED MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY DURING A RAIN OR WIND EVENT. ALL COSTS FOR THESE REQUIREMENTS ARE INCIDENTAL TO THE CONTRACT.

THE CONTRACTOR SHALL IMPLEMENT THE APPROVED SWPPP AND ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.

THE CONTRACTOR SHALL MITIGATE EROSION OF TEMPORARY OR PERMANENT DIRT SWALES BY INSTALLING BMPs IDENTIFIED IN THE APPROVED SWPPP IN THE SWALES PERPENDICULAR TO THE DIRECTION OF FLOW, AND AT INTERVALS AS SPECIFIED IN THE SWPPP.

CONSTRUCTION AREAS SHALL BE WATERED FOR DUST CONTROL. IN COMPLIANCE WITH GOVERNMENT ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SUPPLYING WATER AS REQUIRED. WATERING, AS REQUIRED FOR CONSTRUCTION AND DUST CONTROL, SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO MEASUREMENT OR PAYMENT SHALL BE MADE THEREFORE.

ANY AREAS DISTURBED BY CONSTRUCTION AND NOT COVERED BY LANDSCAPING OR AN IMPERVIOUS SURFACE SHALL BE RE-VEGETATED WITH NATIVE GRASS SEEDING. WHEN CONSTRUCTION ACTIVITIES CEASE AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME WITHIN 14 DAYS, STABILIZATION MEASURES MUST BE INITIATED, UNLESS INDICATED OTHERWISE ON THESE PLANS OR ON THE LANDSCAPING PLAN. NATIVE GRASS SEEDING SHALL BE IN ACCORDANCE WITH SECTION 1012 OF THE COLORADO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, APWA NM CHAPTER, CURRENT EDITION.

ALL WASTE PRODUCTS FROM THE CONSTRUCTION SITE, INCLUDING ITEMS DESIGNATED FOR REMOVAL, CONSTRUCTION WASTE, CONSTRUCTION EQUIPMENT WASTE PRODUCTS (OIL, GAS, TIRES, ETC.) GARBAGE, GRUBBING, EXCESS CUT MATERIAL, VEGETATIVE DEBRIS, ETC. SHALL BE APPROPRIATELY DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMITS REQUIRED TO HAUL OR DISPOSE OF WASTE PRODUCTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE WASTE DISPOSAL SITE COMPLIES WITH GOVERNMENT REGULATIONS REGARDING THE ENVIRONMENT, ENDANGERED SPECIES, AND ARCHAEOLOGICAL RESOURCES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP AND REPORTING OF SPILLS OF HAZARDOUS MATERIALS ASSOCIATED WITH THE CONSTRUCTION SITE. HAZARDOUS MATERIALS INCLUDE GASOLINE, DIESEL FUEL, MOTOR OIL, SOLVENTS, CHEMICALS, PAINTS, ETC. WHICH MAY BE A THREAT TO THE ENVIRONMENT. THE CONTRACTOR SHALL REPORT THE DISCOVERY OF PAST OR PRESENT SPILLS TO THE COLORADO ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE TEAM

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS CONCERNING SURFACE AND UNDERGROUND WATER. CONTACT WITH SURFACE WATER BY CONSTRUCTION EQUIPMENT AND PERSONNEL SHALL BE MINIMIZED. EQUIPMENT MAINTENANCE AND REFUELING OPERATIONS SHALL BE PERFORMED IN AN ENVIRONMENTALLY SAFE MANNER IN COMPLIANCE WITH GOVERNMENT REGULATIONS.

WHERE STORM INLETS ARE SUSCEPTIBLE TO INFLOW OF SILT OR DEBRIS FROM CONSTRUCTION ACTIVITIES, PROTECTION SHALL BE PROVIDED ON THEIR UPSTREAM SIDE UTILIZING BMPs ACCORDING TO NPDES REQUIREMENTS. ALL COSTS FOR THESE REQUIREMENTS ARE INCIDENTAL TO THE CONTRACT.

STORM WATER POLLUTION PREVENTION PLANS (SWPPP) AND ACCOMPANYING FEDERAL EPA ADMINISTRATIVE PROCEDURES SHALL MEET THE COUNTY GUIDELINES AND PROCEDURES OUTLINED IN THE CURRENT ADDITION OF THE COLORADO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STORM WATER MANAGEMENT GUIDELINES FOR CONSTRUCTION AND INDUSTRIAL ACTIVITIES MANUAL.

THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD BEFORE ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS AND TAKE WHATEVER MEASURES ARE NECESSARY TO ENSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST-FREE CONDITION AT ALL TIMES.

NO WORK MAY BEGIN IN A AN ARROYO OR OTHER DRAINAGE WAY UNTIL AUTHORIZATION HAS BEEN PROVIDED BY THE U.S. ARMY CORP. OF ENGINEERS AND THE COUNTY FLOOD PLAIN MANAGER.

	CENTERLINE
	RIGHT-OF-WAY
	BLOCK NUMBER
	LOT NUMBER
	LOT LINE
	DETAIL/SHEET REFERENCE
	SECTION/SHEET REFERENCE
	MATCHLINE
	SEE SHEET G4
	MATCH LINE/SHEET REFERENCE

The diagram illustrates a road cross-section with the following components:

- EXISTING (INDEX) CONTOUR:** A dashed line at the top representing the existing ground level.
- EXISTING (INTERMEDIATE) CONTOUR:** A dashed line below the index contour.
- FINISHED (INDEX) CONTOUR:** A solid line representing the proposed finished ground level.
- FINISHED (INTERMEDIATE) CONTOUR:** A solid line below the finished index contour.
- FLOW DIRECTION:** Indicated by an arrow pointing left, labeled "← ...".
- GRADING LIMITS:** A series of vertical tick marks along the bottom, labeled "→ + + + + + -".
- FINISHED (SPOT) ELEVATION:** The value "63.7" is shown below the grading limits.
- EXISTING (SPOT) ELEVATION:** The label "TBC" (To Be Confirmed) is shown at the bottom left.

	ANALYSIS POINT
@	AT
BC	BEGIN CURVE
BCR	BEGIN CURB RETURN
BK	BOOK
BLDG	BUILDING
BM	BENCH MARK
BOP	BEGINNING OF PROJECT
BVC	BEGIN VERTICAL CURVE
BW	BASE OF WALL
CATV	CABLE TV LINE
CB	CATCH BASIN
CF	CURB FACE
CG	CURB AND GUTTER
CIP	CAST IRON PIPE
CL	CHAIN LINK
C	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CONC	CONCRETE
CY	CUBIC YARDS
DE, DUE	DRAINAGE UTILITY EASEMENT
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
Δ	DELTA
E	ELECTRIC
EA	EACH
EB	ELECTRIC BOX
EC	END CURVE
ECR	END CURB RETURN
EL, ELEV	ELEVATION
EOP	END OF PROJECT
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EVC	END VERTICAL CURVE
EW	EACH WAY
EX, EXIST	EXISTING
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
FOC	FACE OF CURB
FP	FINISHED PAD
G	GAS
GM	GAS METER
GV	GATE VALVE
HORIZ	HORIZONTAL
INT	INTERSECTION
INV	INVERT
INV EL	INVERT ELEVATION
LF	LINEAR FEET
LP	LIGHT POLE
LT	LEFT
MH	MANHOLE
NG	NATURAL GROUND
OC	ON CENTER
PB	PULL BOX
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PG	PAGE
PGL	PROFILE GRADE LINE PER TYPICAL SECTION
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
R, RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REF	REFERENCE
RT	RIGHT
R/W, ROW	RIGHT-OF-WAY
S	SLOPE
SAS	SANITARY SEWER LINE
SD	STORM DRAIN
SF	SQUARE FEET
STA	STATION
STD	STANDARD
SW	SIDEWALK
SY	SQUARE YARDS
T	TANGENT
TA	TOP OF ASPHALT
TAC	TOP OF ASPHALT CURB
TBC	TOP BACK OF CURB
TC	TOP OF CONCRETE
TEL	TELEPHONE LINE, RISER OR BOX
TP	TOP OF PIPE
TRANS	TRANSVERSE
TW	TOP OF WALL
TYP	TYPICAL
UE	UNDERGROUND ELECTRICAL LINE
UT	UNDERGROUND TELEPHONE LINE
VC	VERTICAL CURVE
VERT	VERTICAL
VPI	VERTICAL POINT OF INTERSECTION
W, WL	WATERLINE
WM	WATER METER
WSL	WATER SURFACE ELEVATION
WV	WATER VALVE

REVISIONS (OR CHANGE NOTICES)	
NO.	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	

Designed By:

HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

ADVANCED DESIGNSM

Decision of First

Designed For:
COLONNADO BIO GRANDE

COLONNADO NIO GRANDE

RESTORATION FOUNDATION

GENERAL NOTES, ABBREVIATIONS & LEGEND

FARMERS UNION CANAL
IMPROVEMENT PROJECT
DEL NORTE COLORADO

PROJECT NO. R312571.01

DESIGNED BY: RD

ENTERED BY	DATE
CHECKED BY	DATE

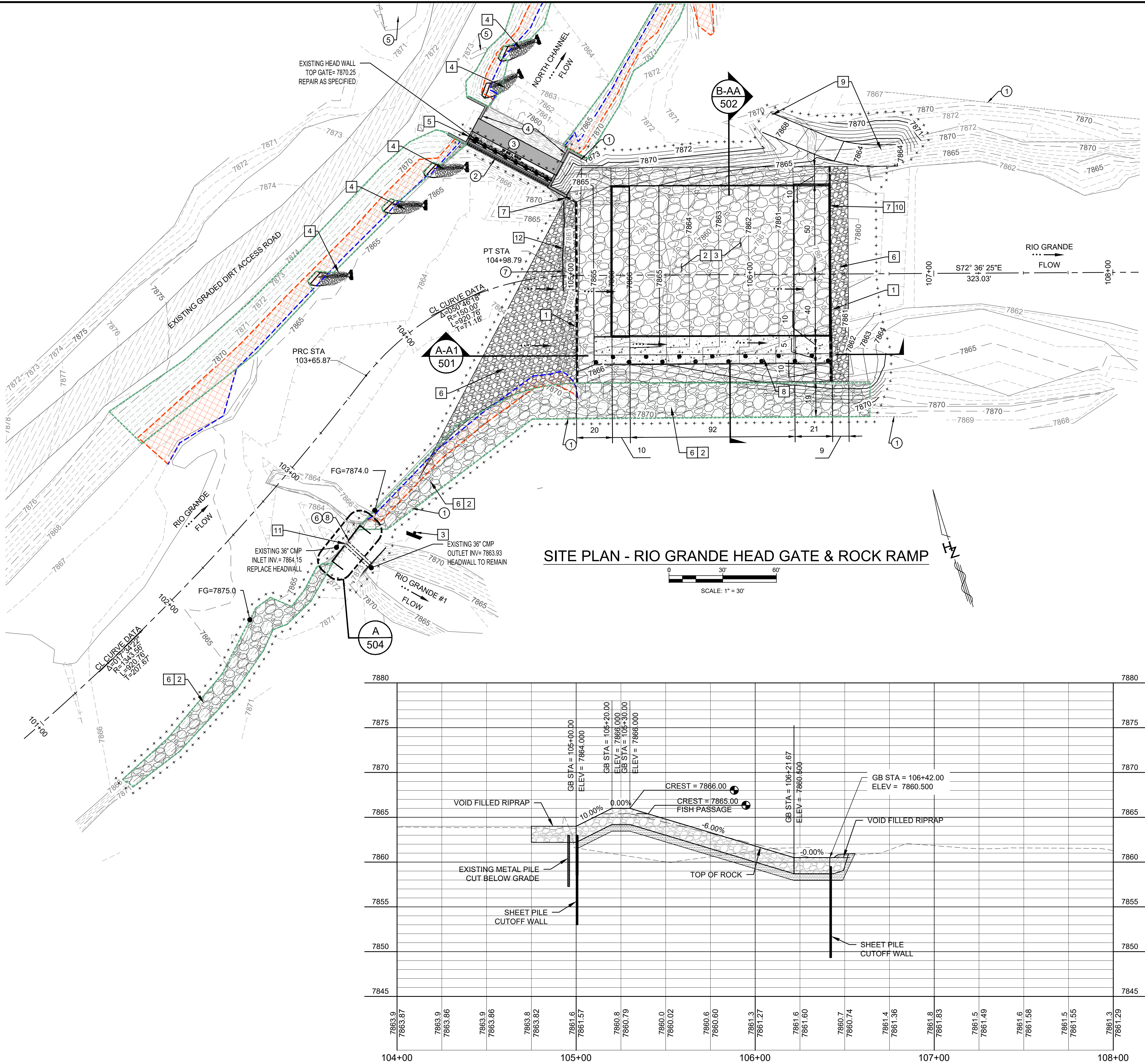
DATE: MARCH, 2025

DPW CHK:

SHEET: **G-101**



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Last Saved: 4/3/2025 9:51:45 AM, tsoemayor
Last Saved: 4/3/2025 9:51:45 AM, tsoemayor



GENERAL NOTES

1. CONTRACTOR SHALL REMOVE EXISTING RUBBLE AND SHEET PILING PRIOR TO PREPARATION FOR NEW GROUTED BOULDER STRUCTURE.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR DE-WATERING THE SITE FOR THE CONSTRUCTION OF THE NEW GROUTED BOULDER/ ROCK RAMP STRUCTURE.
3. CONTRACTOR SHALL GRADE RIVER BED AS REQUIRED TO INSTALL VOID FILLED RIP-RAP. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL MEASURES AROUND THE CONSTRUCTION AREA AS PER EROSION CONTROL NOTES ON SHEET G-101
4. NOMINAL BOULDER SIZE FOR THE GROUTED BOULDER STRUCTURE SHALL BE 3' MIN. IN DIAMETER.
5. NOMINAL BOULDER SIZE FOR THE VOID FILLED RIP-RAP SHALL BE 2' MIN. IN DIAMETER.
6. WILLOW TRANSPLANTING - BANK PROTECTION "BARBS" SEE DETAIL "D", SHEET "C-501"

KEY NOTES - EXISTING

1. EXISTING FENCING SHALL REMAIN.
2. EXISTING WOOD PLANK CROSSING WITH GUARD RAILING
3. EXISTING WOODEN BRIDGE CROSSING
4. EXISTING CONCRETE WING WALLS
5. EXISTING CONCRETE DEBRIS PILE. ALL EXISTING DEBRIS SHALL BE REMOVED FROM SITE.
6. EXISTING METAL SHEET PILE HEAD WALL TO BE REMOVED
7. EXISTING METAL SHEET PILE TO BE CUT BELOW GRADE AND CAPPED WITH CONCRETE AS PER DETAIL "B", ON SHEET "C-501"
8. EXISTING 36" CMP PIPE, TRIM AND PREP RIM OF PIPE FOR NEW HEAD WALL AND CHANNEL SCREW GATE.

KEY NOTES

1. CONSTRUCT SHEET PILE CUTOFF CONNECTION PER DETAIL "B", SHEET "C-501"
2. CONSTRUCT WEEP DRAINS PER DETAIL "C", SHEET "C-501" AT 10' O.C.
3. CONSTRUCT GROUTED BOULDER/ ROCK RAMP PER DETAILS, SHEET "C-501"
4. CONSTRUCT NRCS ROCK BARB WITH ROOT WAD PER DETAIL "A", SHEET "C-502"
5. REPLACE GATES PER NOTES AND DETAILS ON SHEET SHEET "C-503"
6. INSTALL GROUTED BOULDER OVERHANG ARMORING DETAIL "B", "SECTION A-A", SHEET "C-502"
7. GROUT SEAL CONNECTION BETWEEN SHEET PILE AND CONCRETE HEADWALL
8. CONSTRUCT FISH PASSAGE PER DETAIL "B", SHEET "C-502"
9. GRADE EXISTING ACCESS RAMP/ROAD TO GROUTED BOULDER/ ROCK RAMP
10. INSTALL 2' TALL END SILL ON SHEET PILE CUTOFF WALL WITH 4' WIDE LOW FLOW OPENING CENTERED ON "FISH PASSAGE" IN END SILL.
11. REMOVE EXISTING HEAD GATE AND REPLACE WITH FRESNO SERIES 8200 FABRICATED ALUMINUM SLIDE GATE PER DETAIL "C", SHEET "C-503" (SALVAGE EXISTING HEAD GATE TO OWNER)
12. CUT EXISTING STEEL SHEET PILE TO 6" BELOW NEW GROUTED BOULDER/ ROCK RAMP.

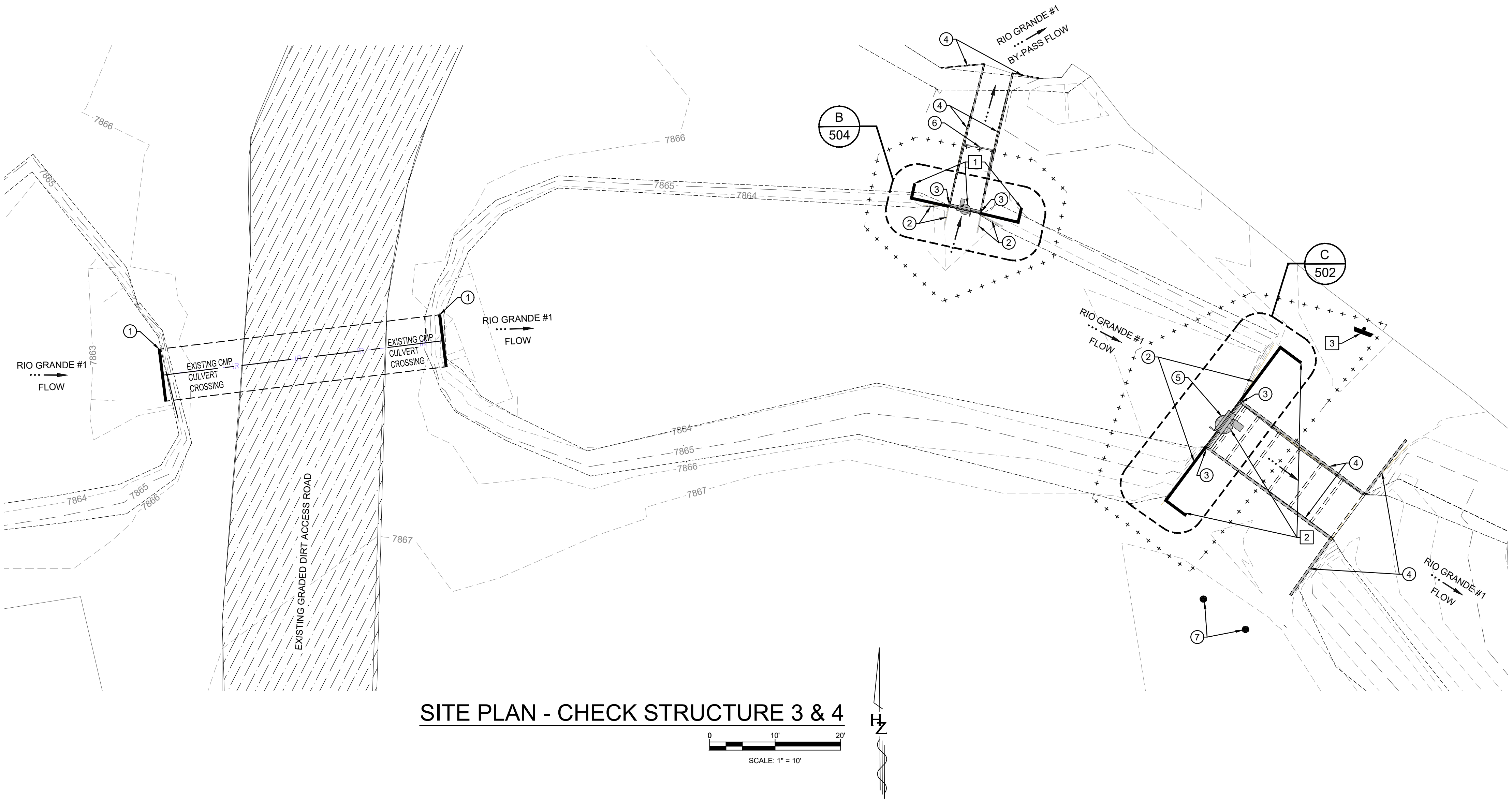
LEGEND

- 100 YEAR FLOOD LEVEL
- BANK FULL
- 100 YEAR FLOOD ZONE
- WILLOW TRANSPLANTING

SHEET: C-100			
DPW CHK:			
DATE: APRIL, 2025			
CHECKED BY: NV			
DRAWN BY: STAFF			
DESIGNED BY: RD			
PROJECT NO. R312571.01			
FARMERS UNION CANAL IMPROVEMENT PROJECT DEL NORTE COLORADO			
SITING PLAN			
CHECK DAM, ROCK RAMP & METAL HEADWALL #1			
HUITT-ZOLLARS Huitt-Zollars, Inc. Rio Rancho 333 Rio Rancho Drive NE, Suite 101 Rio Rancho, New Mexico 87124 Phone (505) 892-5141 Fax (505) 892-3259			
ADVANCEDESIGN Designed For: COLORADO RIO GRANDE RESTORATION FOUNDATION			
REVISIONS (OR CHANGE NOTICES)			
NO.	DESCRIPTION	DATE	BY
7			
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1			



Plotted: 4/3/2025 9:50:09 AM, By: Soledad, Thomas
Last Saved: 4/3/2025 5:30:04 PM, User: tsoledad



SITE PLAN - CHECK STRUCTURE 3 & 4

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR DE-WATERING THE SITE FOR CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL MEASURES AROUND THE CONSTRUCTION AREA AS PER EROSION CONTROL NOTES ON SHEET G-101
3. RIVER/CHANNEL BED SHALL BE RETURNED TO NATURAL STATE AS MUCH AS POSSIBLE UPON COMPLETION OF NEW CONSTRUCTION.
4. ANY VEGETATION DAMAGED OR DESTROYED SHALL BE REPLACED WITH EQUAL OR APPROVED BY AHJ.

KEY NOTES - EXISTING

1. PROTECT IN PLACE EXISTING CULVERT (NO WORK SCHEDULED)
2. DEMOLISH EXISTING OPEN METAL SLUICE HEAD/WING WALLS @ INLET ONLY.
3. CUT METAL SLUICE SIDE WALLS AND BASE TO RECEIVE NEW HEAD WALL CONSTRUCTION. AS PER DETAIL.
4. PROTECT IN PLACE EXISTING OPEN METAL SLUICE CHANNEL STRUCTURE AND OUTLET HEAD/WING WALLS.
5. REMOVE EXISTING CHANNEL SCREW GATE AND SALVAGE TO OWNER.
6. EXISTING METAL WEIR TO REMAIN.
7. EXISTING WOOD POST

KEY NOTES - CONSTRUCTION

1. CONSTRUCT NEW HEAD WALL & NEW CONTROL CHANNEL SCREW GATE AS PER DETAIL "B", ON SHEET "C-504", CONTINUOUS WELD TO EXISTING STRUCTURE TO ENSURE NO UNDERCUTTING.
2. CONSTRUCT NEW HEAD WALL AND NEW CONTROL CHANNEL AUTOMATED SCREW GATE AS PER DETAIL "C", ON SHEET "C-504", CONTINUOUS WELD TO EXISTING STRUCTURE TO ENSURE NO UNDERCUTTING.
3. INSTALL PEDESTAL POST FOR CONTROLLER AND SOLAR CHARGING STATION.
4. NO AUTOMATION SCHEDULED FOR THIS GATE. PREP POST AND STRUCTURE FOR FUTURE RETROFITTING.

Designed By:

HUETT-ZOLLARS
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Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

ADVANCEDESIGN

Designed For:

**COLORADO RIO GRANDE
RESTORATION FOUNDATION**

SITE PLAN -
METAL HEADWALL #2 & #3

FARMERS UNION CANAL
IMPROVEMENT PROJECT
DEL NORTE COLORADO

PROJECT NO. R312571.01

DESIGNED BY: RD

DRAWN BY: STAFF

CHECKED BY: NV

DATE: MARCH, 2025

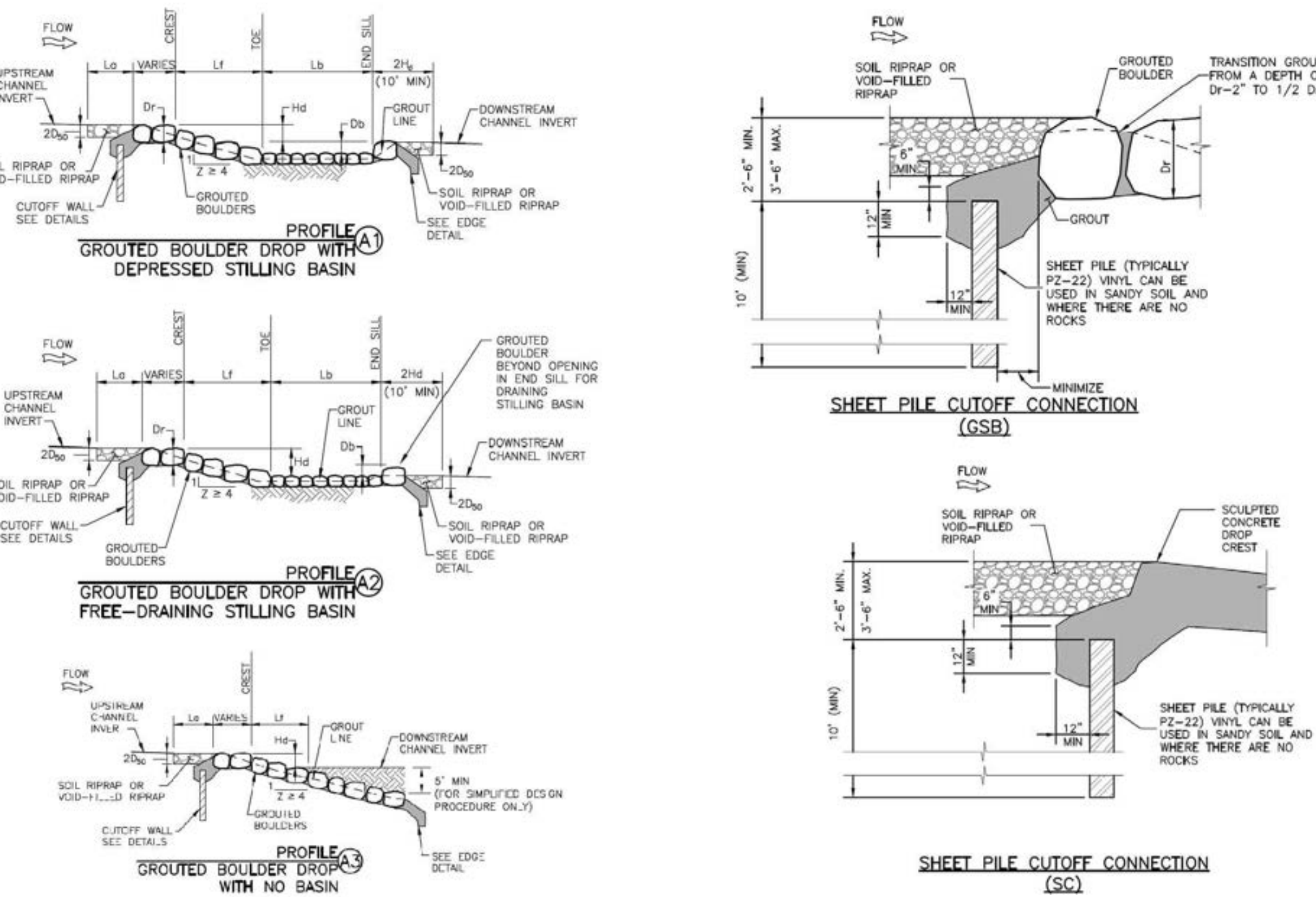
DPW CHK:

SHEET:

C-101



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Colorado Department of Transportation
Last Saved: 4/1/2025 1:55:39 PM, tsuleyman

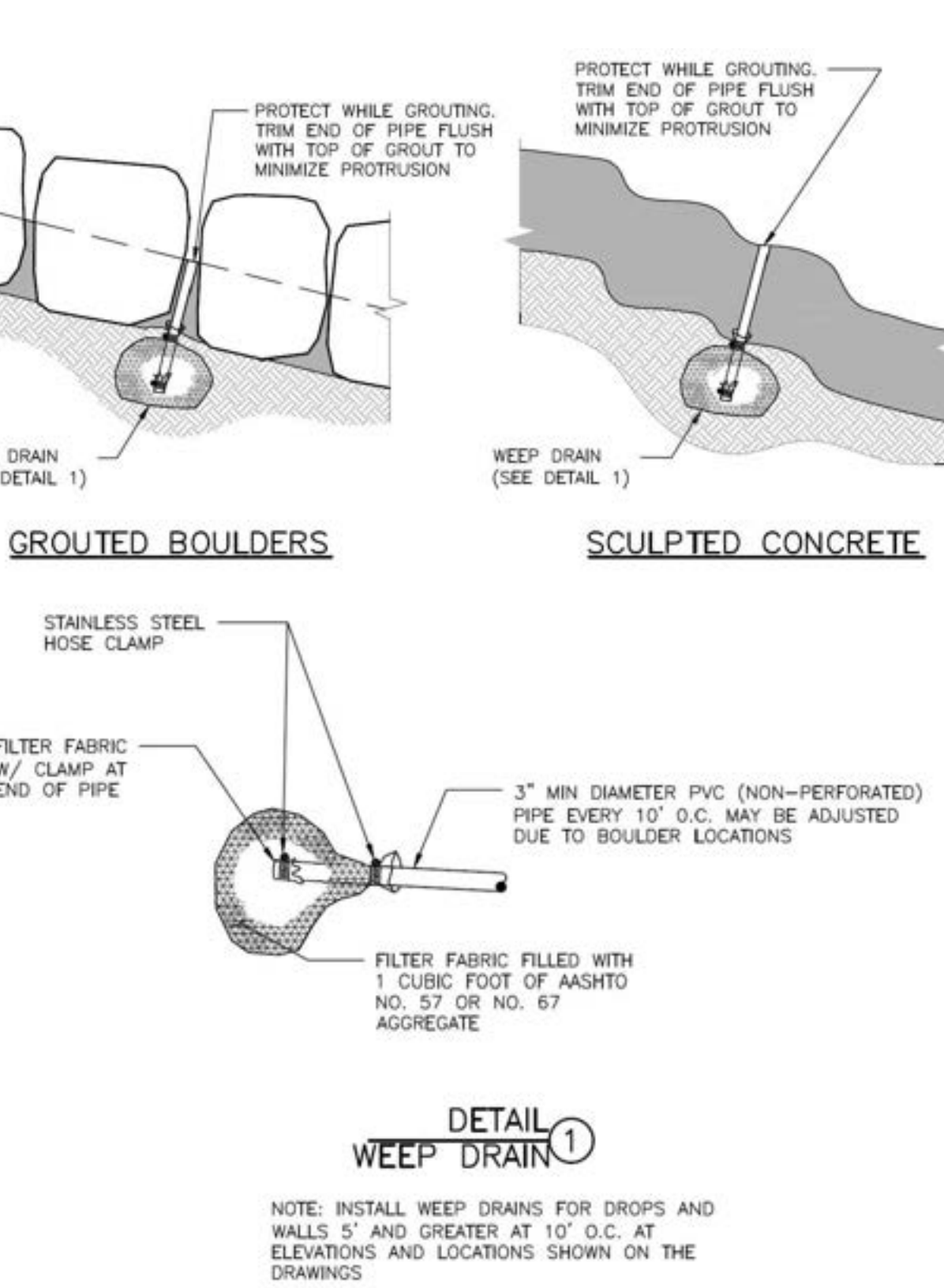


DETAIL A - ROCK RAMP OPTIONS

N.T.S.
NOTE:
DESIGN BASED OFF PROFILE "A1". OTHER PROFILES ARE SHOWN AS
OPTIONS DUE TO FIELD CONDITIONS.

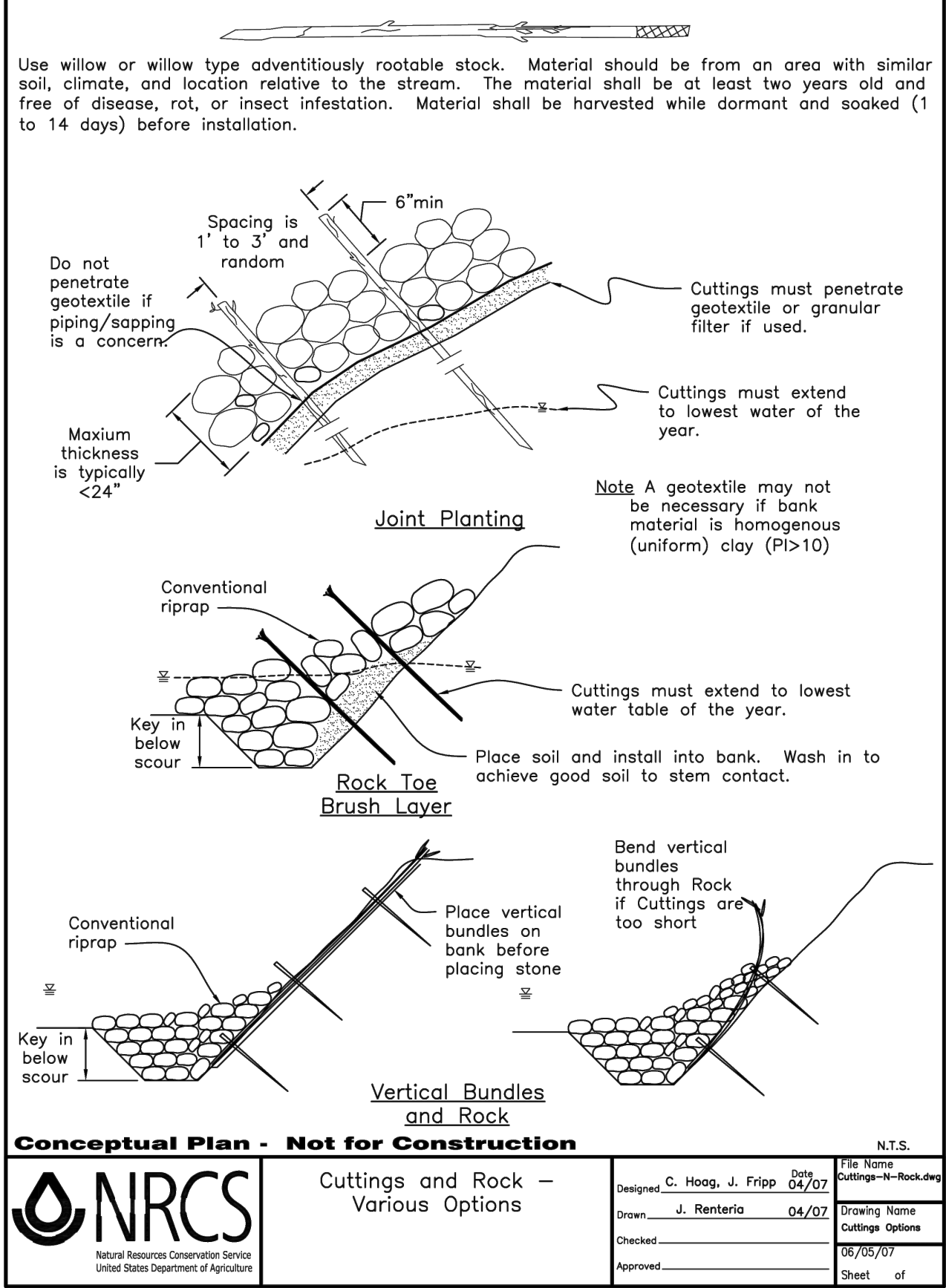
DETAIL B - ENCAPSULATED STEEL PILE CUTOFF

N.T.S.



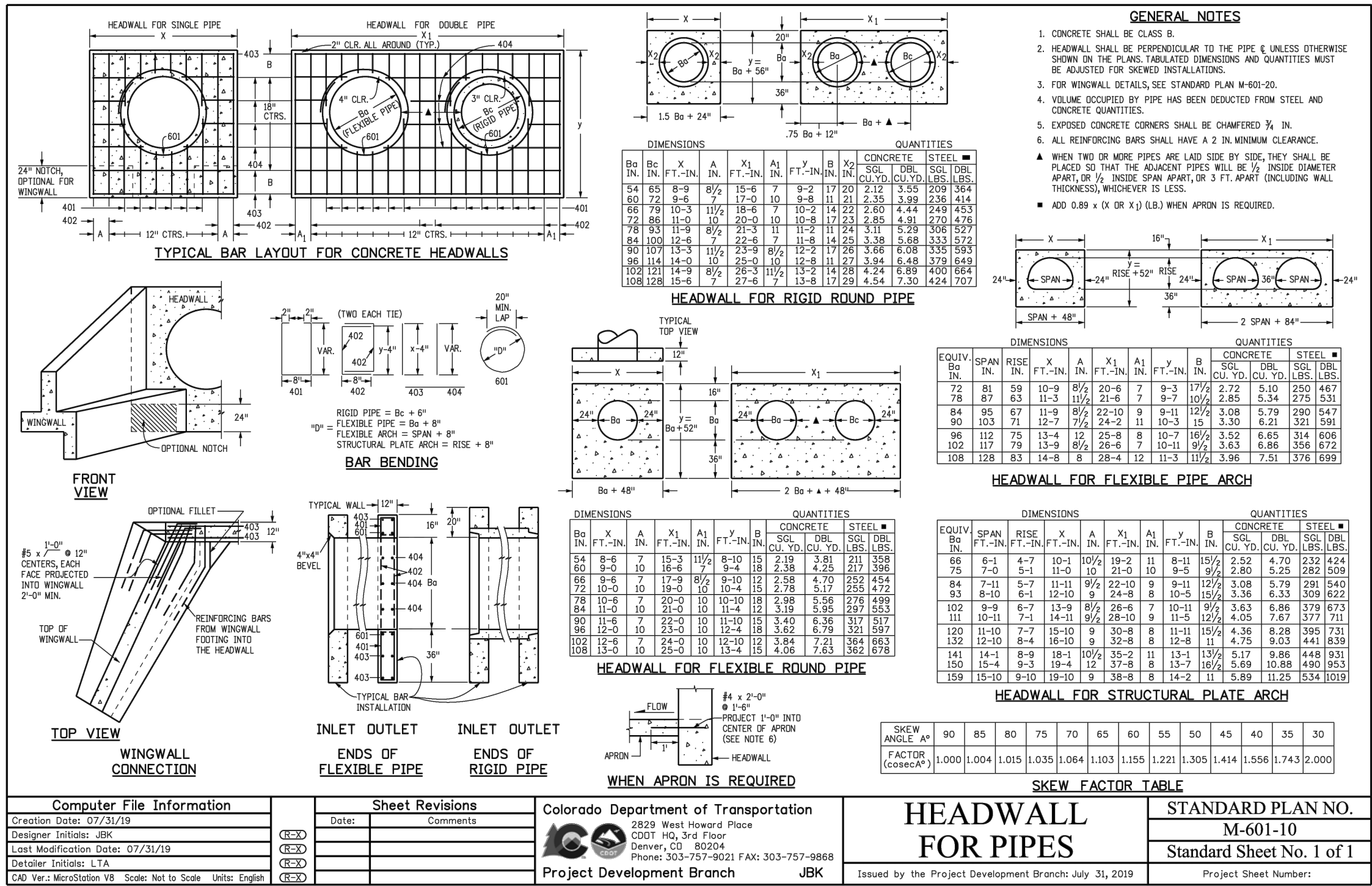
DETAIL C - TYPICAL WEEP DRAIN

N.T.S.



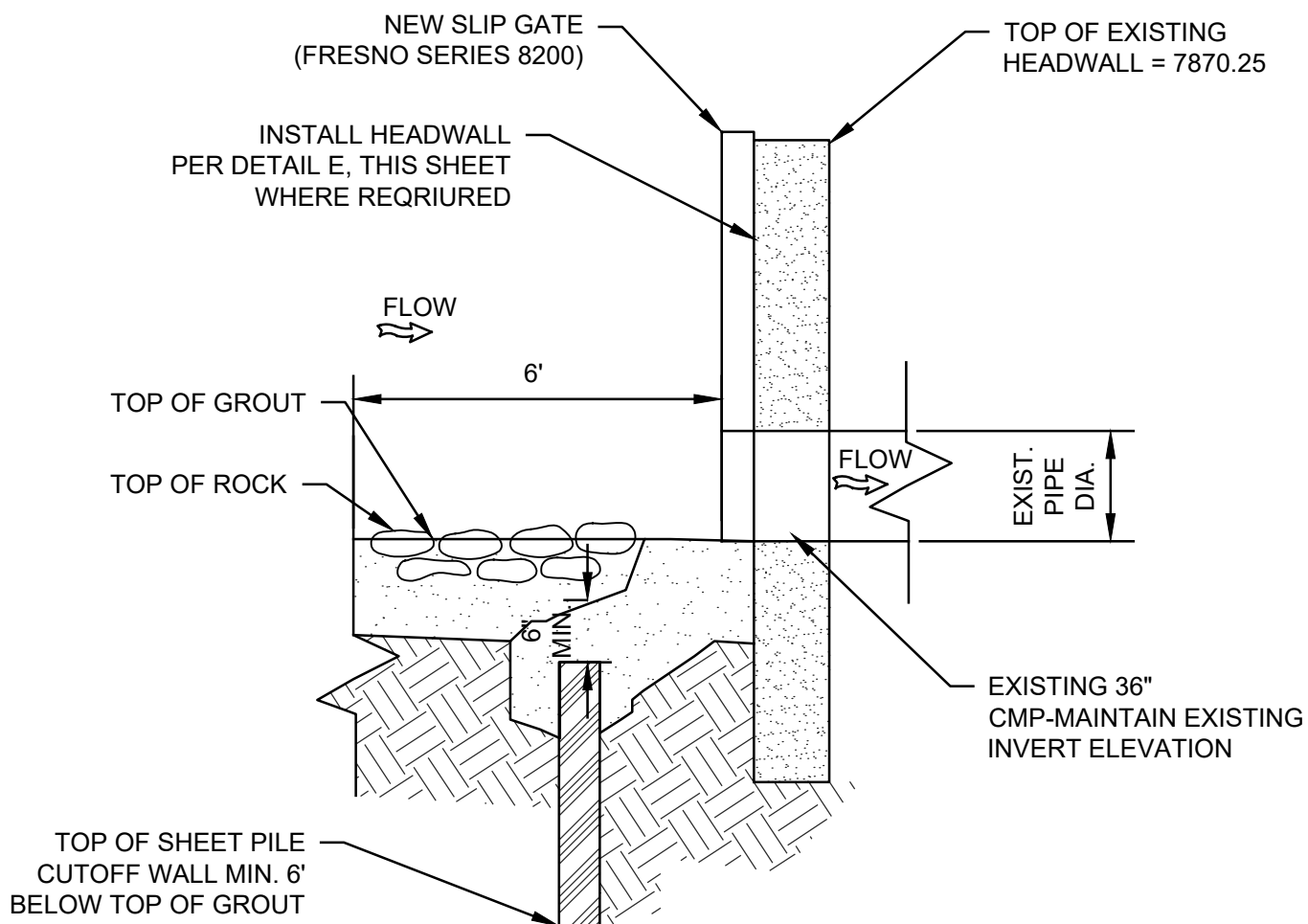
DETAIL D - "NRCS" EMBANKMENT PROTECTION

N.T.S.



DETAIL E - HEAD WALL/ CHECK DAM

N.T.S.



REVISIONS (OR CHANGE NOTICES)	
NO.	DESCRIPTION
7	
6	
5	
4	
3	
2	
1	

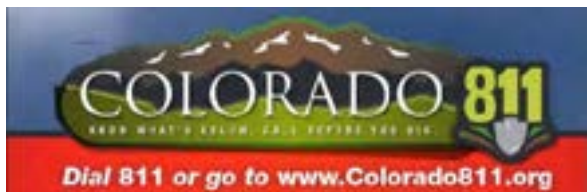
HUETT-ZOLLARS
Huett-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

ADVANCEDESIGN
Designed For:
COLORADO RIO GRANDE RESTORATION FOUNDATION

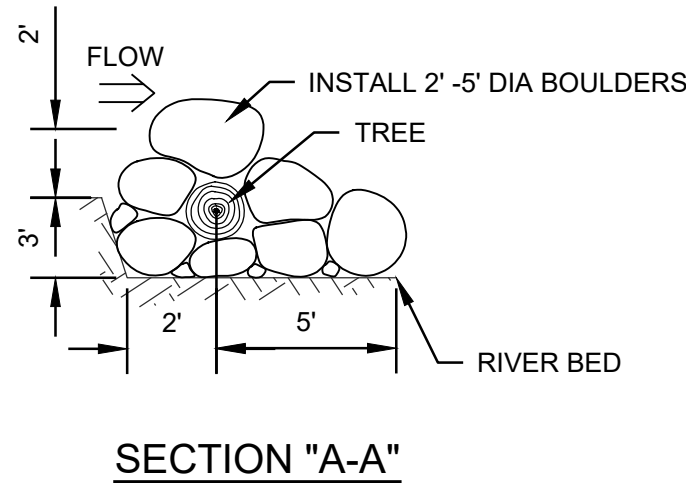
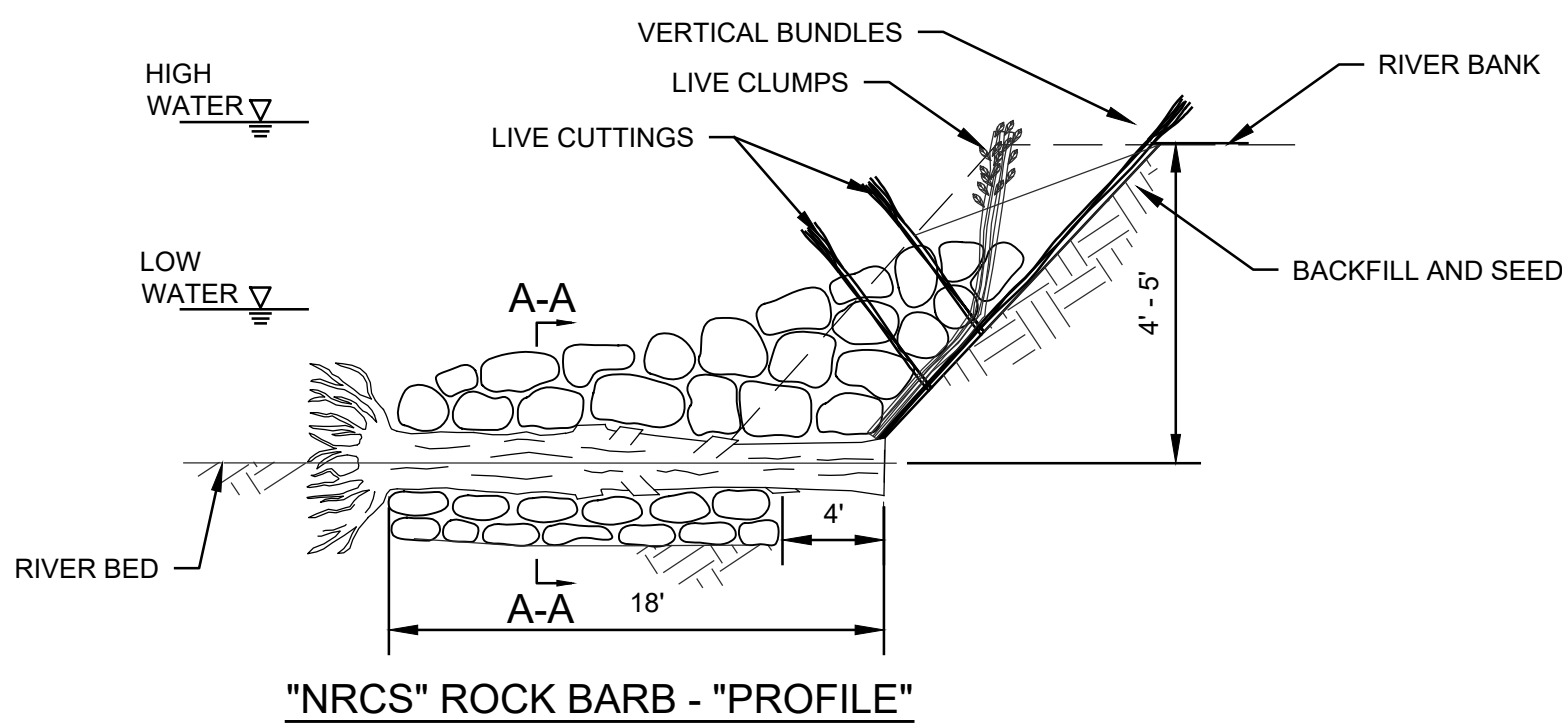
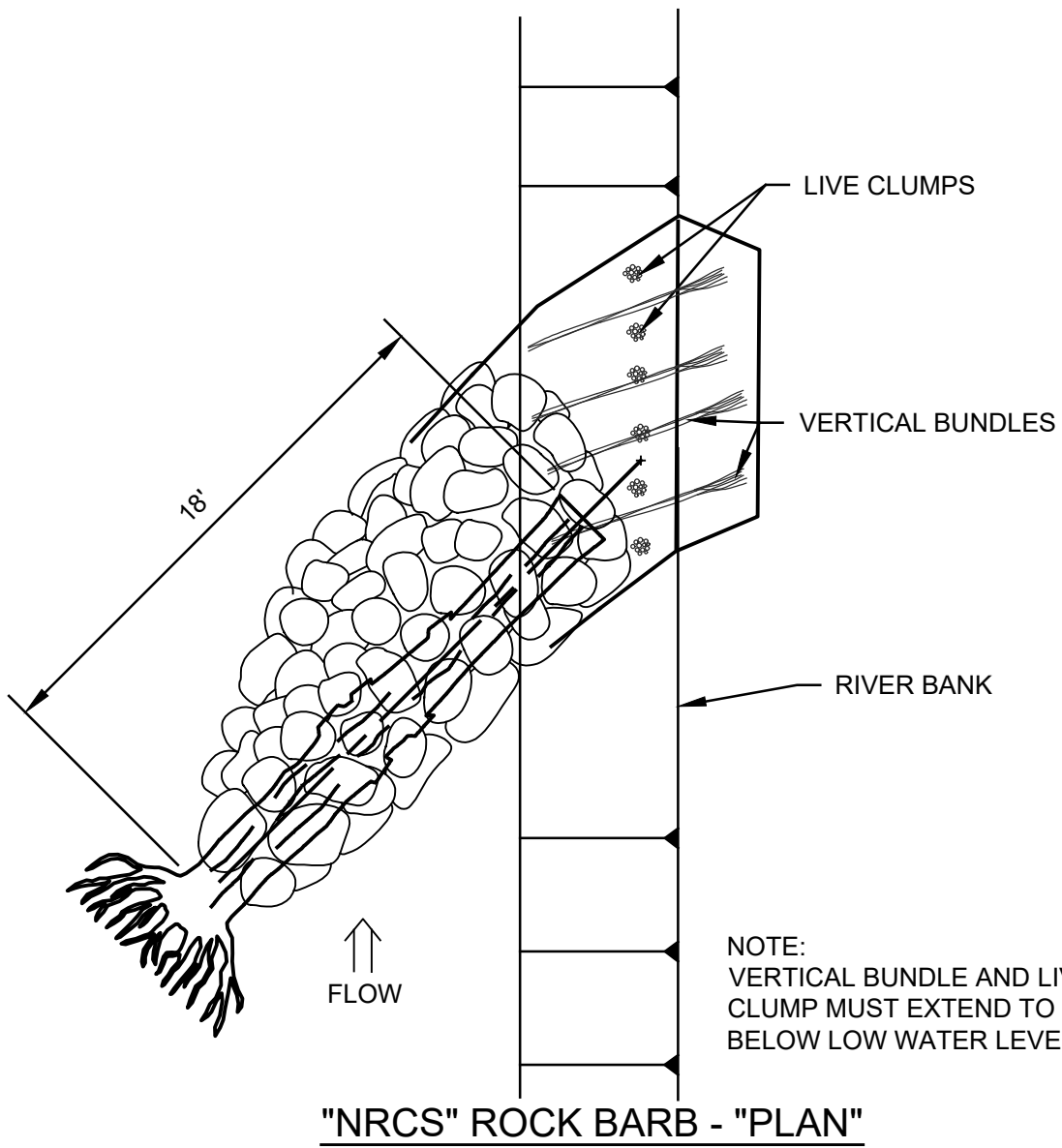
DETAILS
EMBEDDED ROCK & HEAD WALL

FARMERS UNION CANAL IMPROVEMENT PROJECT
DEL NORTE COLORADO

PROJECT NO.	R312571.01
DESIGNED BY:	RD
DRAWN BY:	STAFF
CHECKED BY:	NV
DATE:	MARCH, 2025
DPW CHK:	
SHEET:	C-501



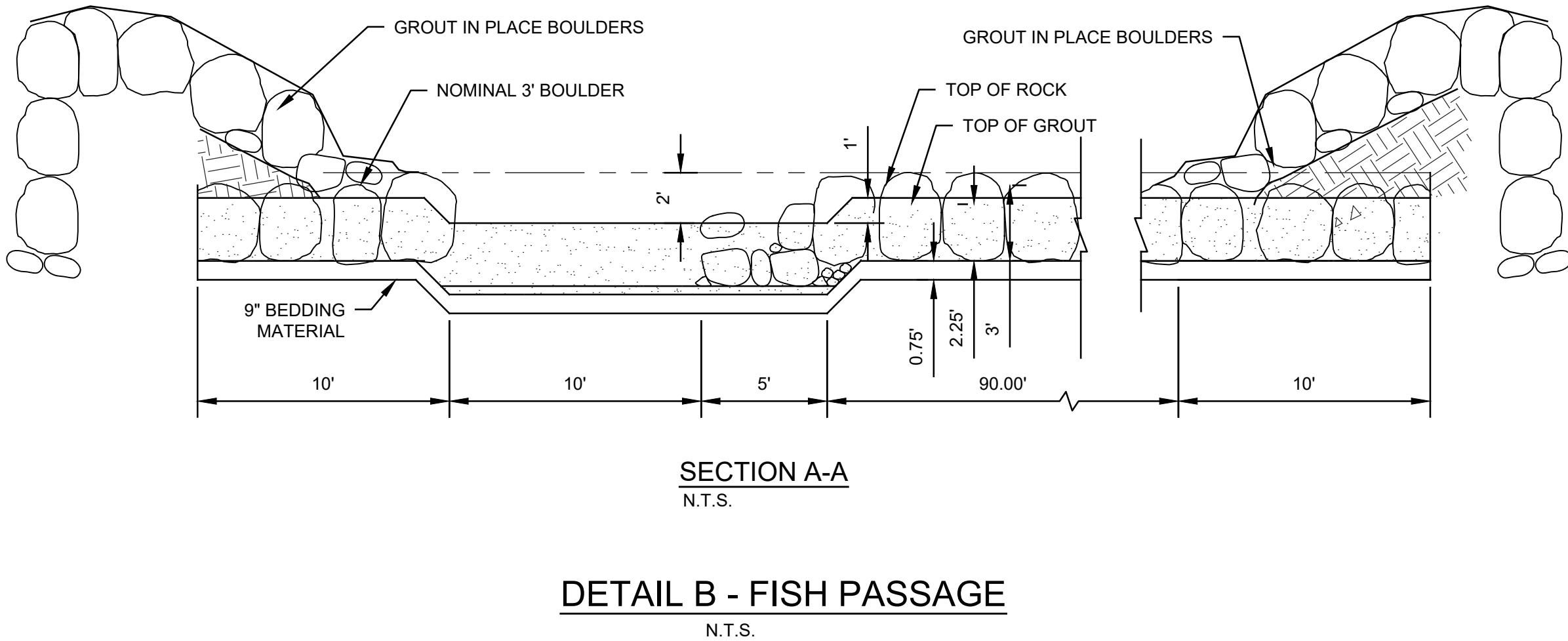
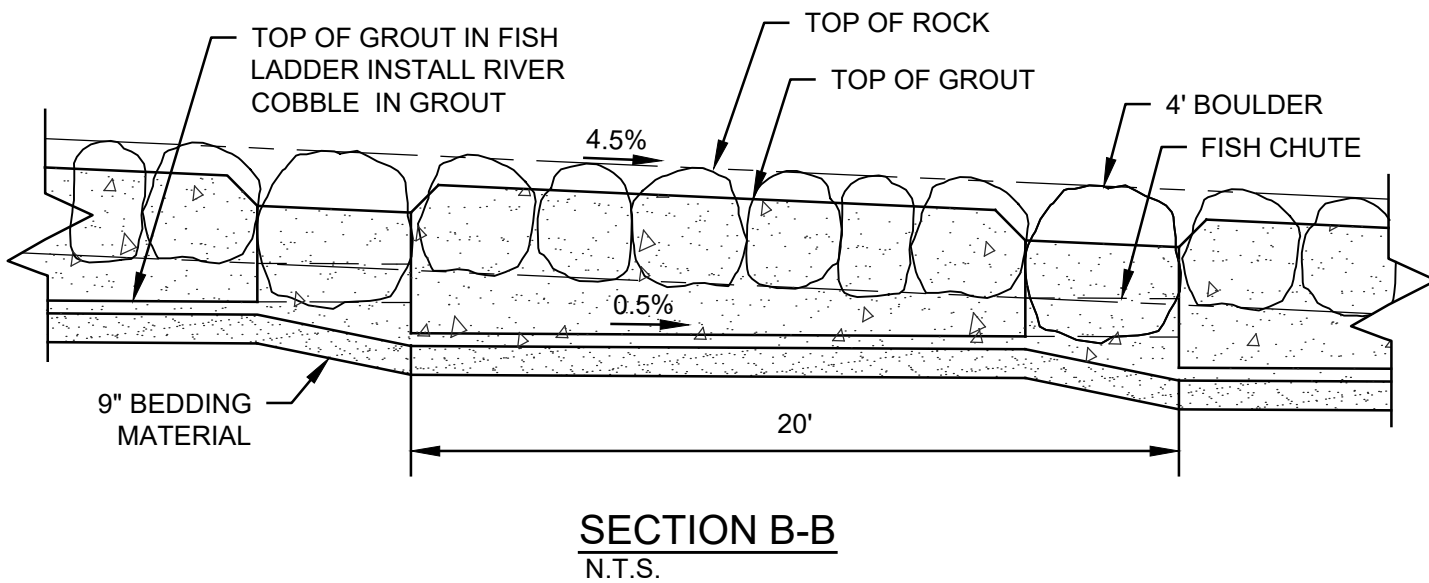
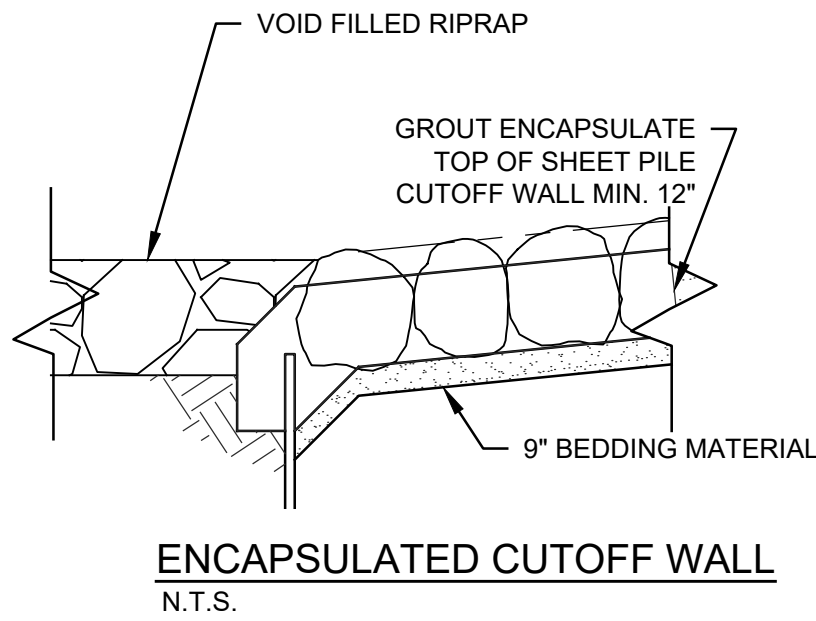
Plotted: 4/3/2025 9:53:03 AM. By: Suleyman, Thomas
Last Saved: 4/1/2025 1:55:39 PM. User: tsuleyman



DETAIL A - "NRCS" ROCK BARB

N.T.S.

NOTE:
FIELD VERIFY ALL DIMENSION OF EXISTING STRUCTURE



DETAIL B - FISH PASSAGE

N.T.S.

NO.	DESCRIPTION	DATE	BY
7			
6			
5			
4			
3			
2			
1			

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Huitt-Zoliars, Inc.
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Phone (505) 892-5141 Fax (505) 892-3259

ADVANCEDESIGNSM
Designed For:
COLORADO RIO GRANDE RESTORATION FOUNDATION

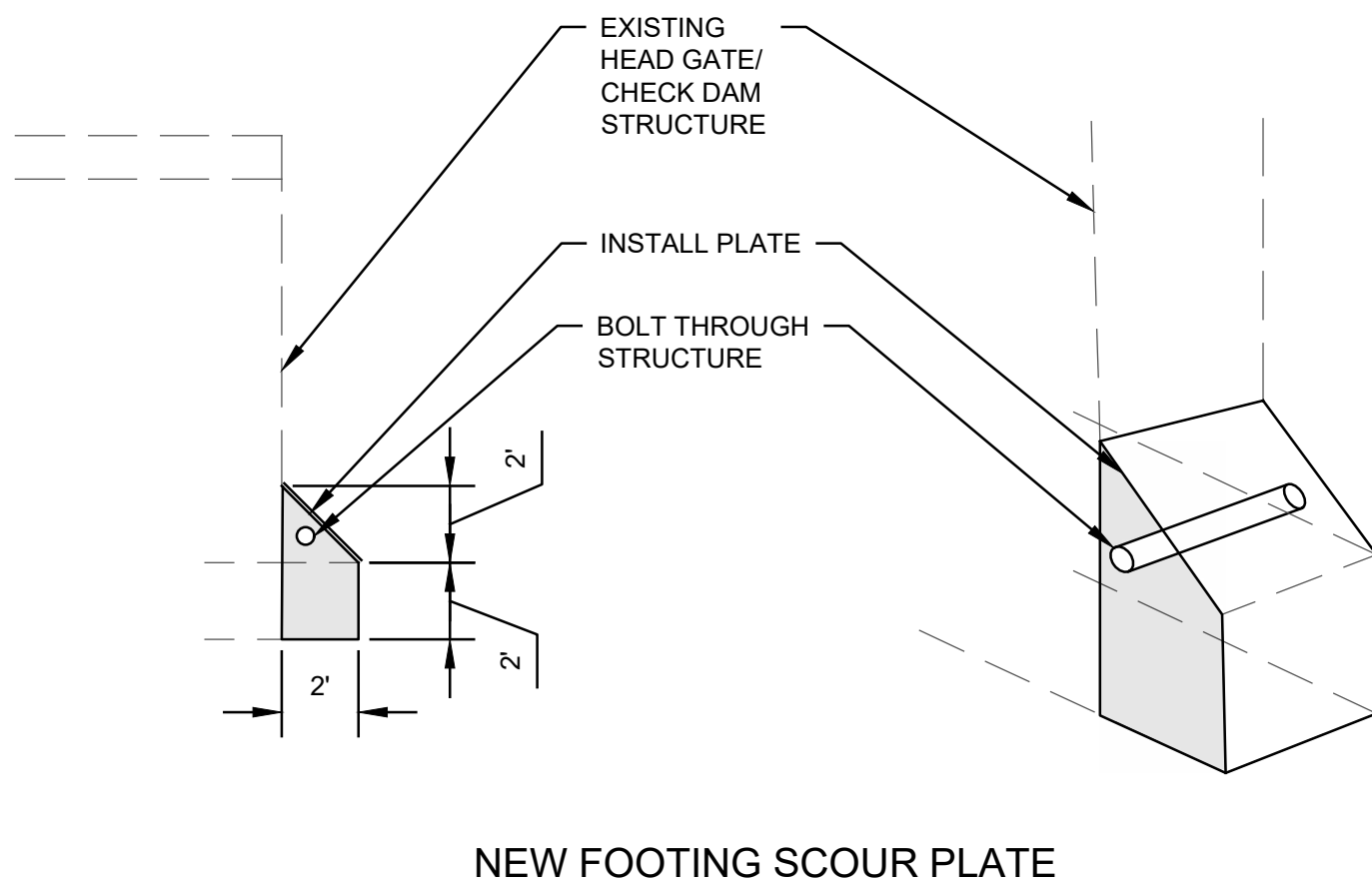
DETAILS - BARB & FISH PASSAGE

FARMERS UNION CANAL IMPROVEMENT PROJECT
DEL NORTE COLORADO

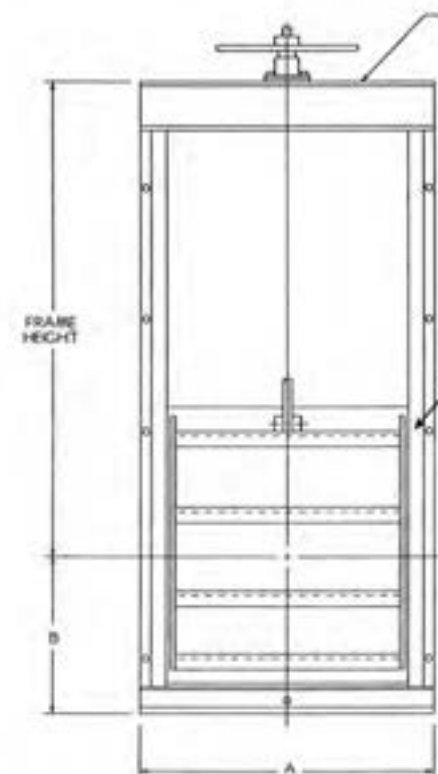
PROJECT NO. R312571.01
DESIGNED BY: RD
DRAWN BY: STAFF
CHECKED BY: NV
DATE: MARCH, 2025
DPW CHK:

SHEET:
C-502





N.T.S. NOTE:
FIELD VERIFY ALL DIMENSION OF EXISTING STRUCTURE



Options

- Carbon Steel, Galvanized Carbon Steel, Stainless Steel or Aluminum.
- Bearing, Handwheel or Gear operated lifts
- Self-contained or non self-contained construction.
- U.H.M.W. Poly Liner.
- J-Seals.
- Stainless Steel or Cold Finish Steel stem.

Width x Height	Carbon Steel & Galvanized		Stainless Steel		Aluminum		Steel Diamond		LFR		Minimum Frame Height (H)
	A	B	A	B	A	B	Model	Diameter			
12" x 12"	20.0	10.0	20.0	10.0	21.50	10.0	1.12	H-1	10"	20"	
12" x 24"	20.0	16.0	20.0	16.0	21.50	16.0	1.12	H-1	10"	38"	
18" x 18"	26.0	10.0	26.0	10.0	28.00	10.0	1.12	H-1	10"	20"	
18" x 30"	26.0	19.0	26.0	19.0	27.00	19.0	1.12	H-1	10"	37"	
24" x 24"	32.0	16.0	33.50	16.0	33.50	16.0	1.12	H-1	10"	38"	
24" x 36"	32.0	22.0	32.0	22.0	33.50	22.0	1.12	H-1	10"	56"	
30" x 30"	38.0	19.0	38.0	19.0	39.50	19.0	1.12	H-1	10"	47"	
30" x 42"	38.0	25.0	38.0	25.0	39.50	25.0	1.50	H-2	18"	65"	
36" x 36"	44.0	22.0	44.0	22.0	45.50	22.0	1.12	H-1	24"	56"	
36" x 48"	44.0	28.0	44.0	29.0	45.50	28.0	1.50	H-2	18"	74"	
42" x 42"	50.0	25.0	50.0	25.0	51.50	25.0	1.50	H-2	24"	65"	
42" x 60"	50.0	34.0	50.0	34.0	51.50	34.0	2.00	H3	24"	92"	
48" x 36"	56.0	22.0	56.0	22.0	57.50	22.0	1.12	H-2	18"	56"	
48" x 48"	56.0	28.0	56.0	28.0	57.50	28.0	1.50	H-2	30"	74"	



N.T.S.

Designed By: **HUITT-ZOLLARS** Rio Rancho
 Huitt-Zollars, Inc. Suite 101
 333 Rio Rancho Drive NE, Suite 101
 Rio Rancho, New Mexico 87124
 Phone (505) 892-5141 Fax (505) 892-3259

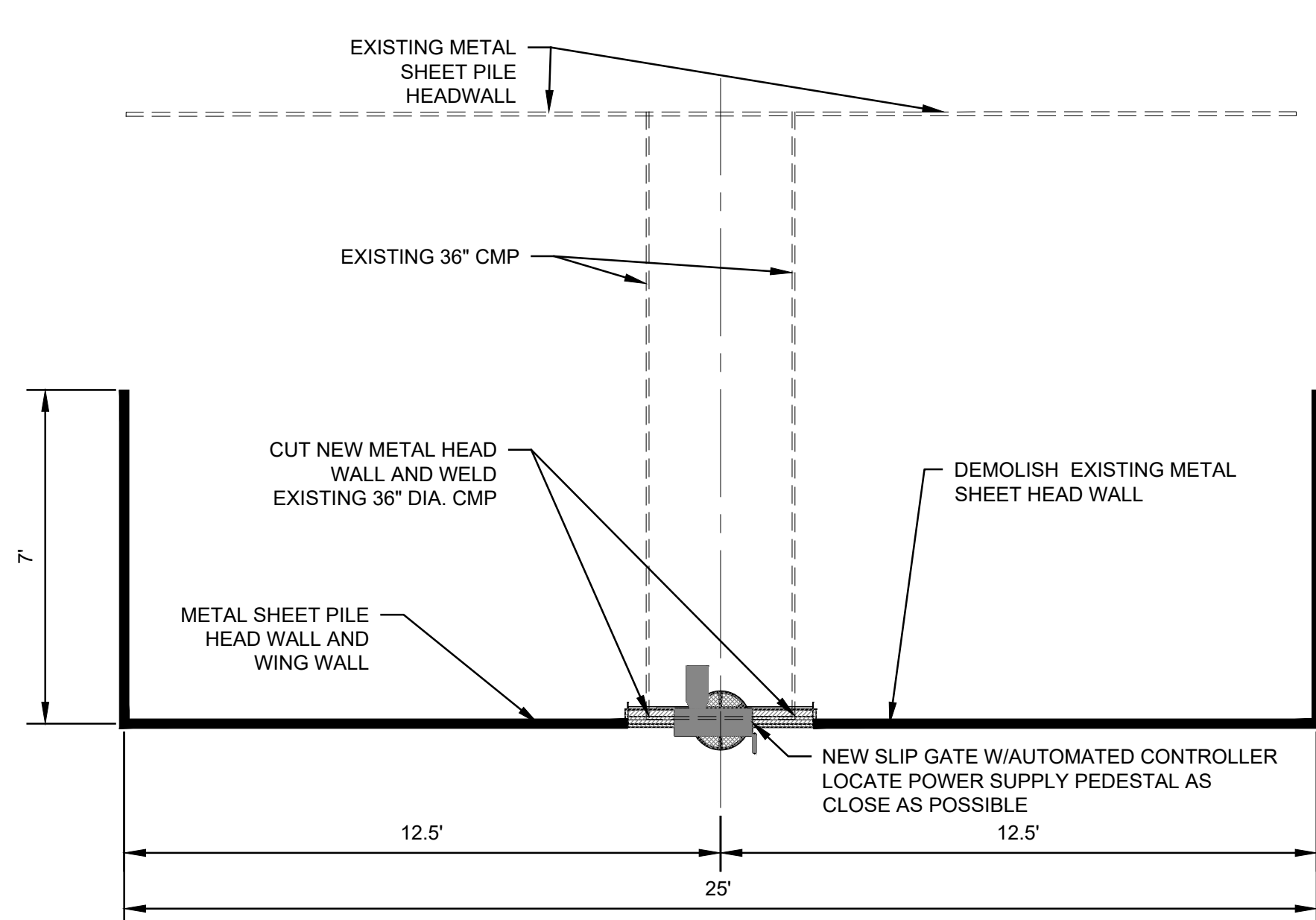
Designed For: **ADVANCEDESIGNSM**
COLORADO RIO GRANDE
RESTORATION FOUNDATION

FARMERS UNION CANAL
IMPROVEMENT PROJECT
DEL NORTE COLORADO

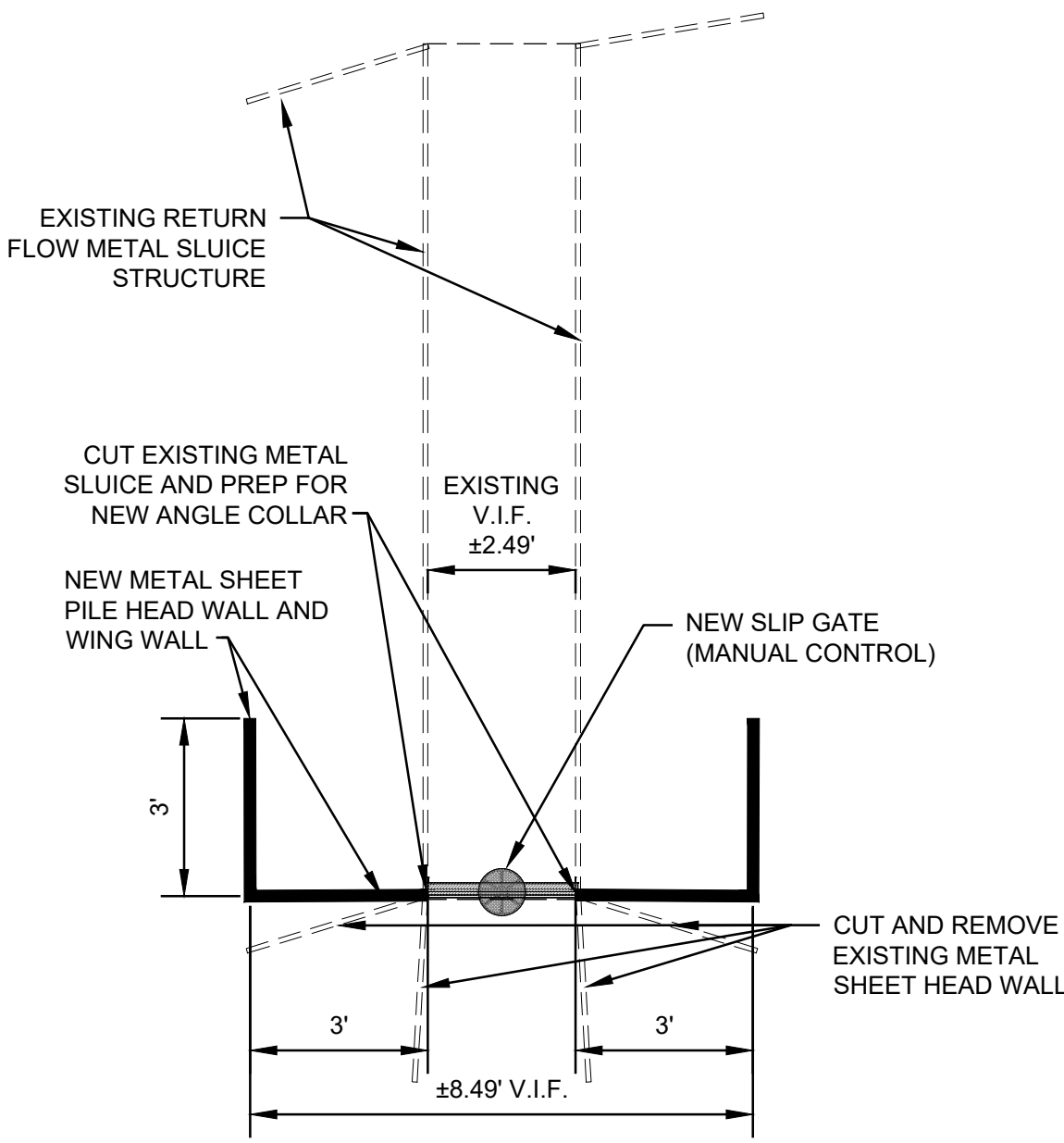
SHEET:

C-503

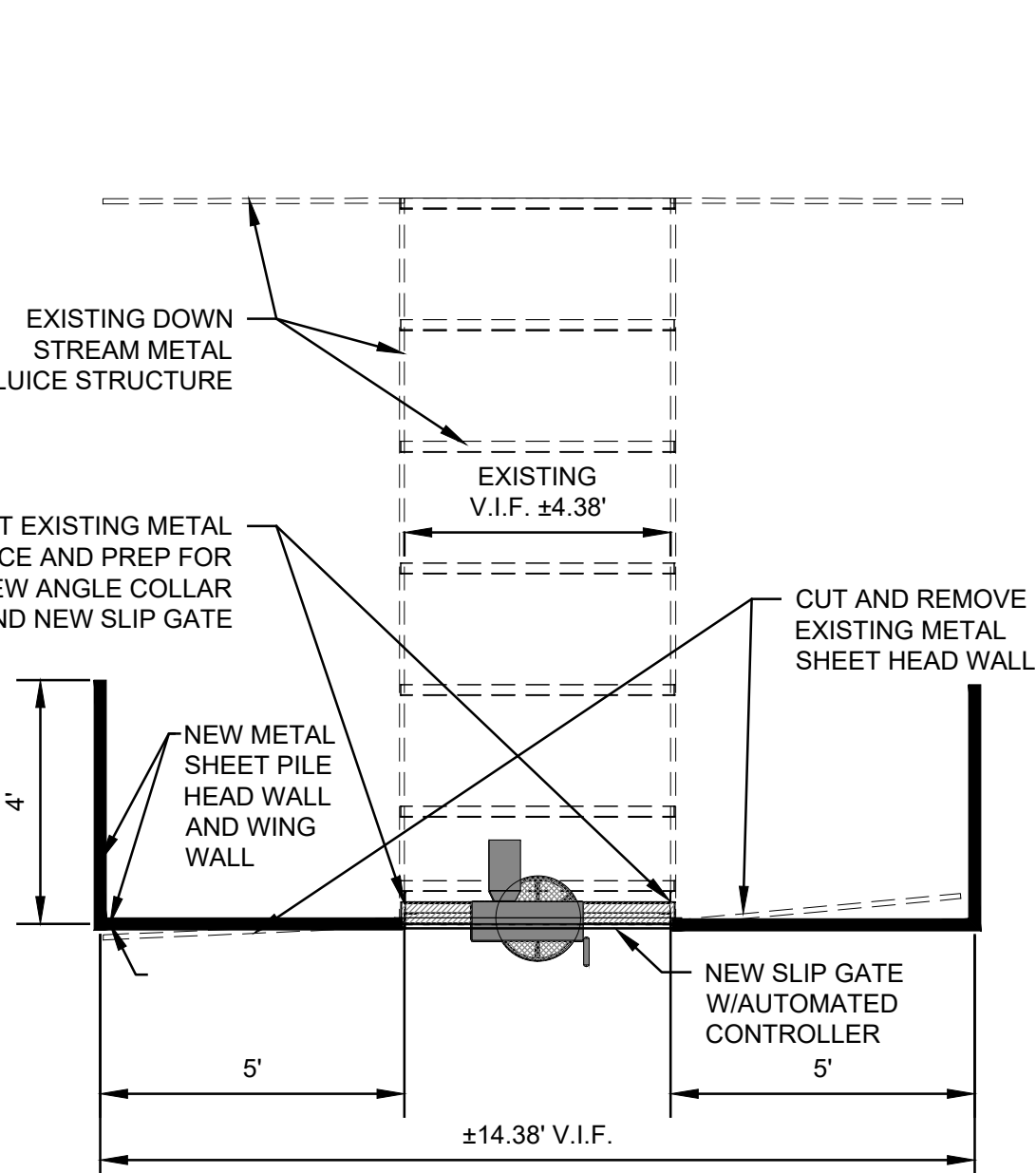




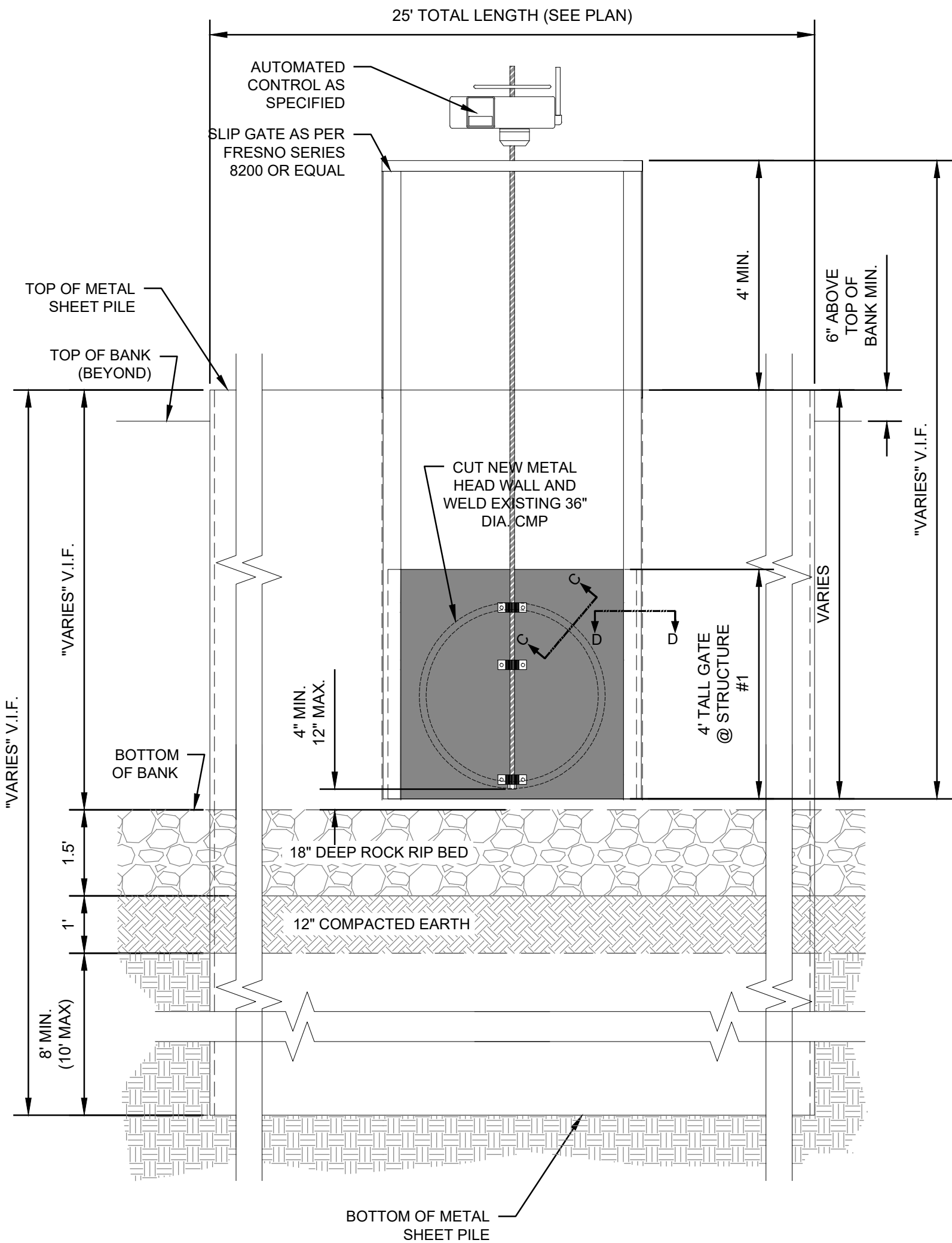
DETAIL A - METAL HEAD WALL #1
SCALE: 1" = 3'



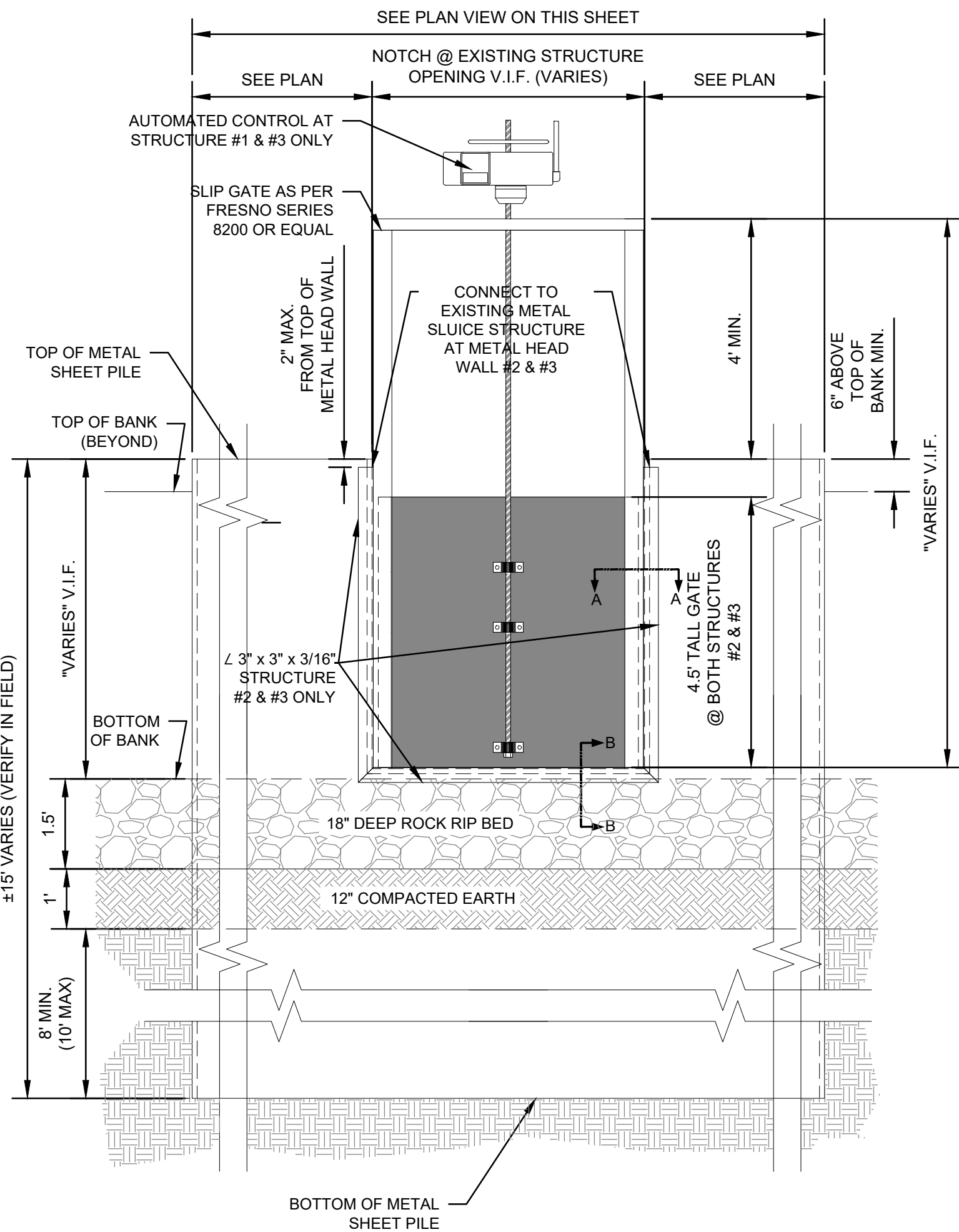
DETAIL B - METAL HEAD WALL #2
SCALE: 1" = 3'



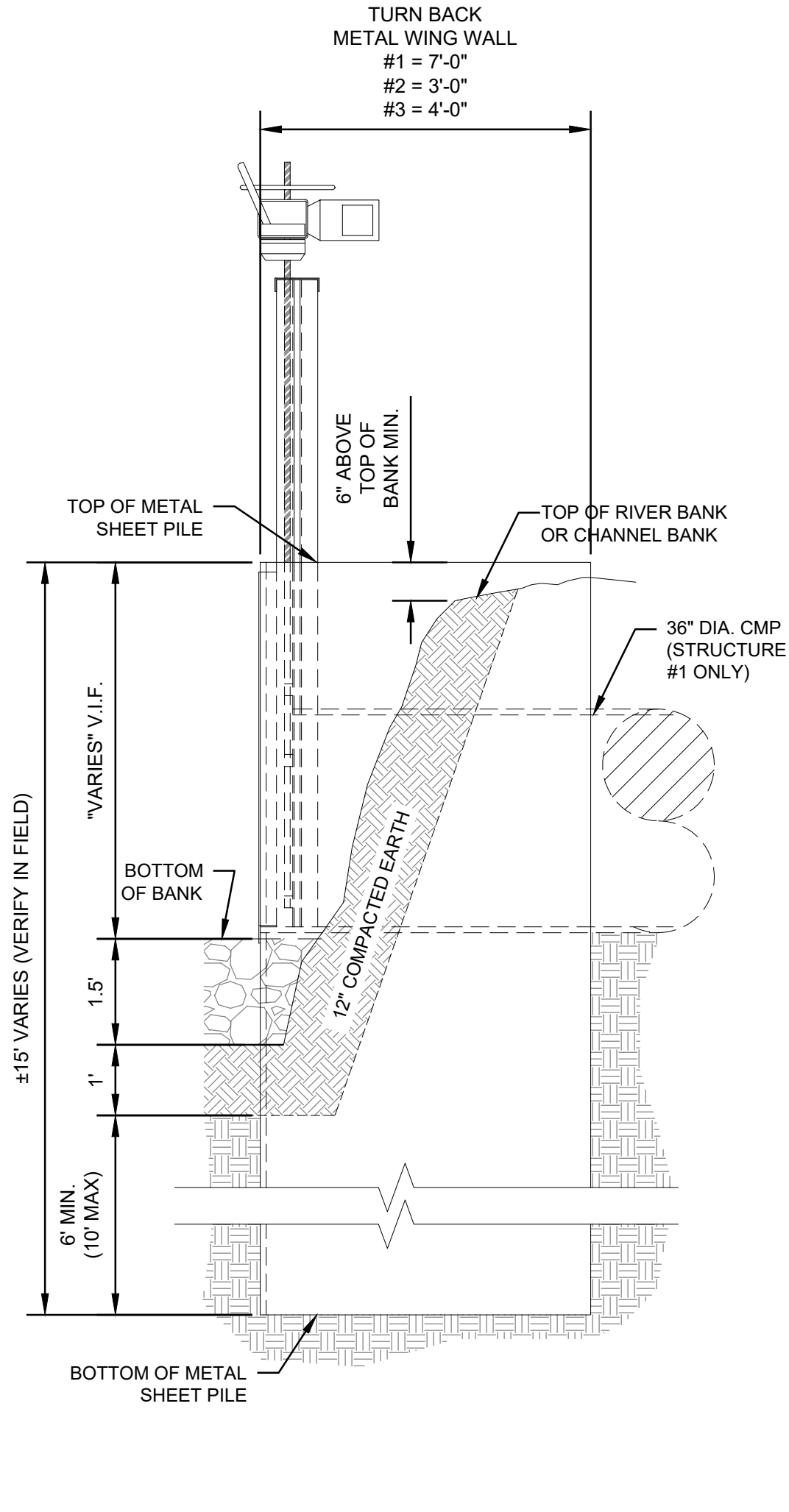
DETAIL C - METAL HEAD WALL #3
SCALE: 1" = 3'



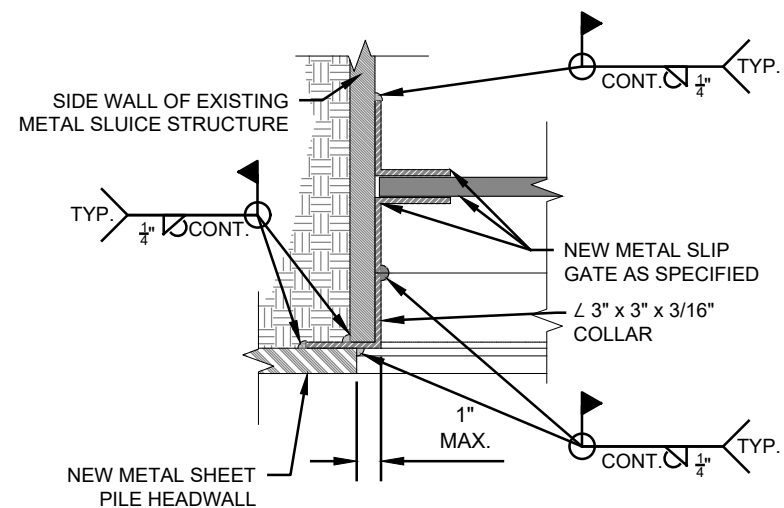
DETAIL D - TYPICAL
METAL SHEET PILE HEAD WALL - ELEVATION
N.T.S.



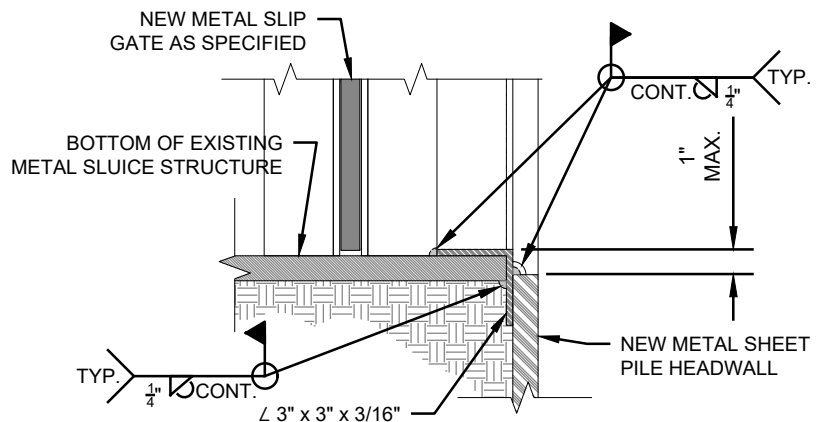
DETAIL D - TYPICAL
METAL SHEET PILE HEAD WALL - ELEVATION
N.T.S.



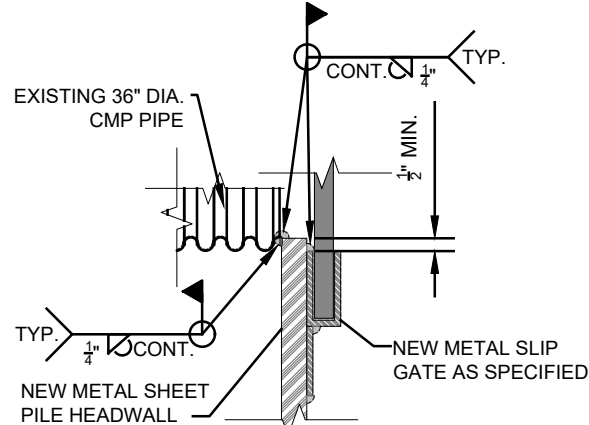
DETAIL E - TYPICAL
METAL SHEET PILE HEAD WALL - SECTION
N.T.S.



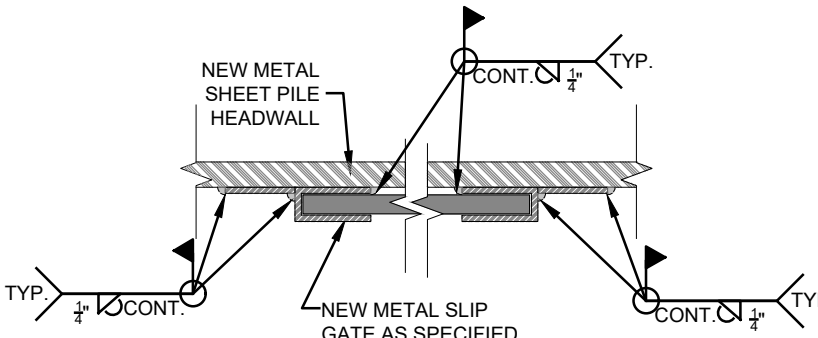
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.



SECTION D-D
N.T.S.

NO.		DESCRIPTION	DATE	BY
7				
6				
5				
4				
3				
2				
1				

Designed By: **HUITT-ZOLLARS**
Huitt-Zollars, Inc.
Rio Rancho
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Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259
ADVANCEDESIGN

Designed For:
**COLORADO RIO GRANDE
RESTORATION FOUNDATION**

**DETAILS -
METAL SHEET PILE
HEADWALLS**

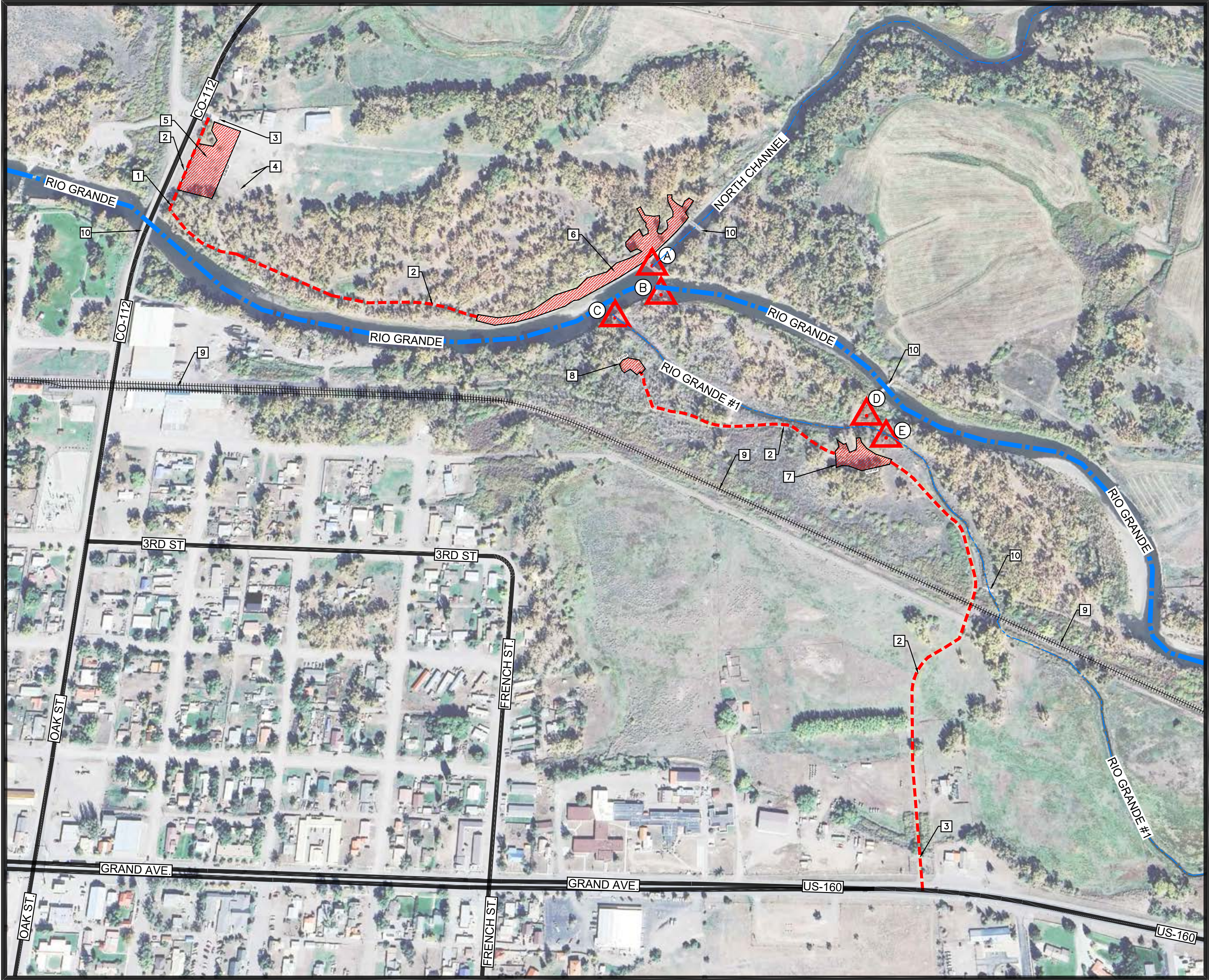
**FARMERS UNION CANAL
IMPROVEMENT PROJECT
DEL NORTE COLORADO**

PROJECT NO.	R312571.01
DESIGNED BY:	RD
DRAWN BY:	STAFF
CHECKED BY:	NV
DATE:	APRIL, 2025
DPW CHK:	

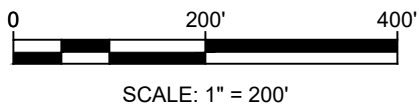
SHEET:
C-504



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File: Proj10122025 Farmers Union Canal Improvements10 CADD & BIM10.1 AutoCAD/Sheets/C-600.dwg
User: Sotomayor, Thomas
Date: 4/9/2025 9:36:14 AM, By: Sotomayor, Thomas



STAGING AREA MAP



GENERAL NOTES

1. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL MEASURES AROUND THE CONSTRUCTION AREA AS PER EROSION CONTROL NOTES ON SHEET G-101
2. TRAFFIC INGOING AND OUTGOING SHALL BE KEPT TO A MINIMUM.
3. ALL STAGING AREAS SHALL BE CLEANED AND MAINTAINED SO AS TO MINIMIZE DUST AND EROSION OR POLLUTION
4. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ACCESS OFF OF MAIN ROADWAYS AND SHALL BE ESTABLISHED WITH PROPERTY OWNERS PRIOR TO RECEIVING MATERIALS, TRANSPORTING EQUIPMENT AND BEGINNING CONSTRUCTION..

KEY NOTES

1. EXISTING ACCESS PIPE GATE.
2. EXISTING DIRT ACCESS ROAD
3. EXISTING PRIVATE GATE
4. EXISTING POWER POLE TO BE PROTECTED
5. STAGING AREA "A"
6. STAGING AREA "B"
7. STAGING AREA "C"
8. STAGING AREA "D"
9. EXISTING RAILROAD CROSSING
10. EXISTING WATER CROSSING STRUCTURE

LEGEND

--- CONSTRUCTION TRAFFIC ROUTE

CONSTRUCTION STAGING AREA

- A. NEW SLIP GATES @ EXISTING CONC DIVERSION HEAD WALL/ CHECK DAM TO NORTH CHANNEL (RECONSTRUCT GATE STRUCTURE
- B. NEW EMBEDDED BOULDER/ROCK RAMP & FISH PASSAGE
- C. NEW SLIP GATE INSTALL @ NEW STEEL HEAD WALL (HW&AG #1)
- D. NEW SLIP GATE INSTALL @ NEW STEEL HEAD WALL (HW&G #2)
- E. NEW SLIP GATE INSTALL @ NEW STEEL HEAD WALL (HW&AG #3)

Designed By:
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Rio Rancho
Huittz-Zoliars, Inc.
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Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
ADVANCEDESIGN
COLORADO RIO GRANDE
RESTORATION FOUNDATION

STAGING AREA MAP

FARMERS UNION CANAL
IMPROVEMENT PROJECT
DEL NORTE COLORADO

PROJECT NO. R312571.01
DESIGNED BY: RD
DRAWN BY: STAFF
CHECKED BY: NV
DATE: APRIL, 2025
DPW CHK:

SHEET: C-600



12. APPENDIX C – SCHEDULE OF REVENUE AND EXPENDITURES



Total Project Cost	\$ 2,281,625.00
Annual Expenditure	Percent of Revenue
O&M	0.50%
Insurance	0.15%
Replacements	0.20%
Admin	0.30%
Total	1.15%
Other Revenue	13%
Other Expenditures	38%
Assessed Acres	62,920
Inflation	3%
Interest on Reserves	3%

	Principal	Interest	Term	Payment
CWCB Loan	\$ 249,470.00	2.2%	30	\$ 11,447

Year of Operation	Revenue					
	Land Owner		Other		Assessment	
	Assessments	Storage Leases	Revenue	Total Revenue	Per Acre	
1	\$ 716,030	\$ 647,896	\$ 174,289	\$ 1,538,215	\$ 11.38	
2	\$ 716,030	\$ 647,896	\$ 174,289	\$ 1,538,215	\$ 11.38	
3	\$ 716,030	\$ 647,896	\$ 174,289	\$ 1,538,215	\$ 11.38	
4	\$ 716,030	\$ 647,896	\$ 174,289	\$ 1,538,215	\$ 11.38	
5	\$ 716,030	\$ 751,089	\$ 174,289	\$ 1,641,408	\$ 11.38	
6	\$ 716,030	\$ 751,089	\$ 174,289	\$ 1,641,408	\$ 11.38	
7	\$ 716,030	\$ 751,089	\$ 174,289	\$ 1,641,408	\$ 11.38	
8	\$ 716,030	\$ 751,089	\$ 174,289	\$ 1,641,408	\$ 11.38	
9	\$ 716,030	\$ 751,089	\$ 174,289	\$ 1,641,408	\$ 11.38	
10	\$ 716,030	\$ 870,718	\$ 174,289	\$ 1,761,037	\$ 11.38	
11	\$ 716,030	\$ 870,718	\$ 174,289	\$ 1,761,037	\$ 11.38	
12	\$ 716,030	\$ 870,718	\$ 174,289	\$ 1,761,037	\$ 11.38	
13	\$ 716,030	\$ 870,718	\$ 174,289	\$ 1,761,037	\$ 11.38	
14	\$ 716,030	\$ 870,718	\$ 174,289	\$ 1,761,037	\$ 11.38	
15	\$ 716,030	\$ 1,009,401	\$ 174,289	\$ 1,899,719	\$ 11.38	
16	\$ 716,030	\$ 1,009,401	\$ 174,289	\$ 1,899,719	\$ 11.38	
17	\$ 716,030	\$ 1,009,401	\$ 174,289	\$ 1,899,719	\$ 11.38	
18	\$ 716,030	\$ 1,009,401	\$ 174,289	\$ 1,899,719	\$ 11.38	
19	\$ 716,030	\$ 1,009,401	\$ 174,289	\$ 1,899,719	\$ 11.38	
20	\$ 716,030	\$ 1,170,172	\$ 174,289	\$ 2,060,491	\$ 11.38	
21	\$ 716,030	\$ 1,170,172	\$ 174,289	\$ 2,060,491	\$ 11.38	
22	\$ 716,030	\$ 1,170,172	\$ 174,289	\$ 2,060,491	\$ 11.38	
23	\$ 716,030	\$ 1,170,172	\$ 174,289	\$ 2,060,491	\$ 11.38	
24	\$ 716,030	\$ 1,170,172	\$ 174,289	\$ 2,060,491	\$ 11.38	
25	\$ 716,030	\$ 1,356,550	\$ 174,289	\$ 2,246,869	\$ 11.38	
26	\$ 716,030	\$ 1,356,550	\$ 174,289	\$ 2,246,869	\$ 11.38	
27	\$ 716,030	\$ 1,356,550	\$ 174,289	\$ 2,246,869	\$ 11.38	
28	\$ 716,030	\$ 1,356,550	\$ 174,289	\$ 2,246,869	\$ 11.38	
29	\$ 716,030	\$ 1,356,550	\$ 174,289	\$ 2,246,869	\$ 11.38	
30	\$ 716,030	\$ 1,572,614	\$ 174,289	\$ 2,462,932	\$ 11.38	

Expenditures							
Additional Operation/M aintenance for this Project	Other Expenditures	CWCB Reserve Annual	CWCB Reserve Accum	Payment on This CWCB Loan	Other CWCB Loan Payments	Interest on Reserve Funds	Total Expenditures
\$ 26,239	\$ 584,522	\$ 1,145	\$ 1,145	\$ 11,447	\$ 704,729	\$ 34	\$ 1,328,047
\$ 27,026	\$ 602,057	\$ 1,145	\$ 2,289	\$ 11,447	\$ 704,729	\$ 69	\$ 1,346,335
\$ 27,837	\$ 620,119	\$ 1,145	\$ 3,434	\$ 11,447	\$ 704,729	\$ 103	\$ 1,365,173
\$ 28,672	\$ 638,722	\$ 1,145	\$ 4,579	\$ 11,447	\$ 704,729	\$ 137	\$ 1,384,578
\$ 29,532	\$ 657,884	\$ 1,145	\$ 5,724	\$ 11,447	\$ 704,729	\$ 172	\$ 1,404,565
\$ 30,418	\$ 677,621	\$ 1,145	\$ 6,868	\$ 11,447	\$ 704,729	\$ 206	\$ 1,425,153
\$ 31,330	\$ 697,949	\$ 1,145	\$ 8,013	\$ 11,447	\$ 704,729	\$ 240	\$ 1,446,360
\$ 32,270	\$ 718,888	\$ 1,145	\$ 9,158	\$ 11,447	\$ 704,729	\$ 275	\$ 1,468,204
\$ 33,238	\$ 740,454	\$ 1,145	\$ 10,303	\$ 11,447	\$ 704,729	\$ 309	\$ 1,490,705
\$ 34,236	\$ 762,668	\$ 1,145	\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,513,881
\$ 35,263	\$ 785,548		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,536,643
\$ 36,320	\$ 809,115		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,561,268
\$ 37,410	\$ 833,388		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,586,631
\$ 38,532	\$ 858,390		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,612,755
\$ 39,688	\$ 884,141		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,639,662
\$ 40,879	\$ 910,666		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,667,377
\$ 42,105	\$ 937,985		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,695,924
\$ 43,369	\$ 966,125		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,725,326
\$ 44,670	\$ 995,109		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,755,611
\$ 46,010	\$ 1,024,962		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,786,804
\$ 47,390	\$ 1,055,711		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,818,934
\$ 48,812	\$ 1,087,382		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,852,027
\$ 50,276	\$ 1,120,004		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,886,112
\$ 51,784	\$ 1,153,604		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,921,221
\$ 53,338	\$ 1,188,212		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,957,382
\$ 54,938	\$ 1,223,858		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 1,994,629
\$ 56,586	\$ 1,260,574		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 2,032,993
\$ 58,284	\$ 1,298,391		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 2,072,508
\$ 60,032	\$ 1,337,343		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 2,113,208
\$ 61,833	\$ 1,377,463		\$ 11,447	\$ 11,447	\$ 704,729	\$ 343	\$ 2,155,129

13. APPENDIX D – CWCB WATER PLAN PROJECT GRANT APPLICATION



**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Colorado Rio Grande Restoration Foundation
Name of Water Project	Farmers Union Canal Diversion and Headgate Improvement Project
Grant Request Amount	\$600,000.00
Primary Category	\$600,000.00
<i>Agricultural Projects</i>	
Total Applicant Match	\$0.00
<i>Applicant Cash Match</i>	\$0.00
<i>Applicant In-Kind Match</i>	\$0.00
Total Other Sources of Funding	\$1,341,110.00
<i>Bureau of Reclamation WaterSMART</i>	\$931,110.00
<i>Environmental Water Resource Project</i>	
<i>Landowner Contribution</i>	\$10,000.00
<i>San Luis Valley Irrigation District</i>	\$180,000.00
<i>Gates Family Foundation</i>	\$220,000.00
Total Project Cost	\$1,941,110.00

Applicant & Grantee Information

Name of Grantee: Colorado Rio Grande Restoration Foundation

Mailing Address: 623 4th Street Alamosa CO 81101

FEIN: 753,169,057

Organization Contact: Emma Ressor

Position/Title:

Email: emma@riograndeheadwaters.org

Phone: (719) 589-2230

Organization Contact - Alternate: Daniel Boyes

Position/Title: Program Manager

Email: daniel@riograndeheadwaters.org

Phone: 719-589-2230

Grant Management Contact: Emma Ressor

Position/Title:

Email: emma@riograndeheadwaters.org

Phone: (719) 589-2230

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	37.684162
Longitude	-106.344212
Lat Long Flag	Ditch diversion structure location: Coordinates based on ditch's diversion structure
Water Source	Rio Grande
Basins	Rio Grande
Counties	Rio Grande
Districts	20-Rio Grande

Water Project Overview

Major Water Use Type	Agricultural
Type of Water Project	Construction
Scheduled Start Date - Design	1/1/2023
Scheduled Start Date - Construction	10/1/2023

Description

The Farmers Union Canal (FUC) diversion structure and adjacent headgate bifurcate the Rio Grande into its north and south channels downstream of Del Norte, CO. By controlling flows into the North Channel, this important irrigation infrastructure delivers water to the FUC (140 water users) and nine other irrigation ditches, irrigating a combined 42,980 acres. Crops grown include alfalfa, barley, potatoes, wheat, sorghum, small grains, vegetables such as lettuce, and grass pasture for livestock grazing. The Farmers Union Canal Diversion and Headgate Improvement Project (Project) is a multi-benefit project to replace the FUC diversion dam and

headgates with new structures that divert more efficiently and provide watershed health benefits, including providing fish and boat passage. The FUC diversion and headgate are aging and in need of repair. A new diversion dam and automated headgates are critical to improve ditch operations, reduce maintenance, and protect the FUC's full water rights into the future. In addition, the new diversion dam will include fish and boat passage, connecting aquatic habitat and improving community safety. Finally, the project will include adjacent streambank stabilization to protect the diversion infrastructure, reduce sedimentation in the river, improve water quality for downstream users, and enhance surrounding wildlife habitat.

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)
660	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (dollars/year)
892	Efficiency Savings (acre-feet/year)
	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
	Number of Coloradans Impacted by Engagement Activity
Other	
	Construction of new fish- and boat-passable diversion structure. Installation of 4 automated headgates for the Farmers Union Canal.

Water Project Justification

The Farmers Union Canal Diversion and Headgate Improvement Project (Project) will provide multiple benefits for agricultural water users and address water administration, environmental, and recreational needs facing the Rio Grande Basin and State of Colorado. By replacing poorly functioning and inefficient irrigation infrastructure at the Farmers Union Canal (FUC) diversion, enhancing boat passage, stabilizing streambanks, improving riparian and aquatic habitat, and improving the ability of water administrators to effectively administer water rights, the Project will improve the ability of the Rio Grande to meet consumptive and non-consumptive needs.

Project activities will support many of the Agriculture and Watershed Health, Environment, and Recreation goals listed in Section 10.3 of the Colorado Water Plan (CWP). The Project meets CWP Goals and Criteria in the following ways:

- By replacing and improving aging diversion and headgate infrastructure on the Rio Grande, the project supports CWP agricultural goals to “maintain agricultural viability” and “support agricultural conservation and efficiency” (CWP, Section 10.3, pp. 10-10). Further, these activities directly address the CWP's critical agricultural action to “update and improve Colorado's aging agricultural infrastructure, especially where improvements provide multiple benefits” (CWP, Section 10.3, pp. 10-10).
- By constructing a new diversion that includes boat and fish passage, the Project supports the goal to “Enhance Environmental and Recreational Economic Values: Protect and enhance river-based environments and recreational opportunities that support local and statewide economies and are important for the enjoyment of current and future generations of Coloradans (CWP, Section 10.3, pp. 10-12).”
- Restoration activities will further the goal to “Protect Healthy Environments: Understand, protect, maintain, and improve conditions of streams, lakes, wetlands, and riparian areas to promote self-sustaining fisheries and

functional riparian and wetland habitat to promote long-term resiliency” (CWP, Section 10.3, pp. 10-12). Project activities will reduce erosion, enhance aquatic habitat, and support a healthy and functioning river.

- Finally, the Project will help meet the goal to “Work on creating resilient watersheds to protect, restore, and enhance water quality in the face of climate change” (CWP, Section 10.3, pp. 10-14). By restoring riparian vegetation, the Project will increase stream shading and help buffer water temperature. This, combined with increased floodplain connectivity, will increase alluvial aquifer storage and augment late summer streamflow.

Additionally, the Project will help mitigate potential future impacts to recreation identified in the recent 2019 Technical Update to the 2015 Water Plan (Technical Update, formerly SWSI). The Technical Update resulted in the Environmental Flow Tool, which quantifies potential risks to the environment and recreation associated with predicted changes in streamflow. Environmental Flow Tool results for the Rio Grande suggest average annual streamflow will decrease, particularly during late summer months. These changes in streamflow will adversely impact aquatic organisms and will reduce the number of boatable days on the Rio Grande. This Project will mitigate potential impacts to aquatic life and recreation by improving aquatic species habitat and providing more flexibility for water managers to support environmental and recreational flows. Project activities will increase fish habitat connectivity by creating fish passage at the FUC diversion and will create new pool habitat for aquatic species using rock clusters and root wads. By increasing the ability of water managers to consistently deliver water rights to the North Channel Rio Grande, especially during low streamflow conditions, water managers will have more flexibility to manage water for multiple benefits, including re-timing reservoir releases.

In addition to meeting many of the Colorado Water Plan Goals and complimenting the Technical Update, the Project meets three of the five Rio Grande Basin Implementation Plan (BIP) Goals and is supported by the Rio Grande Basin Roundtable. For example, this Project meets the BIP goal to work toward, “Vibrant and resilient agriculture, recreation, municipal, and industrial economies that support thriving communities” (2021 Rio Grande BIP, Section 4, pp. 22). The Project is also listed in the BIP Identified Projects and Processes (IPPs) under name, “North Branch Splitter Rehabilitation Project.”

This project is located approximately ½ mile downstream of the Del Norte Riverfront Park, where a recreational playwave and boat ramp were recently installed. With increasing recreational use, especially boating, on the Rio Grande near Del Norte, boaters are increasingly likely to encounter the FUC diversion dam. By incorporating boat passage into the design of the new diversion, this project will provide important improvements to community safety.

The Project need was identified in the Rio Grande Stream Management Plan (2020 Rio Grande SMP, Section 3.2.9, pp. 139) and is a result of planning and collaboration between the San Luis Valley Irrigation District (SLVID, owner of the FUC), Colorado Parks and Wildlife, Colorado Division of Water Resources, San Luis Valley Water Conservancy District, Trout Unlimited, and the Rio Grande Headwaters Restoration Project. Participation from diverse stakeholders ensures that both consumptive and non-consumptive needs are being met through project design and implementation. The Project meets multiple SMP goals by increasing agricultural water use efficiency, improving recreational safety, and enhancing aquatic and riparian habitats at and downstream of the FUC.

In addition, requested CWP grant funds for the Project will be leveraged by significant in-kind and cash contributions from the SLVID as well as federal grant funding through the Bureau of Reclamation WaterSMART Environmental Water Resources Projects (EWRP) program. Without CWP funding, project partners would likely not be able to raise sufficient dollars out of pocket or from other grant sources to fund this project. As such, CWP funds are critical to complete the Project.

Rio Grande Stream Management Plan: The Farmers Union Canal Diversion and Headgate Improvement Project (Project) was developed after being identified and prioritized in the 2020 Rio Grande Stream Management Plan (SMP). The Project follows SMP recommendations by improving the efficiency and function of agricultural irrigation infrastructure while also enhancing community safety and river health and meeting the following SMP goals:

- Goal A. Improve function and reduce maintenance of irrigation infrastructure, both for water users and river health.
- Goal B. Maintain or improve bank and channel stability, especially near important wildlife habitat and critical infrastructure such as homes, diversion structures, roads, and bridges.
- Goal C. Maintain and improve the function of floodplains, associated alluvial aquifers, and natural channel processes.
- Goal D. Maintain and improve the extent and condition of riparian areas.
- Goal G. Maintain or improve long term sustainability of Rio Grande fisheries and associated aquatic habitat.
- Goal H. Improve infrastructure to support recreational access and use on the Rio Grande.

Rio Grande Basin Implementation Plan: The Project meets three of the five BIP Goals and is listed in the 2021 Rio Grande Basin Implementation Plan under the Identified Projects and Processes (IPPs) name, "North Branch Splitter Rehabilitation Project."

Taxpayer Bill of Rights

The Applicant, The Colorado Rio Grande Restoration Foundation, is not subject to TABOR limitations, as it is a Colorado nonprofit organization operating under Section 501(c)(3) of the U.S. Internal Revenue Code.

14. APPENDIX E - BOR WATERSMART PROJECT GRANT APPLICATION





WaterSMART

Environmental Water Resources Projects

FY2023

Notice of Funding Opportunity No. R23AS00089

Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project



Del Norte, CO

SUBMITTED BY:

COLORADO RIO GRANDE
RESTORATION FOUNDATION

IN PARTNERSHIP WITH:

SAN LUIS VALLEY
IRRIGATION DISTRICT

PROJECT MANAGER

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TECHNICAL PROPOSAL AND EVALUATION CRITERIA

Executive Summary

Date: March 24, 2023

Applicant Name: Colorado Rio Grande Restoration Foundation

Applicant Location: Category B applicant (Colorado Rio Grande Restoration Foundation) – Alamosa; Alamosa County, Colorado

Category A partner (San Luis Valley Irrigation District) – Center; Saguache County, Colorado

Applicant Type: Category B applicant working with Category A partner

Project Summary

The Colorado Rio Grande Restoration Foundation (CRGRF), in partnership with San Luis Valley Irrigation District (SLVID), will improve the diversion infrastructure associated with the Farmers Union Canal (FUC) and Rio Grande #1 Ditch, located near Del Norte, CO, to meet agricultural, environmental, recreational, and community needs. The FUC and Rio Grande #1's diversion structures and headgates represent critical water infrastructure, delivering water to twelve irrigation ditches. However, this infrastructure creates a barrier to fish, is hazardous for boaters, and requires frequent maintenance. The Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project (project) will construct a new diversion structure that will provide safe fish and boat passage, enhance aquatic and riparian habitat, and deliver water to the FUC, Rio Grande #1, and multiple other ditches. The project has been carefully designed to create passage for fish, including native small-bodied fish such as Rio Grande chub, and to create safe boat passage. It will also benefit agricultural water users by reducing maintenance needs and increasing water delivery reliability and efficiency through headgate upgrades, including automation. This project was identified in the Rio Grande Stream Management Plan, a collaborative and stakeholder-driven planning effort.

Project Duration

The project is expected to be completed within 27 months after award of Bureau of Reclamation (BOR) WaterSMART funding (expected by April 2024). Environmental and cultural resources compliance is expected to take 5-6 months and the construction period is estimated to be 3-4 months. Barring any significant and unforeseen delays in permit approvals, the project will be completed no later than July 2026.

Project Start Date

The project's estimated start date is April 2024.

Estimated Project Completion Date

The estimated completion date is July 2026.

Located on Federal Facility or Federal Land

This project is not located on federal land and is not focused on a federal facility.

Project Location

The Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project (project) is located in Rio Grande County, CO less than one mile east of Del Norte, CO (Figure 1). The project latitude is 37°41'03.0"N, and the longitude is 106°20'39.2"W.

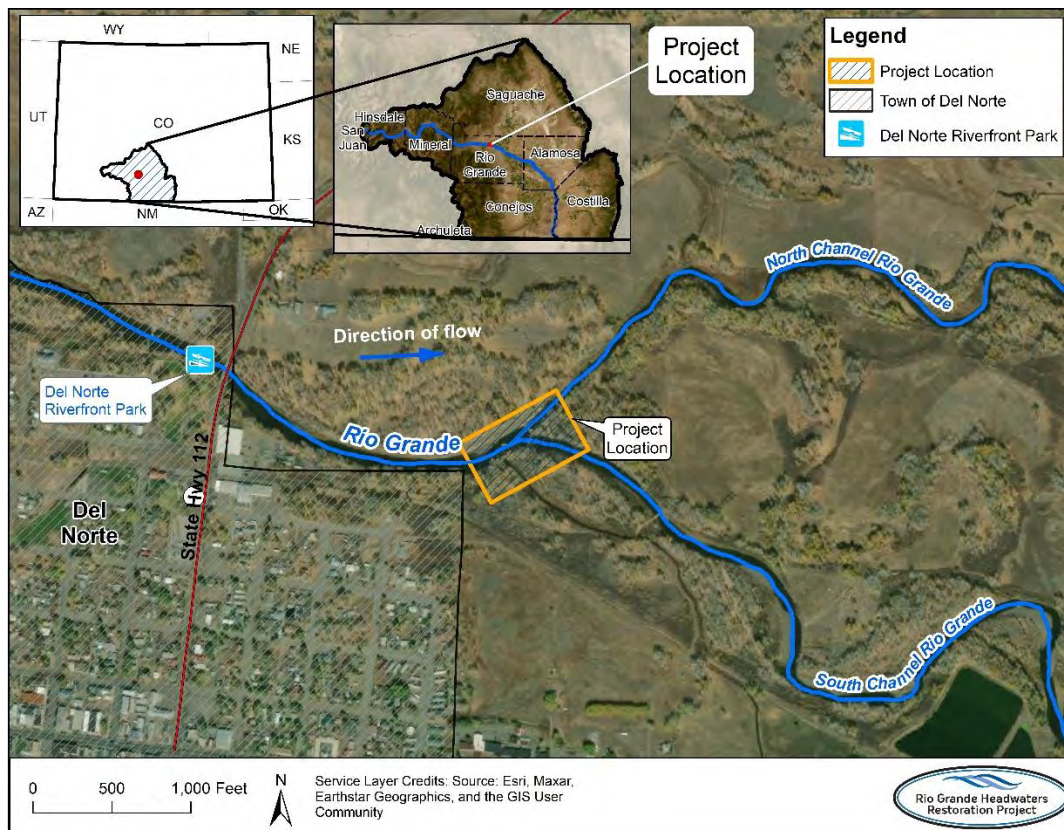


Figure 1. Project site location on the Rio Grande near Del Norte, CO.

Technical Project Description

This is a multi-purpose project to enhance fish and boat passage on the Rio Grande, as well as overall river health, while also improving irrigation infrastructure. The SLVID owns and operates Rio Grande Reservoir and is responsible for storing and distributing irrigation water to the Farmers Union Canal (FUC). The diversion infrastructure used to deliver water to the FUC and the nearby Rio Grande #1 (RG #1) Ditch is aging and inefficient, and the FUC diversion structure creates a barrier to both fish and boat passage. The project will replace the existing FUC diversion structure with a new diversion structure that includes a rock ramp fishway and a section specifically designed for boat passage. The new diversion will provide adequate hydraulic head pressure to serve the RG #1 Ditch, located less than 150 feet upstream, allowing the existing RG #1 diversion dam to be removed. In addition, the existing FUC and RG #1 Ditch headgates, which deliver water to the FUC, RG#1, and ten other downstream ditches will be replaced with new automated headgates. The project will also include significant aquatic and riparian habitat restoration through the installation of rock and root wad structures as well as riparian revegetation.

The project is located less than one mile downstream of the recently completed Del Norte Riverfront Park, a popular park featuring a playwave and other recreation infrastructure (see Figure 1, above). The FUC diversion infrastructure bifurcates the Rio Grande into its north and south channels. The RG #1 Ditch is located just upstream of the FUC and diverts irrigation water to the south of the river. The figures below show a map (Figure 2) and aerial photo (Figure 3) of the diversion infrastructure that is the focus of this project.

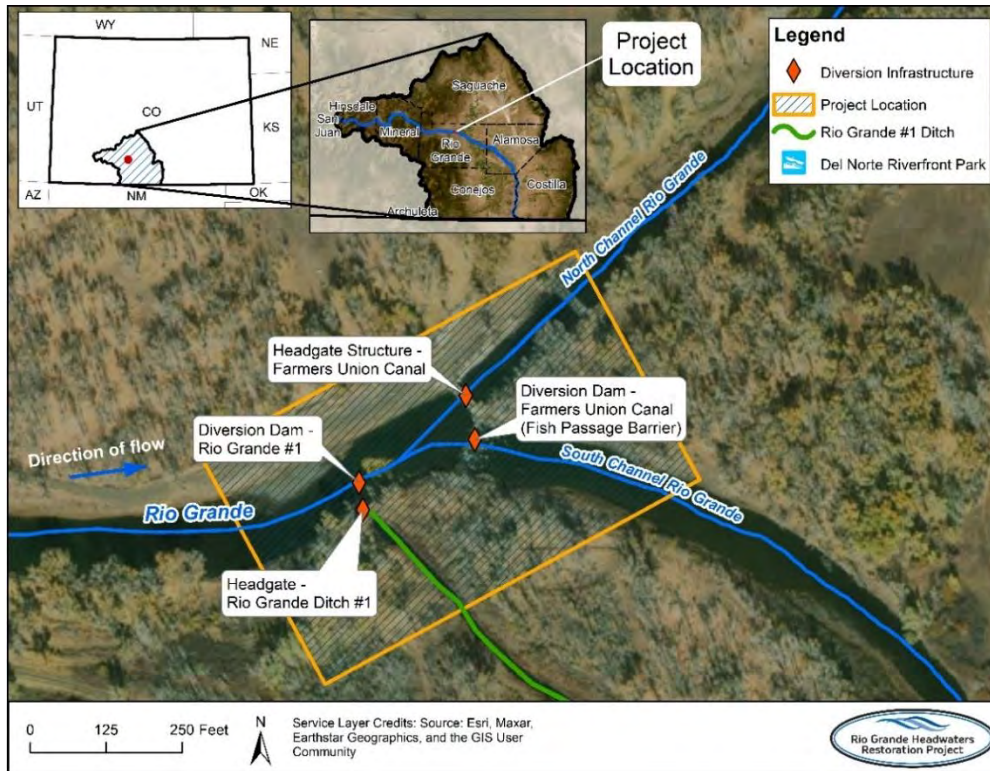


Figure 2. Diversion infrastructure to be replaced and improved within the project area.

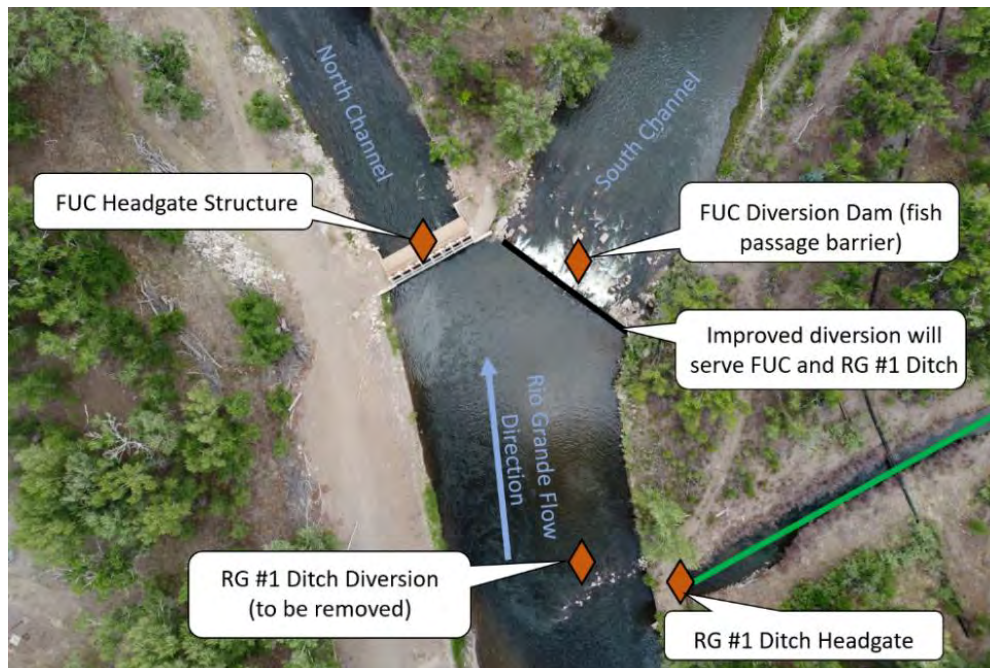


Figure 3. Aerial photo of diversion infrastructure bifurcating the Rio Grande.

By controlling flows into the north and south channels, this important irrigation infrastructure delivers water to the FUC (140 water users), the RG #1 Ditch, and ten other ditches, providing irrigation water to over 41,000 acres, as shown in figures 4 and 5.

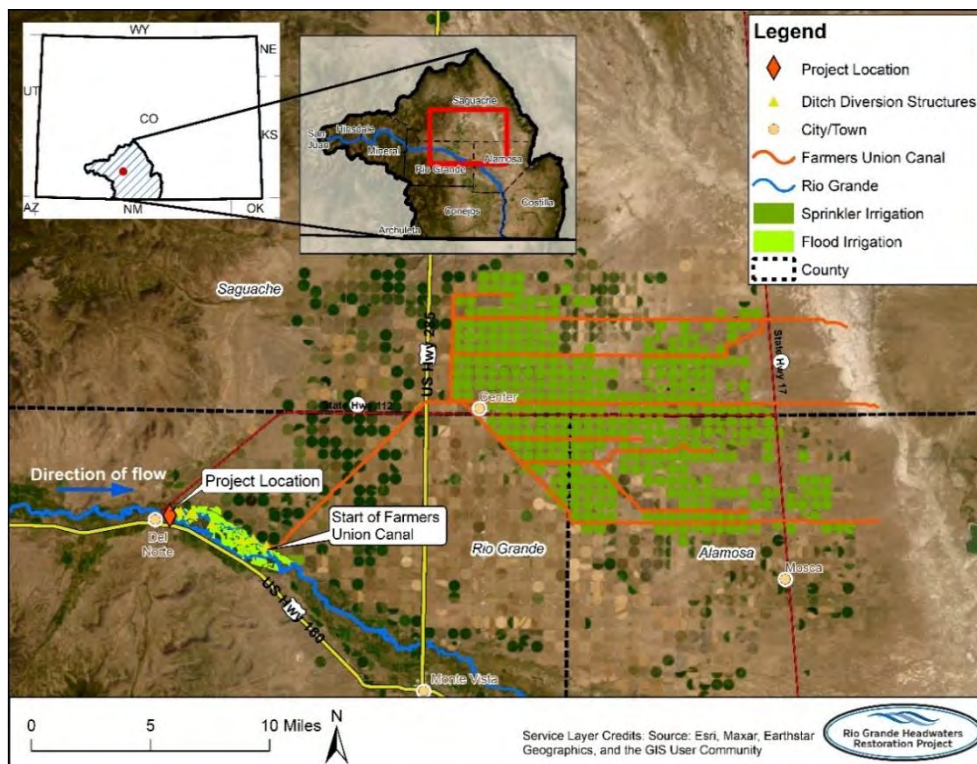


Figure 4. Irrigated lands that rely on Farmers Union Canal diversion infrastructure.

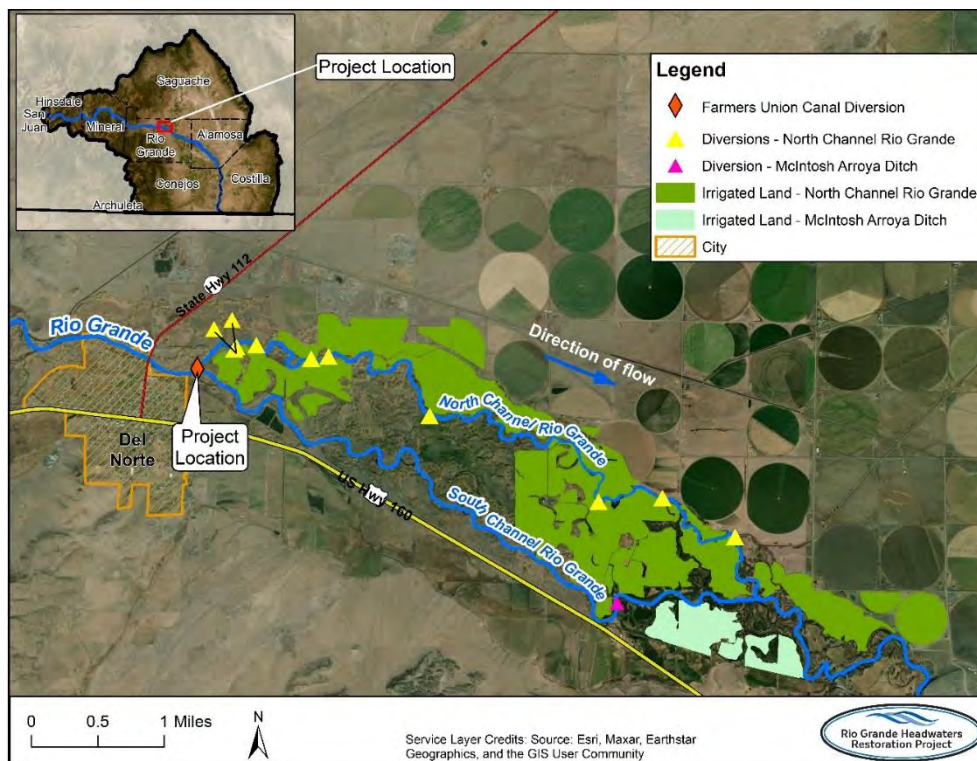


Figure 5. Irrigation ditches on the north and south channels of the Rio Grande benefitting from the Farmers Union Canal diversion infrastructure that is a component of this project. Ditch diversion locations and irrigated land are shown.

However, the FUC and RG #1 Ditch rely upon aging and inefficient diversion and water control headgates that are incapable of creating adequate hydraulic head pressure to divert the ditch's water rights during low streamflow conditions. The existing FUC diversion structure is a push-up dam comprised of steel plating, concrete blocks, and river rock. It creates a barrier to fish passage, is unsafe for recreational boaters, disrupts the river's natural sediment transport regime, and frequent instream maintenance of the diversion structure adversely affects aquatic habitat. Salmonid species are likely able to navigate the diversion at some flows, however the structure prevents passage of small-bodied native fish at all flows due to high velocity areas and the abrupt vertical drop formed by the diversion. Boat navigation is difficult to impossible due to sharp sheet metal, concrete rubble, and rebar in the diversion. The FUC headgate infrastructure includes a series of eight wooden headgates that are set in concrete. The headgates are difficult to operate efficiently and portions of the concrete is eroding, causing leakage. The existing RG #1 Ditch diversion is also a push-up dam consisting of large boulders and does not create adequate head pressure to serve the ditch. The existing RG #1 headgate is a steel slide gate that functions poorly. Existing diversion infrastructure in the project area is shown in Figure 6.



Figure 6. FUC diversion (upper left); aerial view of FUC diversion (upper right); FUC headgate infrastructure looking upstream (lower left); Rio Grande #1 Ditch diversion and headgate (lower right).

The proposed project will address the issues described above through substantial improvements to the FUC and RG #1 diversion infrastructure, as well as aquatic and riparian restoration at and near this infrastructure. The project includes the following:

- Replacing the diversion structure servicing the FUC with a grouted rock ramp diversion that serves both the FUC and RG #1 Ditch;
- Removing the existing diversion dam servicing the RG #1 Ditch;
- Replacing and automating the headgate infrastructure servicing the FUC and RG #1 Ditch, which will also benefit ten other irrigation ditches, including the Weiss, Brey, Rio Grande #2, Kane Callan, Anna Raber, Off, Raber, Hall-Voss, Cochran Pioneer, and McIntosh Arroya ditches;
- Enhancing 542 linear feet of aquatic habitat through improved sediment transport at the upgraded FUC diversion dam and the installation of fish habitat features;
- Stabilizing of 646 linear feet of streambank; and
- Restoring 0.2 acres of riparian habitat using 1,200 willow transplants.

The CRGRF and SLVID hired Huitt-Zollars, Inc (HZI) to complete engineering and project designs for the construction of the new grouted rock diversion structure, headgate improvements and automation, and river restoration. Project designs have been reviewed and approved by the project's Technical Advisory Group (TAG), which is made up of the following entities: SLVID, CRGRF, Colorado Division of Water Resources (DWR), Colorado Parks and Wildlife (CPW), Trout Unlimited (TU), San Luis Valley Water Conservancy District (SLVWCD), and project landowners.

Diversion Structure Improvements

The CRGRF and SLVID will hire a contractor to remove the current FUC and RG #1 diversion dams, clear and shape the river channel, and enact pollution control. The contractor will then complete grade preparation, dewatering, and temporary erosion control measures and build a new grouted rock ramp diversion to replace the existing FUC diversion. The new diversion will be made up primarily of grouted boulders and will include a rock ramp fishway as well as a boat passage section (see project designs in Appendix B). The rock ramp fishway will feature boulders that protrude above the grout to break up flow vectors and provide refugia for fish as they navigate the structure. The fishway is also designed to maintain a slope of 4.5% or less and provide adequate water depth for fish passage during low flow conditions. The new diversion will serve both the FUC and RG #1. Rock materials are expected to be locally sourced basalt.

Aquatic and Riparian Habitat Enhancement

The contractor will implement streambank stabilization and aquatic and riparian habitat restoration in the project area. Restoration activities will include streambank shaping, channel shaping, rock and root wad structure installation, and riparian revegetation. Streambank and streambed will be completed upstream and downstream of the diversion infrastructure and will result in a low-flow channel and deeper pools at the newly improved diversion structure described above. Riparian revegetation will include, but is not limited to, willow clump plantings and seeding of native riparian forb species.

Headgate Improvements

The contractor will remove four of the eight FUC headgates and replace them with new steel slide gates. At the four new headgates, the contractor will install headgate automation using solar power, electric motors, and Supervisory Control and Data Acquisition (SCADA) technology. Additionally, the contractor will fabricate and install headgate footing scour plate protections and repair eroding concrete at seven of the eight FUC headgates. The contractor will also remove and replace the RG #1 Ditch headgate with a new steel headgate and will install the same automation features described above for the FUC headgates.

Throughout all construction activities, the contractor will enact pollution control to minimize adverse impacts. Following construction activities, all upland areas disturbed during onsite activities will be reseeded with appropriate native species.

Applicant Category and Eligibility of Applicant

The Colorado Rio Grande Restoration Foundation (CRGRF) is a nonprofit Category B applicant acting in partnership and agreement with the San Luis Valley Irrigation District (SLVID), a Category A applicant. The SLVID is an irrigation district founded in 1908 under the Irrigation Act of 1905 to provide storage and distribution of irrigation water to landowners within the SLVID boundaries. The SLVID comprises portions of Alamosa, Rio Grande, and Saguache counties. Rio Grande Reservoir, located near the headwaters of the Rio Grande in Hinsdale County, is owned and operated by the SLVID. The CRGRF has over 20 years of experience in river restoration and a successful track record of partnering with diverse stakeholders to implement multi-benefit irrigation infrastructure and restoration projects on the Rio Grande and its tributaries.

The CRGRF and SLVID have partnered to develop the project scope and complete project engineering designs. The SLVID owns and operates the diversion structure and headgate infrastructure included in the project scope. The letter of partnership is included in Appendix A.

Performance Measures

The primary objectives of this project are to improve diversion infrastructure and implement river restoration to improve fish and boat passage, enhance aquatic and riparian habitat, and improve irrigation diversion infrastructure function and efficiency. The project's anticipated outcomes are quantified in Figure 7, below. Actual project outcomes and benefits will be monitored and measured during and immediately following construction, as well as over a 5-year period after completion. Monitoring measurements will include photo points, cross-section surveys, water quality measurements, ditch diversion records, slope and velocity measurements in the fish passage section of the new diversion structure to evaluate fish passage, and a visual assessment of boat passage characteristics. These performance measures are discussed in more detail in *Evaluation Criterion E- Performance Measures*.

Evaluation Criteria

Evaluation Criterion A- Project Benefits (25 points)

This criterion evaluates the extent to which the project will benefit ecological values and watershed health that have a nexus to water resources or water resources management.

Subcriterion A.1: Project Benefits

General Project Benefits

Explain how the project will benefit ecological values that have a nexus to water resources or water resources management, including benefits to plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems that are supported by rivers, streams, and/or other water sources, or that are directly influenced by water resources management.

- ***In your response, identify the specific ecological values benefitted and how those ecological values depend on, or are influenced by, water resources or water resources management.***

The project will provide multiple environmental benefits for the Rio Grande Basin and State of Colorado. By replacing poorly functioning and inefficient diversion infrastructure at the Farmers Union Canal (FUC) and Rio Grande #1 (RG #1) Ditch, the project will create new fish passage, stabilize streambanks, restore aquatic and riparian habitat, and reduce instream habitat disturbance caused by frequent maintenance. These results will improve the health and function of the Rio Grande in the following ways:

- Designs will ensure that small-bodied fish species, including Rio Grande chub, as well as salmonids, can easily navigate the structure. Additionally, rock clusters immediately upstream and downstream of the FUC headgates will facilitate fish passage in the north channel and create refugia for fish as they navigate the area.
- Rock clusters and root wads along with riparian revegetation will stabilize streambanks and provide benefits such as stream shading, water temperature buffering, and create deeper pool habitat for fish, resulting in increased extent and quality of aquatic and riparian habitat.
- Maintenance of existing infrastructure leads to frequent disturbance of the river channel, adversely impacting aquatic habitat. The project will consolidate the two diversions serving the FUC and RG #1 Ditch into a single, improved structure that serves both ditches. By consolidating the two diversions, maintenance needs will be significantly reduced.
- The new diversion structure will allow for adequate sediment transport, which will support healthy aquatic habitats upstream and downstream of the diversion.

In addition, the project will enhance the function and efficiency of irrigation infrastructure, which will benefit agricultural water users, protect wet meadow habitat supported by irrigation, and improve the ability of water administrators to effectively administer water rights. Project benefits are summarized below in Figure 7.

Metric	Quantity
Fish habitat opened (miles)	1.42
Riparian area revegetated (acres)	0.2
Streambank stabilized (linear feet)	646
Aquatic habitat restored (linear feet)	542
Diversion structures improved	2
Irrigation ditch headgates replaced	5
SCADA automation installed	5
Improved ditch diversion efficiency (acre-feet/year)	729.6

Figure 7. List of project benefit metrics.

Together, the project's benefits will improve the ability of the Rio Grande to meet the needs of multiple water users and uses.

- ***Explain whether the project will increase water supply reliability for ecological values by improving the timing or quantity of water available; improving water quality and temperature; or improving stream or riparian conditions for the benefit of plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems; or through similar approaches.***

Improvements to the FUC diversion infrastructure will increase water supply reliability for ecological values by improving the timing and quantity of water available, improving water quality and temperature, and improving stream and riparian conditions for the benefits of ecological values. This project will improve diversion efficiency, ensuring accurate and timely delivery of water rights. The improved function and efficiency of this infrastructure will support and complement SLVID's local water managers' efforts to maximize reservoir releases and river flows and use flexible water management strategies, such as re-timing reservoir release schedules, to efficiently and reliably deliver water rights while also benefitting aquatic species habitat and recreation. Specifically, the infrastructure's improved function and efficiency will enable the SLVID to divert their water rights during low flow conditions. The diversion infrastructure's improved function during low flows will enable the SLVID to work with partner agencies such as the SLVWCD, Rio Grande Water Conservation District, local Groundwater Management Subdistricts, Colorado DWR, CPW, Rio Grande Water Users Association, and other reservoir operators to utilize releases from Rio Grande Reservoir for multiple uses, including stream augmentation as well as aquatic habitat and/or recreation.

By improving the irrigation infrastructure, this project will also protect and enhance infrastructure and associated water rights supporting 2,268 acres of flood-irrigated farmland. Much of this irrigated land is wet meadows, which provide critical habitat for waterbirds, such as sandhill cranes, and other wildlife.

As stated above, the project also includes riparian revegetation using willow transplants and native riparian seed, and installation of rock clusters and root wads, which will increase stream shading, help buffer water temperature, and create new and more complex pool habitat for aquatic species. Stabilization of streambanks will reduce erosion, thereby increasing overall water quality within the project area and downstream. Additionally, by reducing instream maintenance, aquatic and riparian areas will experience less disturbance and further limit erosion.

Will the project improve watershed health in a river basin that is adversely impacted by a Reclamation water project?

No, the project is not located in a river basin that is adversely impacted by a Reclamation water project.

Is the project for the purpose of meeting existing environmental mitigation or compliance obligations under Federal or State law?

No, the project is not for the purpose of meeting existing environmental mitigation or compliance obligations under Federal or State law.

If the project will benefit aquatic or riparian ecosystems within the watershed (e.g., by reducing flood risk, reducing bank erosion, increasing biodiversity, or preserving native species), explain the extent of those benefits (i.e., magnitude and geographic extent). Estimate expected project benefits to ecosystems and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

The existing FUC and RG#1 diversion infrastructure acts as a barrier to fish passage, fragments aquatic habitat, disrupts natural sediment transport, and requires frequent instream maintenance that further degrades aquatic and riparian habitat. The project will improve this infrastructure and provide aquatic and riparian habitat benefits, the extent of which was estimated using project designs and GIS.

Fish Passage

The project will consolidate the two diversion structures into a single diversion that will serve both ditches and increase fish habitat connectivity by incorporating fish passage. Removing the fish barrier at the FUC diversion will create fish passage to allow access to the river upstream of the project until the Rio Grande Canal. The extent of this new habitat, shown in Figure 8, was measured using GIS and is approximately 1.42 river miles.



Figure 8. New fish habitat opened on the Rio Grande by creating passage at the FUC diversion.

The best available science on fish passage requirements was used to inform the project’s fish passage design elements, considerations, and criteria (Swarr, 2018). The design of the diversion structure includes the following elements to facilitate fish passage:

- The rock ramp fish passage will maintain a slope of 4.5% or less.
- Boulders will protrude above the grouted rock ramp to reduce velocity and create refugia along the rock ramp fishway. Each boulder will allow fish to rest in the eddy formed by each boulder on their way upstream.

These features will ensure that small-bodied fish species as well as salmonids can easily navigate the structure. Additionally, rock clusters immediately upstream and downstream of the FUC headgates, which are adjacent to the diversion structure on the north channel of the Rio Grande, will facilitate fish passage in the north channel. Similar to the boulders integrated into the diversion structure’s rock ramp fishway, these rock clusters with root wads will create refugia for fish as they navigate the headgates.

Sediment Transport and Aquatic Habitat

The existing FUC diversion structure causes large volumes of fine sediment to be deposited upstream of the structure due to low velocities and limited sediment transport capacity at the diversion. The accumulation of sediment upstream of the diversion and lack of sediment downstream degrades aquatic habitat. The new structure will increase sediment transport capacity, resulting in improved aquatic habitat both upstream and downstream of the

diversion. The new diversion structure will also reduce the risk of downstream flooding due to enhanced control and function of the infrastructure and an increased capacity to convey high flows. Aquatic habitat will be restored along an estimated 542 linear feet of streambed as a result of this project.

Other Habitat Benefits

The project will increase stream shading, enhance riparian bird habitat, help buffer water temperature, reduce erosion, and create new pool habitat for aquatic species by stabilizing streambanks, restoring riparian vegetation, and installing rock clusters and root wads. The project will result in 0.2 acres of riparian revegetation and 646 linear feet of stabilized streambank.

Overall, the project will contribute to the health and function of the Rio Grande, providing benefits to aquatic and terrestrial species habitat.

If the project will benefit specific species and habitats, describe the species and/or type of habitat that will benefit and the status of the species or habitat (e.g., native species, game species, federally threatened or endangered, State listed, or designated critical habitat). Describe the extent (i.e., magnitude and geographic extent) to which the project will benefit the species or habitat, including an estimate of expected project benefits and documentation and support for the estimate.

The project will benefit a variety of fish and bird species and their habitats. By creating fish passage and improving aquatic habitat, the project will benefit both native and game fish species. There are healthy, self-reproducing brown and rainbow trout populations in this section of the Rio Grande which provide important angling opportunities. Rio Grande chub (RGC) and longnose dace, both of which are native small-bodied fish species, are also present in this reach of the Rio Grande. RGC is endemic to the Rio Grande Basin in Colorado and New Mexico and is a tier 1 species of concern in Colorado, while longnose dace is abundant and not a species of concern. Historically, RGC were known to have been present in the Rio Grande mainstem and many of its tributaries, however today they only exist in a few small populations. There are currently three known aboriginal RGC populations in Colorado, one of which is located approximately 9 miles downstream of the project site near Sevenmile Plaza. (Bestgen et al., 2003; CPW, 2017). In 2017, CPW conducted an extensive fish sampling effort roughly 9 miles downstream of the FUC, near the Sevenmile Plaza. The survey revealed an aboriginal population of RGC. As such, CPW's fisheries management objectives for this reach of the Rio Grande include creating passage for and enhancing habitat to support RGC.

One of the major stressors affecting the native and non-native fish species described above is barriers to movement. As such, this project will help support these fish species by improving habitat and passage for these species. The project will create fish passage at the new FUC diversion structure, thereby improving habitat connectivity and allowing fish to access 1.42 river miles of habitat upstream (Figure 8). The fish passage component of this project has been specifically designed to allow for passage of trout species as well as RGC and other small-bodied

fish using the fish passage criteria established by Swarr (2018). Additionally, the project's streambank and streambed restoration work will enhance aquatic habitat for these fish species. Restoration metrics were estimated using GIS tools as well as project designs, and include the following:

- 646 linear feet of restored streambank through the installation of rock and root wad structures; and
- 542 linear feet of enhanced streambed/aquatic habitat resulting from restored sediment transport at the FUC diversion structures. The existing FUC diversion structure disrupts sediment transport by backing up fine sediments. The new diversion structure will allow for adequate sediment transport, thereby supporting healthy aquatic habitat.

In addition, the project will benefit the Southwestern Willow Flycatcher (SWWF), a tier 1 endangered subspecies in Colorado and an endangered subspecies under the Endangered Species Act. SWWF breed and nest from May-August throughout the San Luis Valley, and are a riparian-obligate species, relying on dense stands of willows along streams and river corridors. Restoring 0.2 acres of riparian vegetation within the project area with willow transplants and other native species will increase overall habitat availability and connectivity for SWWF.

If the proposed project will benefit federally listed threatened or endangered species, address the following:

- ***Is the species subject to a recovery plan or conservation plan under the ESA?***
- ***What is the relationship of the species to water supply?***
- ***What is the extent of the proposed project that would reduce the likelihood of listing or would otherwise improve the status of the species?***
- ***Is the species adversely affected by a Reclamation project?***

The Southwestern Willow Flycatcher (SWWF) is an endangered subspecies and is subject to a recovery plan under the ESA, which was completed in 2002 (USFWS, 2002c). As noted above, SWWF rely heavily on dense stands of willows along river and stream corridors for breeding and nesting. Additionally, wetland areas provide necessary forage for this species. The project will increase overall habitat and habitat connectivity by planting 1,200 willows to restore 0.2 acres of riparian habitat, stabilizing 646 linear feet of streambank, and restoring 542 linear feet of streambed geomorphology and aquatic habitat. This species is not adversely affected by a Reclamation project.

As noted above, the Rio Grande chub is listed as a tier 1 species of concern in Colorado. RGC is currently under consideration for ESA listing, and therefore is not subject to a recovery plan under the ESA. However, the 2018 Conservation Agreement for RGC and Rio Grande sucker (RGS) is a collaborative and cooperative document developed to implement conservation measures to reduce or eliminate threats that may warrant listing RGC and/or RGS under the ESA (RGC and RGS Conservation Team, 2018). This project will support one of the agreement objectives of improving watershed conditions and instream habitat for RGC within the project area. The new diversion structure will provide passage for RGC and other small-bodied fish. Additionally, the project will support water managers' efforts to improve streamflow conditions

to benefit aquatic species, including RGC. RGC is not adversely impacted by a Reclamation project.

Will the project address drought conditions or drought-related impacts on water supplies, habitat, species, or the ecosystem as a whole? If yes, describe past and current drought conditions and impacts and forecasted drought conditions and anticipated impacts. How will this project help build resilience to drought?

The project will address drought-related conditions and impacts to water supplies and aquatic habitat. The Upper Rio Grande watershed in Colorado has experienced periods of drought in the past. For example, in 2002 the Rio Grande's annual flow, measured at the Del Norte stream gage, was 164,000 acre-feet, compared to the river's average annual flow of 331,933 acre-feet. The 2002 drought adversely affected aquatic species due to low flow conditions and high water temperature, and left many agricultural producers without irrigation water. Another past drought period was 1953–1956, the driest four-year period of recorded streamflow for the Rio Grande (RGBRT, 2022).

In recent years, the Upper Rio Grande has experienced abnormally dry conditions, such as the 2018 water year, and is predicted to experience increasingly hotter and drier conditions throughout the end of the century (RGBRT, 2022). The Rio Grande Basin mean monthly peak flows are expected to shift to an earlier spring peak runoff and lower mid- to late-summer flows, creating shorter spawning windows and summer low-flow conditions that could adversely affect various fish species (Llewellyn and Vaddey, 2013). Additionally, low flow conditions combined with warmer air temperatures due to climate change could result in warmer water temperatures that would negatively impact cold-water fish species (RGBRT, 2022).

This project will help mitigate and build resilience to current and potential drought impacts by improving infrastructure to support water managers' efforts to manage reservoir releases to maintain adequate streamflow and water temperature for aquatic species. The project will also create deeper pools where fish can take refuge during low-flow conditions.

If the project will result in long-term improvements to water quality (e.g., decrease sediment or nutrient pollution, improve water temperature, or mitigate impacts from floods or drought), explain the extent of those benefits (i.e., magnitude and geographic extent). Estimate the expected project benefits to water quality and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

The project will improve water quality by reducing sediment pollution and improving water temperature and dissolved oxygen levels.

Sediment Pollution

Streambank stabilization using riparian revegetation, rock structures, and root wads, will result in decreased soil erosion and sediment pollution. The amount of soil/sediment prevented from entering the river system annually as a result of restoration actions is estimated to be 155 cubic feet per year. This estimate was developed using the channel stability index value established for this reach of the Rio Grande (0.24, established by Montgomery-Watson Harza, 2001) multiplied by the length of streambank stabilized (646 linear feet) for a total of 155 cubic feet of sediment per year. In addition, the project will improve the FUC water diversion infrastructure, which currently

Water Temperature and Dissolved Oxygen

The project will also buffer water temperature and help prevent temperatures from reaching levels that are harmful to aquatic life (considered to around 68°F for trout). This will be achieved through the following two mechanisms:

- Streambank and streambed restoration, including installation of streambank stabilization structures and restored sediment transport processes at the new FUC diversion dam will result in deeper pool habitat at the project site. These pools will help buffer water temperature and provide refuge for aquatic species during low flow conditions.
- Additionally, this project provides infrastructure to support flexible water management operations, including potential re-timing of upstream reservoir releases to maintain adequate streamflow for aquatic species. By helping to meet minimum environmental streamflow targets, water temperature will also be improved.

The cooler water will also maintain higher dissolved oxygen levels, which is critical to the health of aquatic species. The benefit of re-timed reservoir releases will extend from Rio Grande Reservoir to the project location, roughly 75 river miles. The exact magnitude of water quality benefits will depend on future streamflow conditions and cannot be quantified at this time.

Are there project benefits not addressed in the preceding questions? If so, what are these benefits?

This project is located approximately ½ mile downstream of the Del Norte Riverfront Park, where a recreational playwave, boat ramp, and pedestrian river access were recently installed. With increasing recreational use, especially boating, on the Rio Grande near Del Norte, boaters are increasingly likely to encounter the hazardous FUC diversion dam. By incorporating boat passage into the design of the new diversion, this project will provide important improvements to community safety.

Water Conservation and Efficiency Project Benefits

Describe the amount of estimated water savings (in acre-feet per year) that are expected to result directly from the project. Include a specific quantifiable water savings estimate; do not include a range of potential water savings. Describe the support/documentation for this

estimate, including a detailed explanation of how the estimate was determined, including all supporting calculations.

The estimated water savings resulting from this project is 729.6 acre-feet per year. This was estimated by calculating the annual amount of water over a 5-year period, from 2018 to 2022, that could not be delivered to the FUC headgate due to inadequate diversion infrastructure at the project location. As noted above, the current FUC diversion infrastructure is not capable of creating adequate head pressure at the FUC headgates, especially during low flow conditions, to deliver water rights to the north channel Rio Grande. Additionally, diurnal streamflow fluctuations result in inaccurate water delivery to the north channel. The improved diversion structure will create adequate head pressure and the automated headgates will adjust to account for diurnal fluctuations in order to accurately deliver the appropriate amount of water to the north and south channels of the Rio Grande, even during low-flow conditions.

A detailed explanation of this calculation is provided below:

The estimated water savings were calculated by comparing the amount of water diverted at the FUC headgate on a daily basis versus the amount that was available to the FUC that day. These amounts were determined based on daily FUC diversion records, Rio Grande streamflow, and Rio Grande Reservoir releases. The amount of water available for diversion at the FUC is based on its water rights. The FUC's water rights are "in priority" and available for diversion only when flow in the Rio Grande (measured at the Del Norte stream gage) is sufficient. FUC water rights can also be stored in Rio Grande Reservoir and released throughout the irrigation season. However, reservoir releases are assessed a 10% transit loss by the Colorado Division of Water Resources Division 3 Engineer, so the water actually available for diversion is the amount released from the reservoir minus 10%.

On each day a shortage was recorded, there was sufficient flow recorded at the Del Norte stream gage to fully satisfy the FUC's in-priority water rights. It is reasonable to assume that the shortages are due to inadequate diversion infrastructure and/or inefficiencies of the existing diversion infrastructure at the project site, which controls flows between the north and south channels of the Rio Grande (Figure 1). The flow in the river often exhibits diurnal fluctuations up to several hundred cubic feet per second each day and the existing infrastructure is often unable to accommodate these changes. Figure 9 shows the amount of water that was lost to the FUC on days when it was unable to divert its full water right.

Water Year	Total Shortage on Days of Under-delivery (acre-feet)
2018	359
2019	2,143
2020	336
2021	263
2022	547

Figure 9. Annual water year summary of total shortage on days of under-delivery.

Based on Figure 9, the average annual shortage is 729.6 acre feet per year. Figure 10 is an hourly analysis of three consecutive days of shortage from May 13 to 15, 2022 and illustrates the water delivery shortages resulting from diurnal fluctuations in streamflow.

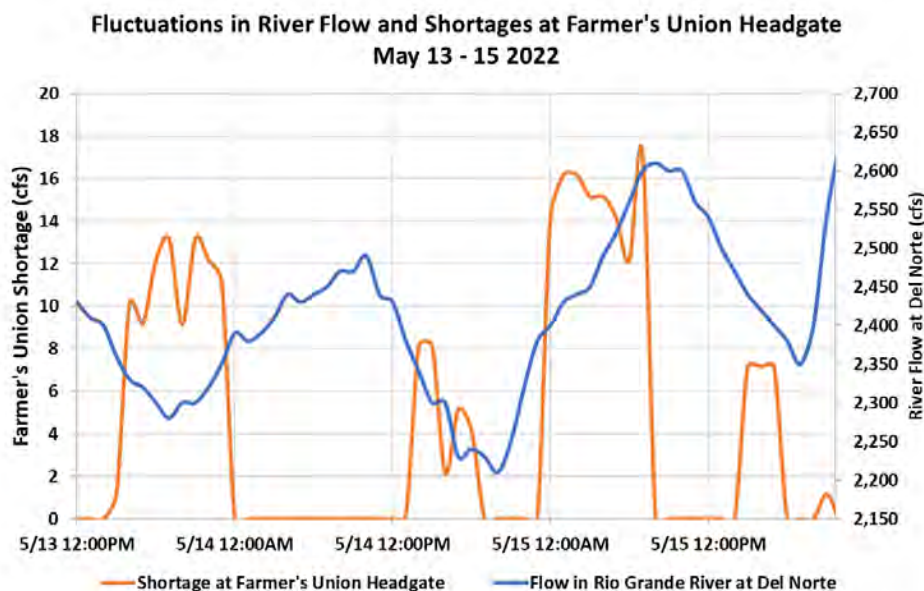


Figure 10. Hourly analysis of shortage at FUC headgate, May 13th to May 15th, 2022.

Explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground) and how the water is currently being used. For example, are current losses returning to the system and being used by others? Are current losses entering an impaired groundwater table, becoming unsuitable for future use? Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?

The water that will be conserved currently remains in the river and is diverted by the next in-priority downstream water right, located approximately 1 mile downstream. The water remains in the river for a short distance downstream of the project location, however the ecological benefits are minimal due to the short distance.

Explain, in detail, how water conserved as a result of the project will be used to increase water sustainability for ecological values. Will the project commit conserved water to remain instream? If so, provide detailed support for that commitment. Will a formal mechanism (e.g., collaboration with a State agency or non-profit organization, or other mechanisms allowable under State law) be used? Or, if a formal mechanism will not be used, describe the arrangement proposed to contribute conserved water for ecological benefits. Explain the roles of any partners in the process and attach any relevant supporting documents.

The conserved water is expected to support aquifer levels in the San Luis Valley Closed Basin and improve the timing of streamflow in the Rio Grande for aquatic species.

The conserved water will be diverted into the FUC ditch system, which delivers irrigation water in the San Luis Valley's Closed Basin. Colorado state legislation requires that aquifers in the San Luis Valley meet sustainability requirements by 2031. The unconfined aquifer system within a large portion of the Closed Basin is currently not meeting this requirement. A portion of the conserved water diverted into the Closed Basin will seep into the unconfined aquifer, resulting in aquifer recharge. Increased aquifer recharge will work toward the goal of aquifer sustainability, and in doing so, support groundwater-dependent wetlands in the Closed Basin.

The FUC stores 8,000 to 15,000 acre-feet per year in Rio Grande Reservoir during the winter storage season and releases this water during irrigation season. Using existing diversion infrastructure, the FUC is unable to deliver water rights to the north channel Rio Grande during low streamflow conditions, which occur in mid- to late-summer after spring runoff. For this reason, FUC irrigation water is released from Rio Grande Reservoir during spring runoff when streamflow is high and can be diverted into the north channel. The upgraded diversion infrastructure resulting from this project will allow for greater control of flows at the river's bifurcation and reliable delivery of water rights to ditches on the north and south channels of the river during all flow conditions. Greater water delivery control will provide the FUC water users and other partners with new opportunities to re-time reservoir releases, especially during low flow conditions, for instream and riparian benefits, without losing valuable water. Local water management partners, including the SLVWCD, Rio Grande Water Conservation District, San Luis Valley Groundwater Management Subdistricts, Colorado DWR, CPW, Rio Grande Water Users Association, and other reservoir operators intend to work together to identify opportunities to release stored reservoir water when it has the greatest positive benefits for aquatic species as well as water rights holders. These efforts are expected to result in environmental streamflow targets, which are quantified in Rio Grande Stream Management Plan (Attachment A), being met more often.

Describe the benefits that are expected to result from increased instream flows. Will increased instream flows assist in reducing basin-wide water supply and demand imbalances or in complying with an interstate compact? Will increased instream flows result in benefits to fish and wildlife? If so, describe the species and expected benefit of the project. Will the increased instream flows result in benefits to habitat or other ecological benefits? If so, describe these benefits. Will the flows specifically benefit federally designated critical habitat?

As described above, re-timed reservoir releases are expected to increase instream flows in mid- to late-summer when flows are low. The instream flows are expected to benefit aquatic species habitat by increasing pool depth and maintaining healthy water temperature and dissolved oxygen levels for fish. Fish species which will benefit include brown, brook and rainbow trout as well as native species such as Rio Grande chub and longnose dace. Instream flows are also expected to support healthy riparian vegetation and habitat for sensitive bird species including the southwestern willow flycatcher by maintaining root zone saturation. The flows will not benefit federally designated critical habitat.

Additionally, the improved diversion infrastructure and added water management flexibility provided by this project will improve planning and administration of the interstate Rio Grande Compact. Under the terms of the Rio Grande Compact of 1938 (Compact), Colorado must deliver a portion of the Rio Grande's flow to New Mexico on an annual basis (Compact, 1938). Water administrators are challenged with predicting and managing flows on a daily basis to best serve water rights holders while also meeting Compact deliveries. For this reason, inefficient and poorly functioning irrigation water delivery infrastructure, which may not predictably and reliably divert its exact decreed water right, is an obstacle to effective Compact administration. This project's irrigation infrastructure improvements will better equip water managers to serve water rights while meeting Compact deliveries with greater accuracy and precision.

Water Management and Infrastructure Improvement Benefits

If the project will make more water available, or make water available at a more advantageous time or location, how much additional water will be made available? Describe the amount of estimated water (in acre-feet per year) expected to be made available directly from the project. Include a specific quantifiable water contribution estimate and describe the support/documentation for this estimate, including a detailed explanation of how the estimate was determined.

The project will make more water available for diversion to the FUC along the north channel Rio Grande. On average, the project is expected to provide an additional 729.6 acre-feet per year to the FUC. The calculation for this estimate is described above. Additionally, the project will increase water management flexibility and is expected to make more water available between Rio Grande Reservoir and the project location during low streamflow conditions due to re-timed releases from Rio Grande Reservoir.

Restoration Project Benefits

The project does not include a restoration project component specifically related to invasive species, forest fuels management activities, or post-wildland fire sediment removal. The project includes other types of restoration benefits, which are discussed above.

Subcriterion A.2: Multiple Benefits

If the project will benefit multiple water uses (e.g., benefits to ecological values AND benefits to other water uses, including municipal; agricultural; Tribal; commercial, recreational, subsistence, or Tribal ceremonial fishing; and river-based recreation), explain how and to what extent the project will benefit multiple water uses.

The improved diversion infrastructure will benefit aquatic species, agricultural water users, and recreational users by:

- Providing fish passage for a variety of species and enhancing aquatic habitat through increased sediment transport capacity and restored;

- Consolidating the diversion structures for both the FUC and the RG #1 Ditch into a single, improved diversion, thereby significantly reducing maintenance needs for water users on both ditch systems;
- Installing headgate automation to significantly reduce on-site headgate adjustment needs, which will instead be controlled remotely; and
- Creating safe boat passage to benefit recreational boaters.

When complete the project will help ensure the Rio Grande continues to support diverse human, agricultural, and ecological communities.

If the project will provide multiple restoration benefits (e.g., benefits to ecological values or watershed health; fish and wildlife habitat; protection against invasive species; enhancement to commercial, recreational, subsistence, or Tribal ceremonial fishing; enhancement of river-based recreation), explain how.

The project will provide multiple restoration benefits to increase the ecological integrity and resiliency of this important river system. Fish passage at the new diversion will help support healthy fish populations, while boat passage will enhance river-based recreation opportunities. In addition, aquatic and riparian habitat restoration, including and riparian revegetation, installation of rock and root wads, and restored sediment transport at the diversion structure will enhance aquatic and riparian habitat complexity.

Will the project reduce water conflicts within the watershed? If so, explain how.

The project will reduce water conflicts in the Upper Rio Grande watershed as a result of increased irrigation infrastructure efficiency. Under the terms of the Rio Grande Compact of 1938 (Compact), Colorado is required to deliver a portion of the Rio Grande's flow to New Mexico on an annual basis (Compact, 1938). Colorado's annual delivery requirement varies depending upon the cumulative streamflow of the Rio Grande at the Del Norte gage, which must be measured with both precision and accuracy to minimize conflict. While cumulative streamflow determines the total amount of water delivered to New Mexico, water administrators are challenged with predicting and managing flows on a daily basis to best serve water rights holders while also meeting Compact water deliveries. As such, a primary obstacle in effective Compact administration is inefficient and poorly functioning irrigation infrastructure, which can cause water managers to over- or under-deliver Compact flow requirements. This project's irrigation infrastructure improvements will better equip water managers to efficiently serve water rights while meeting annual Compact deliveries with greater accuracy and precision. This will reduce the potential for conflict among water users by increasing predictive power and confidence in meeting Compact flow requirements.

Evaluation Criterion B- Collaborative Planning (20 points)

Is your proposed project supported by a specific strategy or planning document?

Yes, this project is identified as a priority in the 2020 Rio Grande Stream Management Plan (SMP), as well as the 2022 Rio Grande Basin Implementation Plan (BIP).

- ***When was the plan or strategy prepared and for what purpose?***

The Rio Grande Stream Management Plan (SMP) was completed in 2020 and is a collaborative and stakeholder-driven planning effort. It was developed with support from a 2018 WaterSMART Cooperative Watershed Management Phase I grant (R18AP00117). The purpose of the Rio Grande SMP is to assess stream conditions to enable local stakeholders to develop informed and data-driven management actions, with the goal of preserving and enhancing water uses and community values (CRGRF, 2020). This project is a result of the SMP planning process and collaboration between the SLVID, owner of the FUC, CRGRF, CPW, Colorado DWR, SLVWCD, and TU. Participation from diverse stakeholders ensures that both consumptive and non-consumptive needs are being met through project design and implementation.

The first Rio Grande BIP was published by the Rio Grande Basin Roundtable (RGBRT) in 2015 as a water resources management plan for the Rio Grande Basin in Colorado. The 2015 Rio Grande BIP, along with BIPs from the eight other major river basins in Colorado, helped inform the 2015 Colorado Water Plan. In 2019, the RGBRT began the process of updating the original BIP, starting with an updated water resources analysis. The updated BIP was published in 2022 and includes everything from the basin's achievements since 2015 to detailed projects and strategies to meet the basin's current water needs as well as creating a sustainable water future. The BIP focuses on the actions that local partners can take to meet current and future needs as well as goals, anticipated outcomes, initiatives, and projects that provide a pathway to success.

- ***What types of issues are addressed in the plan? For example, does the plan address water quantity issues, water quality issues, and/or issues related to ecosystem and watershed health or the health of species and habitat within the watershed?***

Rio Grande SMP addresses a variety of water resources issues and challenges. The SMP includes a detailed stream health conditions assessment in which the following stream health variables are assessed: hydrologic regime, geomorphic condition, riparian vegetation, aquatic species, water quality, recreation, and diversion infrastructure. The SMP also developed environmental flow targets aimed at supporting aquatic species and recreational flow targets to support boating and fishing. These variables were assessed at the reach scale, and areas where stream health was degraded in one or more categories, the SMP identified opportunities to improve conditions. The focus of identified projects and strategies in the SMP was to improve stream health and function for multiple users and uses, ranging from riparian revegetation to enhancing aquatic habitat and opportunities to meet environmental and/or recreational flow targets more often.

- ***Is one of the purposes of the strategy or plan to increase the reliability of a water supply for ecological values?***

The Rio Grande SMP is a comprehensive plan that addresses diverse water resources issues such as water quantity, water quality, issues related to ecosystem and watershed health, health of species and habitat within the watershed, and recreation (CRGRF, 2020). As mentioned above, the SMP established minimum streamflow targets to support aquatic life. The plan also outlines strategies to meet the streamflow targets, which includes flexible water management to increase the reliability of water supply for aquatic life and other ecological values.

- ***Was the strategy or plan developed through a collaborative process?***

The Rio Grande SMP was a collaborative and stakeholder-driven planning effort which was funded in part by a WaterSMART Cooperative Watershed Management Phase I grant (R18AP00117). The SMP process engaged diverse local stakeholders representing a variety of water users and uses (CRGRF, 2020).

- ***Was the strategy or plan developed as part of a collaborative process by a watershed group, as defined in Section 6001(6) of the Cooperative Watershed Management Act OR a water user and one or more stakeholders with diverse interests (e.g., stakeholders representing different water use sectors such as agriculture, municipal, Tribal, recreational, or environmental)?***

Both the Rio Grande SMP and the Rio Grande BIP were developed as part of a collaborative planning process. The SMP was led by a nonprofit watershed group, the CRGRF, and the BIP was developed by the Rio Grande Basin Roundtable, both of which are defined as watershed groups in Section 6001(6) of the Cooperative Watershed Management Act.

- ***Describe who was involved in preparing the plan and whether the plan was prepared with input from stakeholders with diverse interests (e.g., water, land, or forest management interests; and agricultural, municipal, Tribal, environmental, and recreation uses)? Describe the process used for interested stakeholders to provide input during the development of the strategy or plan. For some Tribal strategies or plans, collaboration could include working with entities representing multiple interests within the Tribe (e.g., Tribal water agencies; Tribal fish and wildlife agencies, cities, or towns on Tribal land; Tribal fisheries; Tribal industries; and agriculture).***

The Rio Grande SMP process was guided by and reflects the interests of a Technical Advisory Team (TAT), which was composed of a diverse group of state and federal officials, local water managers, nonprofit organizations, private landowners, and other local stakeholders (CRGRF, 2020). Staff from the Rio Grande National Forest, Bureau of Land Management, US Fish and Wildlife Service, Conejos Water Conservancy District, CPW, and local government were involved. Additionally, representatives from ditch companies, farmers, ranchers, and private landowners participated in the TAT. To gain input from interested stakeholders for the SMP planning process, the following steps were taken:

- An initial stakeholder survey was distributed to document community values related to the Rio Grande.
- A series of public community meetings were held to provide a forum for stakeholder engagement and to gather input.
- Regular updates were provided to the Rio Grande Basin Roundtable and several other local water districts and stakeholder groups.
- The project was described and public meetings were advertised via email newsletters, local radio programming, and social media.
- Significant outreach to individual landowners and ditch shareholders was completed.
- TAT meetings were held throughout the planning process, with a particular focus on guiding the river health assessment and the identification and prioritization of projects.

Robust stakeholder outreach was the guiding process in the SMP's creation, and helped tailor the river conditions assessment towards areas where improved data would yield a greater understanding of the problems faced by local stakeholders.

- ***If the strategy or plan was prepared by an entity other than the applicant, explain why it is applicable to the proposed project. Describe whether and how the applicant was involved in the development of the strategy or plan. If the applicant was not involved in the development, explain why.***

Both the Rio Grande SMP and the BIP were prepared by the CRGRF, along with other stakeholders. The CRGRF was awarded funding from a WaterSMART Cooperative Watershed Management Phase I grant (R18AP00117), which allowed us to facilitate the Rio Grande SMP process. The BIP was prepared by the CRGRF on behalf of the Rio Grande Basin Roundtable, a group that facilitates discussions on water management issues, educates Coloradans, and engages local communities in water-related projects and information. The RGBRT is made up of members of the public who represent the diverse agricultural, municipal and industrial, environmental, and recreational water needs of the Rio Grande Basin. The RGBRT encourages locally-driven collaborative solutions to water management issues and collaborates with other Roundtables to find solutions to intra-basin issues.

Describe how the plan or strategy provides support for your proposed project.

- ***Does the proposed project implement a goal or need identified in the plan?***

The project meets multiple Rio Grande SMP goals by increasing agricultural water use efficiency, improving recreational safety, and enhancing aquatic and riparian habitats (CRGRF, 2020). Specifically, the project is identified as meeting seven of the Rio Grande SMP's eleven goals. The SMP goals are listed below. The goals which this project meets are in bold.

- **Improve function and reduce maintenance of irrigation infrastructure, both for water users and river health.**
- **Maintain or improve bank and channel stability, especially near important wildlife habitat and critical infrastructure such as homes, diversion structures, roads, and bridges.**

- **Maintain and improve the function of floodplains, associated alluvial aquifers, and natural channel processes.**
- **Maintain and improve the extent and condition of riparian areas.**
- Work toward aquifer sustainability and mitigate impact of groundwater withdrawal on streamflow depletion.
- **Maintain or improve water quality, with a focus on mine reclamation projects and compliance with State water quality standards.**
- **Maintain or improve long-term sustainability of Rio Grande fisheries and associated aquatic habitat.**
- **Improve infrastructure to support recreational access and use on the Rio Grande.**
- Collect additional streamflow data and continue snowpack monitoring to better characterize Rio Grande hydrology and improve streamflow forecasting.
- Consider flow targets identified in the Aquatic Habitat Needs Assessment in the context of reservoir operations.
- Using guidance from the recreational needs assessment, consider opportunities to maintain or enhance boatable days for recreational uses, especially in the context of reservoir operations and infrastructure updates.

Additionally, the project meets three of the five 2022 Rio Grande BIP's Basin Goals shown below in bold:

- **Healthy watersheds that provide critical ecosystem services, resiliency, improve water quality, and enhance local wildlife habitats.**
- Aquifers with sustainable supplies of groundwater.
- **Vibrant and resilient agriculture, recreation, municipal, and industrial economies.**
- **Adaptive, flexible, and creative water administration.**
- Citizens who are engaged and informed on local, state, and regional water issues.

The project is listed in the Rio Grande BIP under the name, "North Branch Splitter Rehabilitation Project" (RGBRT, 2022). When identified in the Rio Grande BIP, the project is listed with the representative percentages of its associated benefits. The project met agriculture needs (50% of project), environment and recreation needs (20% of project), administration needs (20% of project), and municipal and Industrial needs (5% of project).

- ***Describe how the proposed project is prioritized in the referenced plan or strategy.***

The proposed project is listed in section 4.1 of the SMP under *Goals and Priority Action Items*. As noted above, the project meets many of the SMP's goals. In the Rio Grande BIP, the project is listed as a priority project in section 6 (*Strategic Vision for the Future*) as well as in *Volume 2, Appendix A (Future Rio Grande Basin Projects)*. The Rio Grande SMP and BIP both recognize that the project will provide benefits for river health and for multiple water users and uses.

Evaluation Criterion C- Stakeholder Support for Proposed Project (15 points)

Describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided? Are any stakeholders providing support for the project through cost-share contributions or through other types of contributions to the project?

The proposed project has received a high level of support from local, state, and federal stakeholders. Letters of support are attached in Appendix A and include letters from:

- San Luis Valley Irrigation District
- Colorado Parks and Wildlife
- Trout Unlimited
- Senators Bennet and Hickenlooper (joint letter)
- Rio Grande Basin Roundtable
- San Luis Valley Water Conservancy District
- Colorado Water Conservation Board
- Colorado Division of Water Resources
- Town of Del Norte
- Rio Grande #1 Ditch
- McIntosh Arroya Ditch water users
- Joint letter on behalf of nine irrigation ditches on the north channel of the Rio Grande
- Rio Grande Headwaters Land Trust

The San Luis Valley Irrigation District will provide significant logistical and technical support by reviewing and providing input on engineering designs, working collaboratively with the construction contractor to enable access, and operating and maintaining the diversion infrastructure. Additionally, TAG members, including staff from CPW, TU, Colorado DWR, and SLVWCD, have reviewed, provided input on, and approved project designs. *Note - the CRGRF, CWCB, RiGHT, and RG #1 Ditch water users have committed funds to support this project.*

Explain whether the project is supported by a diverse set of stakeholders, as appropriate, given the types of interested stakeholders within the project area and the scale, type, and complexity of the proposed project. For example, is the project supported by entities representing agricultural, municipal, Tribal, environmental, or recreation uses?

The project is supported by diverse stakeholders, as listed above, and collectively represent agricultural, municipal, environmental, and recreation uses.

Is the project supported by entities responsible for the management of land, water, fish and wildlife, recreation, or forestry within the project area? Is the project consistent with the policies of those agencies?

The project is supported by entities responsible for natural resource management within the project area, and the project is consistent with the policies of those agencies. As noted above, the project is supported by the Colorado DWR, the state agency responsible for administering water rights and the Rio Grande Compact; CPW, the state agency responsible for perpetuating wildlife resources in the state; and the Rio Grande Basin Roundtable, a local organization

committed to representing the major water uses of the Rio Grande Basin and addressing basin-wide challenges. This project is included in the Rio Grande SMP and the Rio Grande BIP, a planning process throughout which these entities played an active role (CRGRF, 2020; RGBRT, 2022).

Additionally, this project is supported by the Colorado Water Conservation Board (CWCB), a state agency whose mission is to “conserve, develop, protect and manage Colorado's water for present and future generations.” The CWCB awarded grant funding for final designs, permitting, and project construction.

Is there opposition to the proposed project? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.

There has been no opposition to the proposed project. Diverse stakeholders, including, but not limited to the project’s Technical Advisory Group, have been involved throughout the project planning process and have been provided multiple opportunities for comment and input on project designs. This communication and collaboration, which will continue throughout final project design and implementation, will ensure the project will provide benefits for multiple water users and uses. The letters of support in Appendix A illustrate the support this project has received.

Evaluation Criterion D- Readiness to Proceed (20 points)

Describe the implementation plan for the proposed project. Include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. This may include, but is not limited to, design, environmental and cultural resources compliance, permitting, and construction/installation.

The project timeline is anticipated to span from April 2024 to July 2026. Project designs are complete, and the next step in the implementation plan is environmental and cultural resources compliance. The project implementation schedule is shown below in Figure 11.

Project Task	Timeline	Notes
Environmental Compliance and Public Bid		
Contractor completes environmental and cultural resources compliance	April 2024 - August 2024	Contractor TBD
BOR reviews environmental and cultural resources permits and approvals	September 2024	
Public bid package prepared, released, and contractor selected	October 2024 - November 2024	
Project Task	Timeline	Notes
Construction and Monitoring		
Construction contractor mobilizes equipment and delivers materials	November 2024 - February 2025	Timeline allows for possible delays; includes construction management
Project construction, including diversion infrastructure replacement and river restoration	February 2025 - April 2026	Allows for two construction seasons to account for possible delays; includes construction management
Project monitoring and evaluation of outcomes	May 2026 - July 2026	Post-construction monitoring depends upon construction schedule
Final project wrap-up and reporting	June 2026 - July 2026	

Figure 11. Project implementation schedule.

Once construction is complete, CRGRF staff will monitor the project site and evaluate project outcomes. In addition, CRGRF will continue to monitor the project site for 5 years following construction.

Describe any permits and agency approvals that will be required, along with the process and timeframe for obtaining such permits or approvals.

The CRGRF has spoken with Reclamation staff at the Albuquerque Area Office regarding environmental compliance needs and estimated costs. Reclamation staff indicated that a contractor will likely need to complete environmental and cultural resources compliance, including all required permits and agency approvals. NEPA, ESA, and NHPA compliance will be needed, as well as a CWA 404 permit through the U.S. Army Corps of Engineers (USACE). The project is expected to fit within a USACE Nationwide stream restoration and irrigation infrastructure CWA 404 permit. The CWA 404 Nationwide permit will require an Environmental Assessment, which will include a Biological Assessment, Aquatic Resources Delineation Report, and Cultural Resources Assessment. Reclamation staff will review all required permits and approvals.

Identify and describe any engineering or design work performed specifically in support of the proposed project. If additional design is required, describe the planned process and timeline for completing the design. Priority will be given to projects that are further along in the design process and ready for implementation.

Project engineering is complete and a complete design has been prepared by Huitt-Zollars, Inc (see Appendix B). Project engineering included a detailed topographical site survey, geotechnical evaluation, historic hydrologic analysis and development of a 2-D streamflow

model, and an alternatives analysis that included five alternatives. The project's TAG reviewed alternatives and selected the alternative that meets the TAG's multiple objectives, including fish and boat passage, aquatic habitat enhancements, improved water diversion efficiency, and increased automation and reduced maintenance. The design selected by the TAG provides benefits to multiple water users and uses and is ready to be used in a public bid process.

Changes to the current design are not anticipated, however HZI will modify designs if issues are identified during the environmental and cultural resources compliance process. No additional engineering needs are anticipated.

Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If so, please provide documentation. If the applicant does not yet have permission to access the project location, please describe the process and timeframe for obtaining such permission.

The CRGRF has permission to access the land where the project is located, which is facilitated by the SLVID. No easements are required.

Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs.

The CRGRF has contacted Reclamation's Albuquerque Area Office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. The cost estimate outlined in the budget proposal was developed based on these conversations.

Is the project completely or partially located on Federal land or at a Federal facility? If so, explain whether the agency supports the project and has granted access to the Federal land or facility, whether the agency will contribute toward the project, and why the Federal agency is not completing the project. Note: Other sources of Federal funding cannot be included within the scope of the project proposed for Reclamation funding under this NOFO. Other Federal agencies can contribute toward the completion of environmental and cultural resource compliance, provide access to land, and provide project oversight as necessary; however, any costs associated with these activities should not be included within the project budget.

No, the project is not located on federal land or at a federal facility.

Evaluation Criterion E- Performance Measures (5 points)

Describe the performance measures that will be used to quantitatively or qualitatively define actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen.

The primary anticipated outcomes of this project are improved diversion infrastructure and river restoration resulting in improved fish and boat passage, enhanced aquatic and riparian habitat, and improved irrigation diversion infrastructure function and efficiency. Before, during, and after completion of project construction, the CRGRF will work with CPW and TU fisheries biologists as well as the SLVID to evaluate project benefits. The following performance measures will be used to evaluate actual project benefits:

- Measure velocity and slope of rock ramp fish passage to ensure the as-built structure meets design specifications. Onsite monitoring during construction will ensure these parameters are met.
- Visual assessments to determine adequate function of boat passage in the new diversion structure.
- Complete cross sectional surveys to document changes in streambed morphology and to evaluate how fish habitat structures and streambed shaping has improved fish habitat.
- Measure standard water quality parameters, including temperature, pH, dissolved oxygen, and conductivity.
- Collect pre- and post-construction photo documentation using established photo points. Photographic documentation will track conditions of the riparian plant communities, bank stabilization, and overall visual condition of the project area.
- Document ditch diversion rates using Colorado DWR's ditch diversion records to ensure the improved infrastructure is accurately delivering water rights.
- Review streamflow data including reservoir release amounts and Rio Grande streamflow using data from multiple stream gages to evaluate benefits of expected re-timed reservoir releases.
- Ensure the project is constructed according to engineering specifications established in the final design, including headgate automation.

These performance measures were selected specifically for this project because they will accurately evaluate the project outcomes and benefits, including aquatic and riparian habitat enhancement, fish and boat passage improvements, water quality improvements, improved timing of streamflow for aquatic species, and water diversion efficiency, which are listed in Figure 7.

All applicants are required to include information about plans to monitor improved streamflows, aquatic habit, or other expected project benefits. Describe the plan to monitor the benefits over a 5-year period once the project has been completed. Provide details on the steps to be taken to carry out the plan.

CRGRF staff will track metrics and oversee all monitoring for the project. Following project completion, CRGRF will continue to monitor the site annually for 5 years to document conditions and ensure project outcomes are meeting the needs of multiple water users and uses. Annual monitoring protocol will include each of the performance measures listed above.

Evaluation Criterion F- Presidential and DOI Priorities (15 points)

Subcriterion E.1: Climate Change

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits? Estimate the extent to which the project will build resilience to drought and provide support for your estimate.

As the Rio Grande Basin faces water shortages and prolonged periods of drought, the need for more resilient river ecosystems, as well as efficient water resources management, is becoming increasingly crucial. The Upper Rio Grande has and is expected to experience more increasingly frequent hot and dry conditions resulting in earlier spring peak runoff and lower mid- to late-summer flows that adversely impact aquatic and riparian species (Llewellyn and Vaddey, 2013). This project will help mitigate and build resilience to drought impacts by increasing water delivery efficiency to support re-timed reservoir release and by implementing river restoration.

The proposed project will assist in administration of Rio Grande water rights by improving diversion efficiency and measurement capabilities for the north and south channels of the river. Improved function and efficiency of water diversion infrastructure at the project site is expected to afford water managers more flexibility in timing of water releases from Rio Grande Reservoir, particularly during periods of low river flows. Efforts to re-time reservoir releases will mitigate drought conditions by helping to maintain adequate streamflow and water quality for aquatic species.

Riparian revegetation and aquatic habitat enhancement through installation of rock and root wad structures as well as restoring natural sediment transport at the new diversion structure will also increase resilience by creating more suitable aquatic habitat where fish and birds can take refuge, especially during hot and dry conditions. Riparian revegetation and improved floodplain habitat is also expected to allow enhance alluvial water storage within the river channel. During dry periods in late summer and fall, the water stored in the alluvium is slowly released, resulting in the augmented baseflow and increased drought resiliency

The project's infrastructure improvements are expected to last at least 30 years and river restoration efforts and are expected support the river's long-term resilience to climate impacts.

In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?

River restoration and bank stabilization will increase resiliency to flooding, particularly downstream of the project.

Will the proposed project establish and use a renewable energy source?

No.

Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation?

The proposed project will reduce greenhouse gas emissions through riparian revegetation and other restoration actions. Carbon will be sequestered by planting woody riparian species such as willows, and by seeding portions of the project area with herbaceous riparian species. Additionally, streambank stabilization and the installation of root wads has the potential to sequester carbon in the form of organic material in accumulated soil and woody material. The potential for these restoration practices to sequester carbon has been quantified by Hinshaw and Wohl (2021).

Does the proposed project include green or sustainable infrastructure to improve community climate resilience such as reducing the urban heat island effect, lowering building energy demands, or reducing the energy needed to manage water? Does this infrastructure complement other green solutions being implemented throughout the region or watershed?

The project complements other recent projects in the San Luis Valley that have improved the community's access to the outdoors and to nature. For example, the Del Norte Riverfront Park, located roughly ½ mile upstream of the proposed project, provided new river access for the community of Del Norte and surrounding towns. The project also enhanced riparian vegetation along the riverfront, providing cool and shaded areas for the community to use during hot summer months. Similar efforts to improve community access to nature and the outdoors are underway in the towns of Monte Vista and Alamosa. The proposed project will complement these efforts by supporting river-based recreation opportunities and enhancing community safety through the removal of a hazardous diversion dam.

Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution?

As noted above, climate change is expected to cause the Rio Grande to experience more frequent low-flow conditions in mid- to late-summer, increasing the risk of water temperature and dissolved oxygen levels reaching levels that stress aquatic species (RGBRT, 2022). This project seeks to maintain water temperature and dissolved oxygen levels that are healthy for aquatic species through increased instream pool habitat and re-timed reservoir releases to support instream flows.

Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?

The project will support irrigated lands which promote healthy lands and soils. As shown in figures 4 and 5, the project will protect and enhance the irrigation infrastructure used to flood-

irrigate 2,268 acres of farmland, much of which is wet meadows. In addition to providing valuable habitat, these wet meadows support healthy soils and riparian areas and help recharge shallow alluvial aquifers. Additionally, some of this flood-irrigated land is protected in perpetuity through conservation easements.

Does the proposed project contribute to climate change resiliency in other ways not described above?

The project does not contribute to climate change resiliency in ways other than what is described above.

Subcriterion E.2: Disadvantaged or Underserved Communities

Will the proposed project serve or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, or economic growth opportunities.

The project will benefit the disadvantaged and underserved community of Del Norte located in Rio Grande County, Colorado. Agriculture is the dominant industry in the region, and a growing tourism and outdoor recreation economy is emerging. Addressing the degraded FUC diversion and headgates will directly benefit both economies by increasing water efficiencies and creating safe boat passage. With new river recreation infrastructure at the Del Norte Riverfront Park, just upstream of the project location, boaters are increasingly likely to encounter the FUC diversion dam, and the incorporation of safe boat passage into the design will provide important improvements to community safety.

Describe, in detail, how the community is disadvantaged based on a combination of variables.

The Town of Del Norte is identified as a disadvantaged community according to the US Council on Environmental Quality's Climate and Economic Justice Screening Tool (USCEQ, 2022). The median household income in Del Norte is \$36,944; less than half of Colorado's household median. Of Del Norte's 1,667 residents, 782 identify as Hispanic. Grant funding is critical to implement this important project.

If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.

The Town of Del Norte meets the underserved definition in E.O. 13985. Del Norte is a rural community as defined by the US Census Bureau, and 47% of its population identifies as Hispanic.

Subcriterion E.2: Tribal Benefits

Does the proposed project directly serve and/or benefit a Tribe? Will the project improve water management for an Indian Tribe?

N/A

Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

N/A

Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, or economic growth opportunities?

N/A

List of References

Bestgen, K. R., Compton, R. I., Zelasko, K. A., & Alves, J. E. (2003). *Distribution and Status of Rio Grande Chub in Colorado*. Larval Fish Laboratory Contribution 135.

Caddis Environmental Consulting, LLC (CEC). (2022). Biological Assessment/Biological Evaluation. Prepared for Colorado Rio Grande Restoration Foundation, Rio Grande Canal Boater Safety and Accessibility Project, Rio Grande County, Colorado. September 2022.

Colorado Parks and Wildlife (CPW). (2018). Rio Grande Fish Management: An overview for collaborative efforts in river restoration efforts. *Prepared for river restoration practitioners and stakeholders*.

Colorado Parks and Wildlife (CPW). (2017). Rio Grande River at McDonald Ditch Fish Sampling Report.

Colorado Rio Grande Restoration Foundation (CRGRF/RGHRP). (2020). Rio Grande, Conejos River, and Saguache Creek Stream Management Plans. *Report prepared for the Colorado Water Conservation Board, Rio Grande Basin Roundtable, and the Stream Management Plan Technical Advisory Team*. <https://riograndeheadwaters.org/stream-management-plans>.

Hinshaw, S., & Wohl, E. (2021). Quantitatively Estimating Carbon Sequestration Potential in Soil and Large Wood in the Context of River Restoration. *Frontiers in Earth Science*, 9, 708895. <https://doi.org/10.3389/feart.2021.708895>

Llewellyn, Dagmar, and Seshu Vaddey. (2013). *West-Wide Climate Risk Assessment: Upper Rio Grande Impact Assessment*. December. Albuquerque, N.M.: U.S. Bureau of Reclamation. <http://www.usbr.gov/WaterSMART/wcra/reports/urgia.html>.

Montgomery Watson Harza (MWH). (2001). Rio Grande Headwaters Restoration Project. *Prepared for RGHRP Technical Advisory Team*.

RGC and RGS Conservation Team. (2018). Conservation Agreement for Rio Grande Chub and Rio Grande Sucker. New Mexico Department of Game and Fish, Santa Fe, NM. 33p. <https://www.wildlife.state.nm.us/wpfb-file/conservation-agreement-for-rio-grande-chub-and-rio-grande-sucker-pdf/>

Rio Grande Basin Roundtable (RGBRT). (2022). Rio Grande Basin Implementation Plan. *Prepared for the Rio Grande Basin Roundtable and Colorado Water Conservation Board*.

Tyler Swarr. (2018). Improving rock ramp fishways for small-bodied Great Plains fishes. *Thesis, In Partial Fulfillment of the Requirements for the Degree of Master of Science Colorado State University*. <https://mountainscholar.org/handle/10217/191487>

U.S. Council on Environmental Quality (USCEQ). (2022, November 22). Climate and Economic Justice Screening Tool. <https://screeningtool.geoplatform.gov/en/>

U.S. Fish and Wildlife Service (USFWS). (2012). Final Recovery Plan for the Mexican Spotted Owl (*Strix occidentalis lucida*), First Revision. US Fish and Wildlife Service. Albuquerque, New Mexico. 413 pp.

U.S. Fish and Wildlife Service (USFWS). (2022a). Information for Planning and Conservation (IPaC) Trust Resources Report for the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project. Accessed in March 2023 at <https://ipac.ecosphere.fws.gov/>.

U.S. Fish and Wildlife Service (USFWS). (2022b). National Wetlands Inventory website. US Department of the Interior, Fish and Wildlife Service, Washington, DC. Last modified May 2020. Accessed in March 2023 at <http://www.fws.gov/wetlands>.

U.S. Fish and Wildlife Service (USFWS). (2002c). Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico. i-ix + 210 pp., Appendices A-O. <https://www.fs.usda.gov/research/treesearch/35557>

U.S. Fish and Wildlife Service (USFWS). (2022d). Species Reports. Environmental Conservation Online System (ECOS). <https://ecos.fws.gov/ecp0/reports/ad-hoc-species-report-input>.

U.S. Fish and Wildlife Service (USFWS). (2023). USFWS Threatened and Endangered Species Active Critical Habitat Report, Environmental Conservation Online System (ECOS). Accessed March 2023 at <http://criticalhabitat.fws.gov/crit/hab>.

Project Budget

Funding Plan and Letters of Commitment

The non-federal share of costs for this project is \$940,000. The Colorado Rio Grande Restoration Foundation (CRGRF) has already secured this amount through a combination of state grants, private foundations, and cash contributions from project partners. The non-Federal share of the project cost comes from the following sources:

- **Colorado Water Conservation Board (CWCB) - \$600,000:** The CRGRF has been awarded \$600,000 in non-Federal funding from CWCB through their Colorado Water Plan Grant Program. As of March 24, 2023, this funding is secured and is currently available to CRGRF to pay for project expenses. An award letter for these funds is shown in Appendix A.
- **San Luis Valley Irrigation District (SLVID) - \$180,000:** SLVID will contribute \$180,000 to help cover project costs. This funding has been committed and is secured and available to the CRGRF to pay for costs throughout project implementation.
- **Rio Grande Headwaters Land Trust (RiGHT) - \$150,000:** RiGHT has specifically allocated \$150,000 to this project from a Gates Family Foundation grant to which CRGRF is a subgrantee. This funding has been committed and is secured and available to the CRGRF to pay for costs throughout project implementation.
- **Rio Grande #1 Ditch water users - \$10,000:** The Rio Grande #1 Ditch water users will contribute \$10,000 to help cover project costs. This funding has been committed and is secured and available to the CRGRF to pay for costs throughout project implementation.

Letters of commitment of matching funds from the four entities listed above are included in Appendix A.

Budget Proposal

The amount requested from Reclamation is \$1,274,625.00, with \$940,000.00 to be paid by the non-federal entities listed in Table 1.

Table 1. Summary of Non-Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Colorado Water Conservation Board	\$600,000.00
2. San Luis Valley Irrigation District	\$180,000.00
3. Rio Grande Headwaters Land Trust (Gates Family Foundation)	\$150,000.00
4. Rio Grande #1 Ditch water users	\$10,000.00
Non-Federal Subtotal	\$940,000.00
REQUESTED RECLAMATION FUNDING	\$1,274,625.00

The total project cost is \$2,214,625.00, with \$940,000.00 to be paid by non-federal entities, as shown in Table 2.

Table 2. Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$1,274,625.00
Costs to be paid by the applicant	\$0.00
Value of third-party contributions	\$940,000.00
TOTAL PROJECT COST	\$2,214,625.00

Project costs are shown by category in Table 3.

Table 3. Project Costs by Category

Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project - Budget						
Budget Item Description		Computation		Quantity Type	TOTAL COST	
		Cost per Unit	Quantity			
Salaries and Wages						
	Daniel Boyes, Executive Director	\$	33.02	400	Hour	\$13,208.00
	Cassandra McCuen, Program Manager	\$	30.38	400	Hour	\$12,152.00
	Emma Reesor, Administrative Director	\$	32.52	150	Hour	\$4,878.00
Fringe Benefits						
	Daniel Boyes, Executive Director	\$	3.01	400	Hour	\$1,204.00
	Cassandra McCuen, Program Manager	\$	2.78	400	Hour	\$1,112.00
	Emma Reesor, Administrative Director	\$	2.96	150	Hour	\$444.00
Travel						
	Twenty (20) site visits via car: Alamosa, CO to Del Norte, CO (mileage) (each trip = 62 miles roundtrip)	\$	0.655	1240	Miles	\$812.20
Equipment						
	None - included in Contractor budget					\$ -
Supplies and Materials						
	None - included in Contractor budget					\$ -
Contractual - Construction						
Project Bidding and Construction Management						
	Bidding Services & Construction Management (Huitt-Zollars, Inc)	\$	64,160.00	1	Lump Sum	\$64,160.00
Project Construction - Diversion Infrastructure Replacement & Habitat Restoration						
	Project Construction (Contractor TBD)	\$	1,853,150.00	1	Lump Sum	\$1,853,150.00
	Construction Contingency	\$	185,315.00	1	Lump Sum	\$223,505.00
Project Environmental Compliance and Permitting						
	Environmental and cultural resource compliance costs (NEPA, NHPA, ESA, CWA; Contractor TBD)	\$	35,000.00	1	Lump Sum	\$35,000.00
Other - Environmental and Regulatory Compliance						
	Bureau of Reclamation compliance costs (NEPA, NHPA, ESA, CWA)	\$	5,000.00	1	Lump Sum	\$5,000.00
TOTAL						\$2,214,625.20

Budget Narrative

The following narrative describes each component of the project budget.

Salaries and Wages

Three key personnel will be working this project:

- The project manager is Daniel Boyes, Executive Director of the Colorado Rio Grande Restoration Foundation. Mr. Boyes is responsible for oversight of the project and its outcomes, as well as overseeing fundraising for the project. He will also assist with managing all contracts, overseeing community and stakeholder engagement, and ensuring the project is completed in a timely manner and within budget. Mr. Boyes' oversight is expected to require 400 hours at a rate of \$33.02 per hour.
- The project assistant is Cassandra McCuen, CRGRF Program Manager. Ms. McCuen will lead community and stakeholder engagement efforts, coordinate directly with contractors, and ensure the project is completed in a timely manner and within budget. Ms. McCuen's project management assistance is expected to require 400 hours at a rate of \$30.38 per hour.
- The project administrator is Emma Reesor, CRGRF Administrative Director. Ms. Reesor will be responsible for budget management and expense tracking, which is expected to require 150 hours at a rate of \$32.52 per hour.

Personnel expenses, excluding travel and fringe benefits, total \$30,238.00. The number of hours includes hours for the CRGRF staff described above to comply with all required BOR reporting requirements, including final project report and evaluation. It also includes the staff's time spent on-site during construction to document construction activities. The number of hours required for project management and administration was estimated based on staff time needed to manage past projects with a similar scope.

Fringe Benefits

The project budget includes \$2,760.00 for fringe benefits for the CRGRF staff, which include Medicare, Social Security, and Workers Compensation. These amounts total \$3.01 per hour for the CRGRF's Executive Director, \$2.78 for the CRGRF's Program Manager, and \$2.96 for the Administrative Director. These rates were calculated by the CRGRF's accountant based on 2022 tax and workers compensation costs and are less than 35% of individual staff members' compensation rates.

Travel

Collectively, the CRGRF personnel listed above expect to travel from their office location in Alamosa CO to visit the project site in Del Norte, CO a total of twenty (20) times throughout the project. The purpose of site visits is to assist with pre-bid meetings with partners and contractors, document construction activities, and complete post-project monitoring. Site visits will be day trips totaling 62 miles roundtrip, totaling 1,240 miles. The total travel cost of \$812.20 was calculated using the 2023 IRS calculated mileage rate of \$0.655 per mile. No other travel expenses, such as per diem, are applicable.

Equipment

No equipment purchases or rentals (outside of the construction contract) are anticipated.

Materials and Supplies

No materials or supplies (outside of the construction contract) are anticipated.

Contractual (Construction Management)

Project engineering and design was completed by Huitt-Zollars, Inc (HZI). With engineering and project designs complete, the CRGRF has contracted with HZI to develop bidding documents and complete construction management. The contract amount is \$64,160.00 and the costs are itemized in Appendix C.

Contractual (Construction)

CRGRF, along with the project's Technical Advisory Group (TAG), will select a contractor to construct the project through a competitive public bid process. For a list of entities involved in the TAG, see *Technical Proposal and Evaluation Criteria, Technical Project Description*. The total estimated cost of construction is \$1,853,150.00. Construction cost estimates for the river restoration, diversion structure, and headgate refurbishment are itemized in Appendix C. Cost estimates are based on an Engineer's Opinion of Probable Cost, prepared by HZI. Construction contingency in the amount of \$223,505.00 was applied to the construction cost estimates for the project to account for potential increases in materials of construction costs. As described above, HZI will develop bidding documents, facilitate the public bid process, and oversee construction management.

Environmental and Regulatory Compliance

The CRGRF will work with Reclamation to ensure compliance with Federal environmental and cultural resources laws and other regulations. The budget allocates \$40,000.00 to support costs associated with environmental and cultural resources compliance. This cost estimate was based on conversations with Reclamation's Albuquerque Area Office. We plan to hire a consultant to complete environmental and cultural resources compliance. \$35,000.00 is budgeted for the consultant's services. Reclamation staff will need to review all permits and approvals produced by the consultant, for which there is \$5,000.00 budgeted. The scope of environmental and cultural resources compliance is described in the *Technical Proposal and Evaluation Criteria* section of this application.

Third-Party In-Kind Contributions

Although not quantified in the budget, project partners expect to contribute significant in-kind support to complete this project. SLVID staff will assist with construction management and will facilitate site access. Additionally, the project's Technical Advisory Group (TAG), which includes the following entities: SLVID, CRGRF, Colorado Division of Water Resources (DWR), Colorado Parks and Wildlife (CPW), Trout Unlimited (TU), San Luis Valley Water Conservancy District (SLVWCD), and project landowners, has been involved in the project since its inception. The TAG will continue to assist when needed. Engagement from these partners will ensure project methods meet the needs outlined in the *Technical Project Description*.

Pre Award Costs

The budget application assumes that all project costs will be incurred after award.

Environmental and Cultural Resource Compliance

- ***Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.***

The project is expected to result in some minor disturbance of streambanks and the streambed, including some riparian vegetation, such as willows. Project construction will occur in previously disturbed areas at and near the Farmers Union Canal (FUC) and Rio Grande #1 (RG#1) Ditch diversion dams and headgates as well as the streambanks and streambed immediately upstream and downstream of the infrastructure. At the location of the existing diversion structure, sheet metal, tires, and concrete blocks must be removed from the channel before the new diversion is constructed. As a result of material removal and new construction, some sediment mobilization is expected, however the impact will be short-lived. Due to the temporary nature of the disturbances, and because the streambanks and streambed do not currently offer high-quality habitat, the impacts of earth moving are not expected to have a measurable impact on air quality, water quality, or aquatic or terrestrial wildlife habitat. Potential impacts to aquatic species will be minimized by completing construction activities when impacts to aquatic and terrestrial wildlife are least likely. Work will occur outside of the nesting season for sensitive bird species and the CRGRF will communicate with the local Colorado Parks and Wildlife aquatic biologist to ensure the timing of construction activities do not impact aquatic species during critical life stages, such as spawning.

- ***Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?***

The USFWS Information for Planning and Consultation (IPaC) list was reviewed for federally listed species and critical habitat that could occur in the project area (USFWS, 2022a).

There is potential for southwestern willow flycatcher (SWWF) and yellow-billed cuckoo (YBCU), two federally listed species, to occur in the project area. SWWF are an endangered subspecies and YBCU are a threatened species under the Endangered Species Act. The proposed project area does not contain critical habitat for either of these species (USFWS, 2023). Additionally, the potential for these species to occur in the project area is low due to a lack of suitable habitat. Furthermore, as noted above, construction will occur outside of the SWWF and YBCU nesting season.

There is no critical habitat or likely occurrence of the endangered gray wolf, threatened Mexican spotted owl, candidate monarch butterfly, or the proposed threatened silverspot

butterfly within the project area, thus, project activities are unlikely to adversely affect these species. Preferred habitat for the gray wolf typically includes temperate forests, mountains and tundra, taiga, and grasslands (USFWS, 2022d). The area surrounding the project area is agricultural, populated with a high degree of human activity, and is not suitable habitat for wolves (CEC, 2022). The nearest known occurrences of Mexican spotted owl are in the Wet Mountains, approximately 140 miles northeast of the project area (USFWS, 2012). Small populations of milkweed host plants for the monarch butterfly were confirmed roughly 2 miles upstream of the project area in 2022, however, no recorded occurrences of the species were identified in that area (CEC, 2022). Finally, with no bog violets confirmed near the project area, there is no suitable habitat for silverspot (CEC, 2022).

- ***Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” If so, please describe and estimate any impacts the proposed project may have.***

The USFWS’s National Wetlands Inventory (NWI) online mapping tool was used to determine whether wetlands or other surface waters within the project area fall under CWA jurisdiction as “Waters of the United States” (USFWS, 2022b). Mapping results showed that only the riverine systems associated with the Rio Grande fall under CWA jurisdiction in the project area. The riverine systems are mapped as riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH). The proposed project is not expected to have any significant or long-term impacts on these surface waters. An aquatic resources delineation report will be completed to document the extent of surface waters or potential wetlands not shown on NWI, and this will be included in USACE permitting requirements. Any impact to surface waters and/or wetland habitat during construction requiring mitigation will be mitigated through onsite riparian revegetation.

- ***When was the water delivery system constructed?***

The FUC diversion structure, headgate, and water delivery system was constructed in 1896 to support the delivery of irrigation water. The RG #1 Ditch diversion and headgate were also constructed in the late 1890s.

- ***Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.***

The proposed project will modify and upgrade the diversion structures and headgates serving the FUC and RG #1 Ditch, resulting in lower infrastructure maintenance needs. The diversion structures and headgates were originally constructed in the late 1890s. Although extensive improvements have not been made to these diversion structures, both are push-up dams that are typically modified once per year, which has impacted their historic properties. Similarly,

modern modifications and alterations to the FUC and RG #1 headgates, including modern equipment, have impacted their original historic properties.

- ***Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.***

CRGRF contacted Reclamation staff at the Albuquerque Area Office and the Colorado State Historic Preservation Office (SHPO), who noted that there are historic features in the project area. However, as noted above, modern modifications to this infrastructure, including regular modifications to the existing push-up diversion structure, have impacted the historic integrity of these historic features.

- ***Are there any known archeological sites in the proposed project area?***

The Compass database search tool, provided by the Colorado SHPO, was used to search for archaeological sites in the proposed project area. Search results show that no previously recorded archaeological sites are mapped in the project area.

- ***Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?***

The project is not expected to have a disproportionately high or adverse effect on low income or minority populations. The project will enhance public safety and support local recreational and agricultural economies.

- ***Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on Tribal lands?***

No, the proposed project will not limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on Tribal lands. The project is not located on Tribal lands and will not change existing access in the area.

- ***Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?***

The project is not expected to contribute to the introduction of, continued existence, or spread of noxious weeds or non-native invasive species in the area. To reduce the possibility of introducing invasive plant species into the project area, the following measures will be taken: All heavy equipment used in the project area will be cleaned of dirt and seeds prior to entering the project area; Native seed mixes appropriate for upland and wetland areas will be used to reseed disturbed areas.

Required Permits or Approvals

The CRGRF expects the following federal permits and approvals to be required:

- Clean Water Action Section 404 Nationwide Permit
- National Environmental Protection Act compliance
- Endangered Species Act Section 7 compliance
- National Historic Preservation Act Section 106 compliance

It is expected that the proposed work will fit under a CWA 404 nationwide permit. No state, county, or other permits are anticipated.

Overlap or Duplication of Effort Statement

At the time of submission, there is no overlap between the proposed project and any other active or anticipated proposals or projects in terms of activities, costs, or commitment of key personnel.

Conflict of Interest Disclosure Statement

The applicant, the Colorado Rio Grande Restoration Foundation, certifies that no current or potential conflict of interest exists at the time of submission.

Uniform Audit Reporting Statement

The Colorado Rio Grande Restoration Foundation, a non-profit organization, was not required to submit a Single Audit Report for the most recently closed fiscal year.

Letters of Support and Partnership

Letters of support from the following entities are included in Appendix A:

1. San Luis Valley Irrigation District
2. Colorado Parks and Wildlife
3. Trout Unlimited
4. Senators Bennet and Hickenlooper (joint letter)
5. Rio Grande Basin Roundtable
6. San Luis Valley Water Conservancy District
7. Colorado Water Conservation Board
8. Colorado Division of Water Resources
9. Town of Del Norte
10. Rio Grande #1 Ditch
11. McIntosh Arroya Ditch water users
12. Joint letter on behalf of nine irrigation ditches on the north channel of the Rio Grande
13. Rio Grande Headwaters Land Trust

Official Resolution

The Official Resolution from the Colorado Rio Grande Restoration Foundation is shown below.

**Colorado Rio Grande Restoration Foundation
Resolution March 2023**

Title: Resolution to Apply for Funding and Comply with Requirements of the Bureau of Reclamation's WaterSMART Program

Whereas, the Bureau of Reclamation has requested proposals for the 2023 WaterSMART Program, Environmental Water Resources Projects, Funding Opportunity No. R23AS00089;

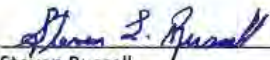
Whereas, the Colorado Rio Grande Restoration Foundation, a Colorado non-profit 501(c)(3) organization in good standing has the legal authority to enter into an agreement with the Bureau of Reclamation;

Whereas, the Colorado Rio Grande Restoration Foundation has the authority to apply on behalf of the Rio Grande Headwaters Restoration Project and act as the fiscal agent for the acceptance and management of any funds awarded through the WaterSMART Program;

RESOLVED, that the Colorado Rio Grande Restoration Foundation has secured match funding to complete the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project and will work with the Bureau of Reclamation to meet all requirements, such as deadlines, set forth in the financial assistance agreement, if selected for funding through the WaterSMART Program;

RESOLVED, that the Colorado Rio Grande Restoration Foundation is capable of providing the amount of funding specified in the funding plan;

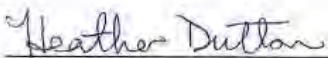
RESOLVED, the signature of the President of the Board of Directors signifies the review and approval of the application submitted to the Bureau of Reclamation;



Steven Russell
President, Colorado Rio Grande Restoration Foundation

Date: March 27, 2023

Witnessed by:



Heather Dutton
Board member, Colorado Rio Grande Restoration Foundation

Date: March 27, 2023

Unique Entity Identifier

The Colorado Rio Grande Restoration Foundation has an active registration in SAM.

Unique Entity Identifier: GHGLEBPCZ645

Cage code: 6YUM8

DUNS: 029650383

Appendix A – Letters of Support and Partnership

Letter 1. Letter of Partnership from the San Luis Valley Irrigation District

San Luis Valley Irrigation District

March 21, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Notice of Funding Opportunity No. R23AS00089

**Re: BOR WaterSMART Environmental Water Resources Projects
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

The San Luis Valley Irrigation District (SLVID) is an irrigation district founded in 1908 under the Irrigation Act of 1905 to provide storage and distribution of irrigation water to landowners within the SLVID boundaries. The SLVID comprises portions of Alamosa, Rio Grande, and Saguache counties. Rio Grande Reservoir, located near the headwaters of the Rio Grande in Hinsdale County, is owned and operated by the SLVID.

The SLVID qualifies as a Category A applicant under this Notice of Funding Opportunity. We appreciate the opportunity to partner with the Colorado Rio Grande Restoration Foundation (CRGRF) to request funding from the Bureau of Reclamation's WaterSMART Environmental Water Resources Program (EWRP) for this project. This letter certifies the following:

- We are acting in partnership with the applicant (the CRGRF).
- We agree to the submittal and content of the application.
- We intend to continue participating in the project by providing input on final project designs, facilitating access to the site, assisting the CRGRF and project engineer with construction oversight, and by maintaining and operating the improved diversion infrastructure.
- **The SLVID has committed to contributing \$180,000 cash to the project.**

The Farmers Union diversion infrastructure is aging and in need of improvements, as noted in the Rio Grande Stream Management Plan. This project will replace the Farmers Union Canal diversion dam and headgates with new and improved structures that provide fish and boat passage while also diverting water more efficiently. A new diversion dam and upgraded headgates are critical to improve our operations, reduce maintenance, and protect the Canal's full water rights into the future. In addition, the new diversion dam will provide significant watershed health benefits by incorporating fish and boat passage into the new design, which will enhance fish habitat connectivity and community safety. Finally, the project will include adjacent streambank stabilization to protect our diversion infrastructure, reduce sediment in the river, improve water quality for users downstream, and enhance surrounding wildlife habitat. To complete

this project, the board has partnered with the CRGRF to help secure funding and coordinate partners.

We hope you will consider this request for funding through the EWRP. These funds are imperative to the completion of the project, which will not only benefit our shareholders, but also the health of the Rio Grande near Del Norte as well as other downstream water users.

Sincerely, 

Randall Palmgren
President, SLV Irrigation District

Letter 2. Letter of Support from Colorado Parks and Wildlife



COLORADO

Parks and Wildlife

Department of Natural Resources

Monte Vista Office
0722 South County Road 1 East
Monte Vista, CO 81144
P 719.587.6908 | F 719.587.6934

3/16/2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

**Re: BOR WaterSMART Environmental Water Resources Projects
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

I am writing on behalf of Colorado Parks and Wildlife (CPW) to encourage the WaterSMART reviewers to support the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project. This project will provide multiple benefits for aquatic species habitat and connectivity on the Rio Grande. The project was listed as a priority project in the 2020 Rio Grande Stream Management Plan (SMP), a planning process in which CPW played an active role.

The Farmers Union Canal diversion structure and adjacent headgates are important water delivery infrastructure on the Rio Grande downstream of Del Norte, CO. The diversion structure creates a barrier to fish passage, fragmenting aquatic habitat. The structure is a barrier to trout as well as native small-bodied species, limiting the productivity and health of these aquatic species. Frequent instream maintenance at the diversion structure further degrades aquatic habitat.

To address these issues, this project will replace the existing diversion with a new structure that provides fish passage. The headgates adjacent to the diversion will be retrofitted and rock clusters will be installed to facilitate fish passage. The project will result in enhanced aquatic habitat complexity and connectivity at a critical point in the river system.

This project will further CPW's fisheries management objectives, as outlined in the 2020 Rio Grande SMP and the 2018 Rio Grande Fish Management Plan, by improving aquatic habitat for this important cold water fishery. CPW staff have been involved since this project's inception by reviewing and providing input on design specifications. We are thrilled to work alongside the Colorado Rio Grande Restoration Foundation as a partner on this project.

I hope you will support this important project.

Sincerely,

Estevan Vigil,
CPW Aquatic Biologist

Heather Olson, Acting Director, Colorado Parks and Wildlife
Parks and Wildlife Commission: Camille Benvenuto-Hansen, Chair • Dallas May, Vice-Chair • Maria Enckebö, Secretary • Tashya Adams
Kenny Bailey • Britsy Bitcha • Gabeles Ghani • Duke Phillips, IV • Richard Reading • James Jay Tuttle • Eden Vandy



Letter 3. Letter of Support from Trout Unlimited



Kevin Terry, Rio Grande Basin Program Director, Western Water and Habitat Program

3/14/2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects - FY2023
Funding Opportunity No. R23AS00089

**Re: BOR WaterSMART Environmental Water Resources Projects
Farmers Union Multi-Benefit Diversion Infrastructure Improvement
Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

Trout Unlimited (TU) is excited to support this application to the WaterSMART program for the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project. This project will provide a variety of benefits for aquatic species habitat as well as agricultural water use. TU has been involved in this project from the beginning, when it was identified in the 2020 Rio Grande Stream Management Plan and has participated throughout project development by reviewing and providing input on project designs.

The Farmers Union Canal (FUC) diversion infrastructure controls flows of the Rio Grande into its North and South channels downstream of Del Norte, CO. This critical water delivery infrastructure is aging and poses multiple challenges for recreational boaters, aquatic species, and agricultural water users. The poorly functioning diversion structure and headgates make irrigation water delivery challenging, limiting water managers' ability to manage river flows for environmental and recreational benefits. The diversion also fragments aquatic habitat and forms a barrier to aquatic organism passage for trout and other native small-bodied species, injuring population health, and is hazardous for recreational boating. Regular in stream maintenance of the diversion structure results in further aquatic habitat degradation. With water-based recreation such as angling and boating becoming increasingly popular near Del Norte, this infrastructure poses a threat to public safety.

This project will replace the existing diversion with a new low-maintenance structure that incorporates both fish and boat passage, thereby increasing aquatic habitat connectivity and

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization

85 Pinon Circle, South Fork, CO 81154

(970) 799-7682 • kevin.terry@tu.org • www.tu.org

recreational and community safety. Through improved fish passage and movement, and the installation of aquatic and riparian habitat features, the project will create additional habitat along the Rio Grande while simultaneously improving irrigation infrastructure efficiency. Additionally, this project will help facilitate flexible water management strategies for aquatic habitat and recreation and Trout Unlimited encourages the project partners and BOR to identify how this project will result in a change of water management to meet the objectives of the stream management plan, as well as those of agencies such as Colorado Parks and Wildlife.

This project complements TU's efforts in the Rio Grande Basin to improve aquatic species habitat and furthers our fisheries and watershed health goals, particularly through multi-benefit water management. It addresses multiple restoration needs and will provide benefits for multiple water users and uses. By enhancing native aquatic and riparian habitat as well as surface water irrigation infrastructure, this project will benefit aquatic species as well as human communities who rely on the Rio Grande, thereby increasing the ecological integrity and resiliency of this important river system.

I am thrilled to work with the Colorado Rio Grande Restoration Foundation as a partner and I hope you will support this important project. I would love the opportunity to communicate directly with BOR about TU's views on how this project can include multi-benefit water management. I have been working on multi-benefit flow restoration efforts in the Upper Rio Grande for nearly ten years, and I would be excited to share that experience to make this project as successful as possible.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Terry', with a stylized flourish at the end.

Kevin Terry,
Rio Grande Basin Program Director

Letter 4. Letter of Support from Senators Bennet and Hickenlooper (joint letter)

United States Senate
Washington, D.C. 20510

March 24, 2023

The Honorable Commissioner Camille Calimlim Touton
Bureau of Reclamation
U.S. Department of Interior
1849 C Street NW
Washington DC 20240

Dear Commissioner Touton:

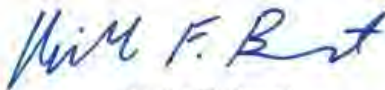
We write in support of the application submitted by the Colorado Rio Grande Restoration Foundation (the Restoration Foundation) to the Department of the Interior's Bureau of Reclamation for funding from the WaterSMART Environmental Water Resources Project (EWRP) grant program. With approval, the Restoration Foundation and partner organization, San Luis Valley Irrigation District (SLVID), will restore the Farmers Union Canal (FUC) through the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project (the Project).

The Restoration Foundation has a successful track record of collaborating with diverse stakeholders to improve the Rio Grande Basin in Colorado. The FUC is an important diversion structure that divides the Rio Grande into north and south channels, and irrigates more than 43,000 acres of land downstream of Del Norte, Colorado. With EWRP funds, automated headgates will improve operations, provide safe fish passage, and reduce maintenance, while streambank stabilization will reduce sedimentation in the river to improve water quality for downstream users and enhance surrounding wildlife habitat. The Project intends to rehabilitate the aging FUC diversion dam and adjacent headgates by replacing existing structures with more efficient, fish-friendly infrastructure and providing watershed health benefits.

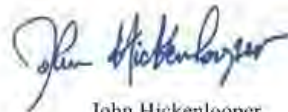
The Restoration Foundation and SLVID proposal focuses on the restoration of aquatic habitat and riparian stability, improvement of recreational safety, and ensuring accurate and reliable delivery of water rights to several downstream ditches. Through community engagement, restoration, and innovation, the Restoration Foundation will address agricultural, environmental, and water administration needs of the Rio Grande Basin in Colorado.

We encourage you to give the application submitted by the Colorado Rio Grande Restoration Foundation your full and fair consideration consistent with all applicable laws and regulations. Thank you for your review, and please notify our office of any funds awarded.

Sincerely,



Michael F. Bennet
United States Senator



John Hickenlooper
United States Senator

Letter 5. Letter of Support from the Rio Grande Basin Roundtable



February 14, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

**Re: BOR WaterSMART Environmental Water Resources Projects
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear WaterSMART EWRP Review Committee,

On behalf of the Rio Grande Basin Roundtable (Roundtable), please accept this letter of support for the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project (project) sponsored by the Colorado Rio Grande Restoration Foundation (CRGRF). The Roundtable voted unanimously to support the CRGRF and its partners in pursuing grant funding for the project at the June 14, 2022 Roundtable meeting.

The Roundtable recognizes that the project addresses agricultural, environmental, recreation, and water administration needs facing the Rio Grande Basin. The project, which was identified as a priority project in the 2020 Rio Grande Stream Management Plan and highlighted in the 2022 Rio Grande Basin Implementation Plan (BIP), will result in the replacement of the aging diversion and headgate for the Farmers Union Canal (FUC) diversion, which bifurcates the Rio Grande into its North and South channels downstream of Del Norte. The diversion structure and adjacent headgates control flows into the North Channel, which serves the FUC and nine other irrigation ditches. Improving the diversion structure and headgates will benefit the shareholders of the FUC and downstream ditches on the North Channel by improving diversion efficiency and ensuring the delivery of water to each ditch. Additionally, the project will include improvements to aquatic habitat, streambank stabilization, riparian restoration, and boat passage, which will improve river health, water quality, wildlife habitat, and recreation opportunities. These project methods and activities meet many of the Rio Grande BIP goals. In addition to meeting the BIP goals, the project aligns with the Colorado Water Plan's Visions and Actions by meeting agricultural water needs while balancing the needs of the environment and recreation.

Thank you for your consideration of this application.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathan Coombs", written in a cursive style.

Nathan Coombs
Chair, Rio Grande Basin Roundtable

Letter 6. Letter of Support from the San Luis Valley Water Conservancy District

623 Fourth Street
Alamosa, CO 81101
(719) 589-2230
Heather@slvwcd.org



March 13, 2023

US Department of Interior – Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

**Re: BOR WaterSMART Environmental Water Resources Projects
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

I am writing on behalf of the San Luis Valley Water Conservancy District (SLVWCD) to express my support for the Colorado Rio Grande Restoration Foundation's (CRGRF) *Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project*. The SLVWCD operates an augmentation program within five counties in the San Luis Valley. We replace injurious stream depletions caused by pumping of domestic, commercial, and municipal wells. The SLVWCD is also a leader in the local and state water communities, working with partners to address timely issues such as groundwater sustainability, compliance with the Rio Grande Compact, and water supply protection.

The SLVWCD partnered with the Colorado Water Conservation Board over 20 years ago to complete the 2001 Rio Grande Headwaters Restoration Study (2001 Study), a restoration master plan for 91 miles of the Rio Grande. Since that time, we have remained committed to implementation of the 2001 Study and supported the CRGRF's efforts to improve river health and function for multiple uses in the Rio Grande Basin. The *Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project* was identified in the 2020 Rio Grande Stream Management Plan, a planning process in which the SLVWCD played an active role. This project will help address agricultural, environmental, recreation, and water administration needs on the Rio Grande. It will result in replacement of the aging Farmers Union Canal (FUC) diversion and headgate, which deliver water to the FUC and nine other irrigation ditches. Improvements to the diversion and headgate will benefit shareholders of the FUC and the entire Rio Grande system by improving diversion efficiency and ensuring accurate and timely delivery of water rights. The improved function and efficiency of this infrastructure will also support and complement local water managers' efforts to use flexible water management strategies, such as re-timing reservoir release schedules, to efficiently and reliably deliver water rights while also benefitting aquatic species habitat and recreation. Additionally, the SLVWCD supports this project's proposed fish passage and aquatic habitat enhancement, streambank stabilization, riparian revegetation, and boat passage, as these activities will improve river health, water quality, wildlife habitat, and recreation opportunities.

The SLVWCD will participate in this project by reviewing and providing input on final designs. I appreciate the opportunity to comment on the CRGRF's application and I hope you will support this project.

Sincerely,

A handwritten signature in blue ink that reads "Heather R. Dutton".

Heather Dutton
Manager, San Luis Valley Water Conservancy District

President: Tyler Neely, Del Norte, CO
Vice-President: Darius Allen, Alamosa, CO; Secretary/Treasurer Marcie Schulz, Alamosa, CO;
Directors: Richard Davie, Del Norte, CO; M. Dee Greeman, Alamosa, CO; Charles Griego, Alamosa, CO;
Steve Keller, Monte Vista, CO; Randall Palmgren, Center, CO; Will Hathaway, Monte Vista, CO; Tuck Slane, Hooper, CO.

Letter 7. Letter of Support and Commitment of Matching Funds from the Colorado Water Conservation Board



COLORADO
Colorado Water
Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 718
Denver, CO 80203

March 21, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

Re: Letter of Commitment of Matching Funds, BOR WaterSMART Environmental Water Resources Projects, Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project

Dear Bureau of Reclamation WaterSMART Review Committee,

I am writing on behalf of the Colorado Water Conservation Board (CWCB) to certify that **the CWCB has awarded the Colorado Rio Grande Restoration Foundation (CRGRF) \$600,000 through the Colorado Water Plan Grant program** to help fund the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project. The CWCB's funding commitment speaks to our support of this project, and I encourage the WaterSMART reviewers to support it as well.

This project will provide multiple benefits for aquatic species habitat and connectivity as well as agricultural water use on the Rio Grande. The project was listed as a priority project in the 2020 Rio Grande Stream Management Plan (SMP), a planning process encouraged by Colorado's Water Plan and the Rio Grande Basin Implementation Plan.

The Farmers Union Canal (FUC) diversion structure and adjacent headgates are important water delivery infrastructure on the Rio Grande downstream of Del Norte, CO. Currently, the FUC relies upon aging and inefficient diversion infrastructure that is incapable of diverting the FUC's water rights during low streamflow conditions, requires frequent instream maintenance by water users, creates a barrier to fish passage, and is unsafe for recreational users. Additionally, regular diversion dam maintenance adversely affects aquatic habitat and stream condition.

To address these issues, this project will replace the existing diversion with a new structure that provides fish and boat passage. The project will result in improved community safety and enhanced aquatic habitat complexity and connectivity at a critical point in the river system. Further, the improved diversion structure will improve diversion efficiency and reduce maintenance needs. This project will advance Colorado Water Plan objectives by improving aquatic habitat for this important cold-water fishery.

I hope you will give favorable consideration to this important project in the Rio Grande River basin.

Sincerely,

Anna Mauss, Chief Operating Officer
Colorado Water Conservation Board

P 303.866.3441 | F 303.866.4474 | www.cwcb.colorado.gov
Jared Polis, Governor | Dan Gibbs, DNR Executive Director | Rebecca Mitchell, EWCB Director



Letter 8. Letter of Support from the Colorado Division of Water Resources



March 21, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

**Re: BOR WaterSMART Environmental Water Resources Program
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

I am writing to express my support for the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project (Project). This multi-purpose project will update the aging structure which bifurcates the Rio Grande into the north and south channels near Del Norte, CO. Improving this bifurcation infrastructure will allow the Farmers Union Canal, along with nine other ditches along the north channel and one ditch on the south channel, to access their water rights at all flows. It will also benefit water users on the nearby Rio Grande #1 Ditch which diverts near the bifurcation. The project needs and opportunities were identified in the Rio Grande Stream Management Plan (SMP) and updated Rio Grande Basin Implementation Plan (BIP), planning processes in which the Colorado Division of Water Resources played an active role.

As the Division Engineer for Division 3 of the Colorado Division of Water Resources (CDWR), it is my responsibility to ensure water in the Rio Grande Basin is administered accurately and in accordance with applicable decrees and interstate compacts. The need for accurate water management in the Rio Grande Basin is becoming increasingly crucial in the face of water shortages and prolonged drought. This project will improve CDWR's ability to administer water rights on both the north and south channels of the Rio Grande through the rehabilitation of the bifurcation structure, which includes the installation of automated flow gates. Improvements such as these also assist my office in helping to ensure Colorado's continued compliance with the Rio Grande Compact.

This project offers an opportunity to upgrade aging infrastructure in order to meet multiple water needs. I hope you will consider this funding request and the benefits it will have to the Rio Grande Basin.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Craig W. Cotten'.

Digitally signed by
Craig Cotten
Date: 2023.03.21
17:06:02 -06'00'

Craig W. Cotten
Division Engineer, Division 3



Letter 9. Letter of Support from the Town of Del Norte



March 21, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

**Re: BOR WaterSMART Environmental Water Resources Projects
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

Please accept this letter of support from the Town of Del Norte for the Colorado Rio Grande Restoration Foundation's (CRGRF) project, the *Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project*. The Farmers Union Canal diversion is located just downstream of Del Norte and the Del Norte Riverfront Park (DNRFP). The CRGRF's proposed project would complement and build upon recent improvements at the DNRFP by removing a barrier to fish passage and improving community safety at the FUC.

The Town of Del Norte has a median income well below the Colorado State average and struggles to provide municipal amenities beyond its responsibility for water, sewer, public safety, roads, and maintenance. As such, the Town Board is very supportive of opportunities to create new public river access and recreation infrastructure, as well as improving fish and wildlife habitat. Starting in 2015, the Town of Del Norte partnered with the CRGRF and other local organizations to plan and implement river access, recreation, and aquatic habitat improvements at the DNRFP. The improvements, completed in 2021, include a whitewater play wave, boat ramp, fish habitat structures, pedestrian river access, additional parking, and a wheelchair-accessible picnic shelter, and interpretive signage. The new amenities and enhanced fish habitat have provided significant positive benefits to the community of Del Norte and SLV by creating a welcoming, safe space for community members, boaters, and anglers, while also improving river health.

As recreational boating and fishing becomes increasingly popular at the DNRFP, boaters and anglers are increasingly floating downstream of Del Norte and encountering the Farmers Union Canal diversion structure, which is currently a safety hazard. The *Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project* would build upon the recent river access and aquatic habitat improvements at the DNRFP by creating safe boat passage and rectifying the fish barrier created by the Farmers Union Canal.

The Town of Del Norte is proud of the natural features that surround us, especially the Rio Grande. We enthusiastically support the CRGRF's project proposal, as it will enhance aquatic habitat, support fish populations, expand recreation opportunities, and improve community safety.

Thank you very much for your consideration of this funding request.

Town of Del Norte

A handwritten signature in blue ink that reads "Chris Trujillo". The signature is written in a cursive, flowing style.

Chris Trujillo, Mayor

Letter 10. Letter of Support and Commitment of Matching Funds from Rio Grande #1 Ditch water users

March 24, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

**Re: Letter of Commitment of Matching Funds - BOR EWRP
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

The Rio Grande #1 Ditch Company (Ditch Company) is pleased to partner with the Colorado Rio Grande Restoration Foundation (CRGRF) to request funding from the Bureau of Reclamation's WaterSMART Environmental Water Resources Projects (EWRP) program to improve the diversion infrastructure for the Rio Grande #1 Ditch to provide multiple benefits to river health and agricultural water users.

The Rio Grande #1 Ditch diversion and headgate are aging and difficult to operate. The push-up diversion structure requires regular maintenance and does not create adequate head pressure at our headgate, resulting in inefficient irrigation water delivery. Additionally, the act of maintaining the diversion negatively impacts river health and wildlife habitat. This project will result in installation of a new diversion structure to replace the existing Farmers Union canal diversion structure. The new diversion will serve both the Farmers Union Canal and the Rio Grande #1 Ditch. As a result, the existing push-up dam we currently maintain for our ditch will be removed. This will increase the efficiency of our ditch operations and also reduce the impact of ditch maintenance on river conditions.

In order for the project to come to fruition, **the Ditch Company commits to contributing \$10,000 towards this project.** We are in full support of this important project, and we thank you for considering the CRGRF's proposal. The requested WaterSMART funding is crucial to the completion of this project, which will not only benefit our shareholders, but also downstream water users and the health of the Rio Grande itself.

Sincerely,



Mark Deacon, Rio Grande #1 Ditch representative

Letter 11. Letter of Support from McIntosh Arroya Ditch water users

February 23, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

Re: BOR WaterSMART Environmental Water Resources Projects

Dear WaterSMART Review Committee,

Please accept this letter of support for the *Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project* on behalf of the McIntosh Arroya Ditch water users. The McIntosh Arroya Ditch diverts water off the south channel of the Rio Grande downstream of the Farmers Union Canal diversion structure. We are in full support of this project, led by the Colorado Rio Grande Restoration Foundation (CRGRF).

Downstream of Del Norte, CO the Rio Grande bifurcates into two channels, and the Farmers Union Canal's diversion infrastructure controls river flows into each channel. This critical diversion infrastructure is responsible for delivering water rights to ten ditches on the north channel and one (the McIntosh Arroya Ditch) on the south channel. Currently, the diversion dam and headgates are in poor condition and are incapable of accurately delivering irrigation water to downstream ditches. Water control is most challenging during low streamflow conditions, which can also adversely impact fish and wildlife.

The proposed project would solve these issues by installing an improved diversion structure and headgates capable of efficient and accurate water control and water rights delivery. This project would directly benefit water users on 11 ditches, including the McIntosh Arroya Ditch, and the broader community.

Thank you for considering the CRGRF's proposal and we hope you will support this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Cheb Yund', is written over a horizontal line. The signature is stylized with a large, sweeping loop that extends to the right.

Cheb Yund, McIntosh Arroya Ditch representative

Letter 12. Joint Letter of Support on behalf of nine irrigation ditches on the north channel of the Rio Grande

February 10, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

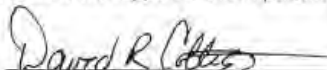
**Re: BOR WaterSMART Environmental Water Resources Program
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

On behalf of the North Channel Rio Grande ditches, we write to express our support of the Colorado Rio Grande Restoration Foundation's (CRGRF) *Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project*. As water rights holders on the nine ditches located on the North Channel of the Rio Grande near Del Norte, CO, we are in full support of this multi-benefit project. The Farmers Union Canal diversion is in poor condition, as noted in the Rio Grande Stream Management Plan. The structure lacks an adequate diversion structure, which requires significant maintenance and makes it challenging to divert the full allocation of water rights to the North Channel Rio Grande, especially during low flows. The diversion also adversely impacts aquatic habitat by forming a barrier to fish passage, especially during low flows, and as a result of frequent in-channel maintenance. Additionally, the headgates are aging and in need of repairs and improvements.

For the reasons mentioned above, a new, low maintenance diversion structure that diverts more efficiently and provides fish passage is critical. The new diversion structure, paired with headgate improvements, including SCADA automation, will allow for efficient and reliable water delivery. Not only will the project benefit the shareholders of the nine ditches located on the North Channel Rio Grande, but it will also improve river health and community safety, both now and into the future.

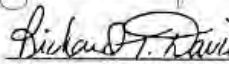
We are in full support of this important project, and we thank you for considering the CRGRF's proposal.


Weiss Ditch Representative

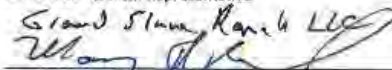

Off Ditch Representative


Brey Ditch Representative

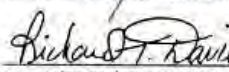

Raber Ditch Representative


Rio Grande #2 Ditch Representative


Hall-Voss Ditch Representative


Kane Callan Ditch Representative


Cochran Pioneer Ditch Representative


Anna Raber Ditch Representative

Letter 13. Letter of Support and Commitment of Matching Funds from Rio Grande Headwaters Land Trust



February 27, 2023

US Department of Interior - Bureau of Reclamation
WaterSMART Environmental Water Resources Projects – FY2023
Funding Opportunity No. R23AS00089

**Re: Bureau of Reclamation WaterSMART Environmental Water Resources
Projects -
Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project**

Dear Bureau of Reclamation WaterSMART Review Committee,

On behalf of the Rio Grande Headwaters Land Trust (RiGHT), I am writing to express our support of the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project. This project aligns with RiGHT's goals to protect and support wildlife habitat, water resources, agricultural heritage, and scenic landscapes in the San Luis Valley through the replacement of the Farmers Union diversion and headgate and downstream river restoration. In addition, a portion of the river restoration will take place on a RiGHT easement, improving riparian habitat and streambank stability on a conserved working ranch.

RiGHT has partnered with the Colorado Rio Grande Restoration Foundation (CRGRF) and other local partners to secure funding through the Gates Family Foundation to further collaborative restoration and conservation efforts across the San Luis Valley. This includes a total of **\$150,000 in funding committed** to support the replacement of the Farmers Union Canal diversion structure and headgate.

RiGHT is excited to work with the CRGRF to improve diversion infrastructure that is critical to protecting agricultural lands and flood irrigated wetlands. These actions will benefit agricultural water uses, fish and wildlife habitat, boaters, and anglers, having a ripple effect on the local economy and ecology.

I appreciate your consideration of this grant request.

Sincerely,


Andy Brown
Executive Director, RiGHT

PO Box 444 Del Norte, CO 81132
(719) 657-0800
info@riograndelandtrust.org
riograndelandtrust.org

CONSERVING
OUR LAND, WATER
AND WAY OF LIFE
IN COLORADO'S
SAN LUIS VALLEY

15. APPENDIX F – SLVID BYLAWS



**AMENDED AND RESTATED
RULES AND REGULATIONS

OF THE

SAN LUIS VALLEY IRRIGATION DISTRICT
IN THE COUNTIES OF ALAMOSA, RIO GRANDE
AND SAGUACHE, STATE OF COLORADO**

*As Revised, November 4, 1987
ARTICLE X - Amended, April 19, 1988
ARTICLE X - Amended, January 24, 1990
ARTICLE I, Sec. 3. - Amended, March 6, 1990
ARTICLE IX, Sec. 2. - Amended April 11, 1990
ARTICLE I, Sec. 1. - Amended, April 30, 1993
ARTICLE I, Sec. 3. - Amended, April 30, 1993
ARTICLE IX, Sec. 1 - Amended, June 9, 1993
Amended and Restated, March 11, 2015*

**AMENDED AND RESTATED RULES AND REGULATIONS
OF THE
SAN LUIS VALLEY IRRIGATION DISTRICT**

The Board of Directors (the "Board") of the San Luis Valley Irrigation District (the "District"), is empowered pursuant to the Irrigation District Law of 1905, Colorado Revised Statutes 37-41-101, as amended (the "Irrigation District Act"), and specifically Colo. Rev. Stat. § 37-41-113, to adopt rules and regulations to manage and conduct the affairs of the District, including but not limited to establishing equitable rules and regulations for the distribution and use of water among the lands within the District. Pursuant to that authority, the Board adopts the following Amended Rules and Regulations governing the management, conduct and administration of the affairs of the District and the distribution of District Water through its water delivery system, subject to any revisions and amendments as may be determined necessary from time to time by the Board.

**ARTICLE I
DISTRICT WATER**

Section 1. Direct Flow Rights. "District Water" includes, but is not limited to the following direct flow water rights owned and held by the District for the benefit of its landowners:

Priority No.	Structure	Source	Amount (cfs)	Use	Priority Date	Adj. Date
308	Farmers Union Canal	Rio Grande	0.160	Irrigation/ Recharge	4/1/1887	5/1/1896
314	Farmers Union Canal	Rio Grande	138.80	Irrigation/ Recharge	11/9/1887	5/1/1896
328	Farmers Union Canal	Rio Grande	0.250	Irrigation/ Recharge	4/1/1888	5/1/1896
353	Farmers Union Canal	Rio Grande	0.950	Irrigation/ Recharge	4/1/1889	5/1/1896
1903-17B	Farmers Union Canal	Rio Grande	5.450	Irrigation/ Recharge	6/30/1889	5/1/1896
1903-22E	Farmers Union Canal	Rio Grande	105.410	Irrigation/ Recharge	6/20/1890	5/1/1896
1903-24F	Farmers Union Canal	Rio Grande	280.470	Irrigation/ Recharge	6/30/1891	5/1/1896
1903-30F	Farmers Union Canal	Rio Grande	159.690	Irrigation/ Recharge	6/30/1892	5/1/1896
1903-34G	Farmers Union Canal	Rio Grande	110.180	Irrigation/ Recharge	6/30/1893	5/1/1896

Section 2. Reservoir Storage Rights. "District Water" includes, but is not limited to the following storage water rights in Rio Grande Reservoir, owned and held by the District for the benefit of its landowners:

Priority No.	Structure	Source	Amount (af)	Use	Priority Date	Adj. Date
1916-63A*	Rio Grande Reservoir	Rio Grande Headwaters	51,113	Irrigation	1903	1916-63A

* Priority under which Division Engineer administers all Rio Grande Reservoir storage rights.

Section 3. Aquifer Recharge: "District Water" includes, but is not limited to aquifer recharge as described in Article III below.

ARTICLE II

DISTRIBUTION OF DISTRICT WATER

Section 1. Pro Rata Delivery. All District Water to which the District is entitled during each water year (November 1st - October 31st), delivered to the Farmers Union Headgate pursuant to the District's direct flow or storage rights in Rio Grande Reservoir, shall be apportioned pro rata to all the lands assessed for irrigation district purposes in the District for that water year; provided that, no water shall be apportioned or delivered to any lands within the District for which there are delinquent or past due assessments for operation and maintenance, repayment of bonds, or loans and interest of the District.

Section 2. District Plat. It shall be the duty of the District's Secretary to prepare and maintain an accurate and up-to-date plat of all assessed lands within the District, together with the names of the landowners of each assessed parcel and the number of acres therein, as shown by the last assessment by the respective County Assessors of Alamosa, Rio Grande and Saguache Counties. All apportionments of water to the landowners in the District shall be based on the plat and the data accompanying the plat.

Section 3. Allocation of Water. The Board, through the District's Superintendent, shall distribute water delivered to the Farmers Union Headgate and through the Farmer Union Canal water delivery system at such times and in such quantities as they determine is in the best interest of the District and its landowners. The Board, through the Superintendent, shall endeavor to cooperate with the landowners in the delivery and

allocation of water but, under all circumstances the Board and the Superintendent shall have the sole discretion and authority to determine the allocation of the District's Water delivered to the Farmers Union Headgate and through the Farmers Union Canal water delivery system. At all times the Board, through the Superintendent, retains the authority to increase, reduce, suspend and reallocate among delivery canals and laterals the District Water being delivered without advance notice to District landowners or water users and without any liability of the District, the Board, the Superintendent or the District's employees. The Board also reserves the right to shut water out of any canal or lateral at any time, for the purpose of making needed repairs, for sectioning of canals, ditches and laterals for water delivery, or for the purpose of securing a more efficient and equitable distribution of water among those entitled to receive District Water.

Section 4. Transfer.

4.1. Any landowner whose assessments are paid in full may exchange, trade, lease or sell the right to the whole or any portion of the landowner's pro rata share of District Water for any year to any other landowner within the District who is entitled to District Water for said year, and whose assessments are paid in full. District surface Water may only be used on lands within the District. A landowner's pro rata share of the District's aquifer recharge may be transferred to another landowner, whether the land is within or outside the District, only in accordance with the terms and conditions set forth in Article III below.

4.2. If a Transfer requires a change in the location of the delivery of District surface Water, the notice shall be filed with the Board on or before March 5th of the Water Year for which the Transfer is being made. In that case, the Board shall have the authority to disapprove or to establish additional terms and conditions for the Transfer in writing provided to the transferor. The Board shall notify the transferor of its decision no later than 21 days following receipt of the notice.

4.3. District Water shall not be used to justify or obtain the issuance of a well permit or court decree for the irrigation of lands not already lawfully irrigated with groundwater and shall not be used in any manner to justify or

authorize an increased depletion to the groundwater of the unconfined aquifer.

Section 5. Calculation of Water Delivered.

5.1. Calculation. The Superintendent of the District shall calculate the amount of District Water delivered to each canal, ditch, and individual headgate, and the Superintendent's report thereon shall be final, provided however, that any landowner may install at the landowner's own expense, a measuring weir or automatic measuring device satisfactory to the Superintendent, and thereafter, the water may be measured through such measuring device.

5.2. Surface Water Credits. The calculation of each landowner's pro rata share of District Water shall be consistent with the calculation of surface water credits under Subdistrict No. 1's Plan and Rules and Regulations as they currently exist or may be amended from time to time.

ARTICLE III

EXERCISE OF RECHARGE

Section 1. Decree. By decree dated December 27, 1987, in Case No. W-3980 (the "Decree"), the District Court for Water Division No. 3 approved a change of water right for District Water rights. Pursuant to that Decree, landowners within the District are entitled to withdraw through wells, groundwater recharged to the unconfined aquifer resulting from the exercise of District Water rights. As used in the Rules and Regulations, the recharged groundwater shall be referred to as "the District's aquifer recharge," and a landowner's pro rata share of the District's aquifer recharge shall be referred to as "aquifer recharge credits." Under the Decree, the District is authorized to determine the method for administration of use of the District's aquifer recharge within the District. The rules set forth in this Article III are adopted for the purpose of establishing standards for the use and administration of the aquifer recharge for the benefit of assessed lands within the District.

Section 2. Recharge Within the District. District Water shall only be recharged within the boundaries of the District, and shall not be delivered outside those boundaries for any purpose.

Section 3. Use of Aquifer Recharge. Landowners within the District may use their individual wells as points of diversion for their pro rata share of the District's aquifer recharge. The District's aquifer recharge must be used on assessed lands within the District, except as provided for in these Rules and Regulation.

Section 4. Transfers. The Board shall disapprove the Transfer of aquifer recharge credits within or outside the District, if either the transferor or transferee has not paid all outstanding District assessments and charges in full, and the Board's approval shall be automatically revoked if subsequent assessments or charges are not paid when due.

Section 5. Transfer of Aquifer Recharge Credits.

5.1. Consistent with Subdistrict No. 1 Rules. Pursuant to Article 7.06 of the Rules and Regulations of the Rio Grande Conservation District Subdistrict No 1, as that Article may be amended from time to time, a well owner within the Subdistrict may exchange, trade, lease or sell (referred to as a "Transfer" in these Rules and Regulations) excess surface water credits to other well owners within the Subdistrict on a "willing-seller -- willing-buyer basis." So that District landowners may benefit from this Subdistrict Rule, a District landowner may Transfer the landowner's pro rata aquifer recharge credits to another well owner(s), whether located within or outside the District's boundaries, as provided for in the Subdistrict's Article 7.06, as it may be amended from time to time. The Transfer shall be consistent with the Subdistrict's Rules and Regulations, as they now exist or may be amended in the future, as well as the requirements set forth in these Rules and Regulations. District Water shall continue to and only be recharged within the District and the Transferred aquifer recharge credits may be applied to the transferee's well pumping.

5.2. Excluded Lands. If the land from which aquifer recharge credits are being Transferred is subsequently excluded from the District pursuant to Colorado Revised Statute §§ 37-41-142-147, the Transfer shall be immediately and automatically revoked.

Sec. 6. Costs. The Board may require that all or any portion of the costs it reasonably anticipates the District will

incur in a Transfer, be paid in advance by the landowner. Any amounts unpaid by a landowner shall be a lien against his land.

ARTICLE IV
CHANGE OF DISTRICT WATER RIGHTS PROHIBITED

The District retains the sole authority to seek any change or modification in District Water rights, including all water rights identified in Article I above, and any other water rights decreed in the name of the San Luis Valley Irrigation District. Subject to the terms of court decrees entered on or before February 8, 1988, landowners, persons using District Water or claimants under contracts are prohibited from seeking in the Water Court or other administrative proceeding, a change of any District Water or water rights owned by the District or to seek the inclusion of such water in any plan for augmentation, substitute water supply plan, interruptible water supply plan or exchange.

ARTICLE V
HEADGATES

All headgates shall be installed at the expense of the District, and construction of all headgates and head ditches shall be under the supervision and to the satisfaction of the Superintendent.

ARTICLE VI
SUPERINTENDENT

Section 1. Management of District Facilities. The District's Superintendent shall exclusively manage, control and oversee all District Water, distribution of that Water, headgates, distribution system and other property and facilities of the District, including Rio Grande Reservoir, as directed by the Board.

Section 2. Distribution of District Water. The Superintendent shall distribute District Water in conformance with the Irrigation District Act, as it may be amended from time to time, and these Rules and Regulations as they may be revised or amended from time to time by the Board.

Section 3. Reports. The Superintendent shall, at such times as required by the Board, make a written report outlining the activities undertaken in his management of the District and

District Water, including but not limited to, the amount, extent, and costs of all repair and construction, the operating expenses of the District, the distribution of water, the total amount of water diverted from the Rio Grande at the Farmers Union Headgate, including water delivered from Rio Grande Reservoir and water diverted for other entities, together with losses, if any.

ARTICLE VII

DITCH RIDERS AND RESERVOIR CARETAKER

Section 1. Ditch Rider Duties. The Board may employ a sufficient number of Ditch Riders each year who shall act under the direction and supervision of the Superintendent. The Ditch Riders shall perform such duties and make such repairs as may be prescribed by the Superintendent or the Board, and, shall make any reports to the Superintendent and Board as they may require. The Ditch Riders shall provide the Superintendent with a report of any complaint of a landowner or water user, or any damage occurring, or repairs necessary to the District's water delivery system.

Section 2. Caretaker. The Board may employ a caretaker at Rio Grande Reservoir to operate and maintain the Reservoir and related facilities. The Caretaker shall act under the direction and supervision of the Superintendent.

ARTICLE VIII

PERSONNEL POLICY

The Board may adopt, at its discretion, policies establishing standards for the hiring, employment, performance review, discharge and any other employment policies it deems necessary, for all employees of the District.

ARTICLE IX

PAYMENT OF TAXES AND ASSESSMENTS

No landowner shall be entitled to (a) demand or receive District water from the District's water delivery system (b) Transfer or be the recipient of any Transfer of District Water as allowed for in these Rules and Regulations, or (c) withdraw, use or Transfer the District's aquifer recharge, as provided for above in Article III, unless all outstanding charges, taxes, and assessments on the lands involved in the assignment, lease or Transfer have been paid in full. This provision shall be

binding upon the heirs, successors and assigns of all landowners. The District's Secretary shall provide the Superintendent with a list of the landowners who have qualified to receive District Water, as above provided, at the commencement of each irrigation season. The production by a landowner of a tax receipt showing the payment of such taxes, charges and assessments shall be sufficient authority to the Superintendent to deliver the landowner's pro rata portion of District Water to the land.

ARTICLE X

PENALTY FOR INTERFERING WITH HEADGATES

Any and all changes, adjustments or alterations of headgates, ditches, flumes, and water delivery system of the District shall be under the direct supervision and control of the Superintendent and the duly authorized Ditch Riders of the District. Any landowner or water user who cuts, breaks down, opens or closes any gate, bank, embankment or side of any ditch, canal, flume, or reservoir of the District without the express permission of the Superintendent or the duly authorized Ditch Riders of the District, shall be held strictly accountable under the laws of the State of Colorado.

ARTICLE XI

CONSTRUCTION, REPAIR AND MAINTENANCE

Section 1. District Facilities. The Board of Directors, through the Superintendent, District employees, contractors and agents are authorized and shall be solely responsible for the construction, operation, repair and maintenance of all District canals, ditches, laterals, headgates, reservoirs, equipment, recharge facilities and other facilities. Landowners may only engage in such activities pursuant to Board authorization through the Superintendent.

Section 2. Right to Enter Land. The Board of Directors, through the Superintendent, District employees, contractors and agents, reserves and may exercise the right to enter upon any land in the District, take surveys, and to locate and construct any canals, laterals and other facilities necessary for the operation of and distribution of water in the District.

Section 3. Construction by Landowner. Subject to the Board's advanced approval in writing of plans, specifications, contracts and/or agreements a landowner or a landowner's

contractor may perform the construction or improvement of District facilities. No work performed by a landowner shall be deemed complete or acceptable until approved by the Board. Any construction or improvements not approved by the Board shall be promptly repaired or replaced in a manner acceptable to the Board, or removed in a manner that does not damage District facilities. Once accepted by the Board, such facilities or improvements shall become the property of the District unless otherwise agreed to in writing.

Section 4. Indemnification. Any landowner authorized by the Board to undertake construction and/or make improvements to the District's facilities shall indemnify and save harmless the District, members of the Board and District employees from all claims, demands, causes of action, or suits of whatever nature arising out of the work performed and/or the labor and materials furnished by the landowner or its contractor, and from all laborers, materialmen, and mechanics' liens upon the work, or upon the property on which the work is located. The landowner shall keep the District's property and all facilities free and clear of all liens and encumbrances arising from any work performed by the landowner or the landowner's contractor. The Board, in its sole discretion, may require a suitable bond to be posted prior to permitting a landowner or the landowner's contractor to commence work on any District property or facilities.

Section 5. Crossings and Other Facilities. No landowner, person or entity may construct crossings or other facilities on or across the District's canals, ditches, laterals, easements or rights of way, without the express written approval of the Board. The scope and extent of any necessary construction plans, engineering, agreements, costs and fees shall be at the sole discretion of the Board, acting through the Superintendent.

Section 6. Waste. Any slag piles, waste or materials removed from the District's canals, ditches or laterals, which are deposited on the District's rights of ways and easements, shall only be removed by the District or by a landowner only with the permission of the Superintendent.

ARTICLE XII

COMPLAINTS

Section 1. Decision of District Employees. Any landowner or water user who is not satisfied with a decision of a Ditch Rider may appeal from such decision to the Superintendent. A decision by the Superintendent may be appealed by a landowner by filing a written appeal to the Board. The Board's decision on all matters related to the distribution of water and operation of the District, shall be final, conclusive and cannot be appealed.

Section 2. Disputes Between Landowners. A dispute between landowners shall initially be submitted to the Superintendent. If one or both landowners are not satisfied with the Superintendent's proposed resolution of the dispute, one or both landowners may submit the dispute to the Board for a binding determination. If the Board agrees to resolve the dispute, it shall make such investigations it determines necessary and prescribe conditions for resolution of the dispute. All costs of the Board in resolving such a dispute, including all necessary engineering fees and attorney fees, shall be paid in equal amounts by the landowners who are the subject of the dispute.

ARTICLE XIII

MEETINGS OF THE BOARD OF DIRECTORS

Section 1. Regular Meetings. The regular monthly meetings of the Board of Directors shall be held at the District's office in Center, Colorado, on the second Wednesday of the month, unless rescheduled by the Board. In no case shall the Board hold meetings less than that required under Colorado Revised Statute § 37-41-114, as it may be amended, and Board meetings shall be conducted as required by that statute.

Section 2. Special Meetings. The President or any two members of the Board may call such special meetings as may be required for the proper transaction of the District's business.

Section 3. Meetings Are Public. All meetings of the Board will be public meetings and any elector of the District, or any interested person, may appear before the Board to bring any claim, or to present any matter pertaining to the District. The Board may, in its sole discretion, convene an executive session

to discuss certain matters including, but not limited to personnel matters, matters involving confidential proprietary information, negotiation and litigation.

Section 4. Quorum. Three members of the Board shall constitute a quorum for the transaction of business and, on all questions requiring a vote, there shall be a concurrence of a majority of the members of the Board present at the meeting.

ARTICLE XIV **ELECTIONS**

Section 1. Election of Directors. The regular elections of the District for the election of directors will be held on the first Tuesday after the first Monday in December of each year, at which time, directors will be elected for a term of three years to fill the positions of the Directors whose terms of office then expire. All persons who qualify as electors under the laws governing the District shall be entitled to vote in such elections. All elections shall be conducted in accordance with the applicable provisions of the Irrigation District Act, as it may be amended from time to time.

Section 2. Deadlines. The deadlines for election of directors are as follows unless otherwise established in the Irrigation District Act. All deadlines shall be calculated from the date of the election which shall be held on the first Tuesday after the first Monday in December.

2.1. The initial announcement of the election shall be published in a newspaper of general circulation in each county which includes District lands, no earlier than seventy (70) and no later than sixty (60) days before the election.

2.2. An eligible voter must apply for an absentee ballot no earlier than forty-five (45) and no later than five (5) days before the election.

2.3. Petitions to nominate candidates for the board of directors shall be filed no later than forty-five (45) days before the election.

2.4. In addition to the initial announcement of the election, notices of the election shall be published

in a newspaper of general circulation in each county that includes District lands, as follows:

First election notice: No earlier than twenty-one (21) and no later than eighteen (18) days before the election.

Second election notice: No later than fourteen (14) days before the election.

Third election notice: No later than seven (7) days before the election.

Election notice postcards shall be mailed to qualified electors no later than fourteen (14) days before the election.

Write-in candidates must file an affidavit of intent to be a candidate no later than 4:00 p.m. five (5) days before the election.

Section 3. Other Deadlines. All other election deadlines shall be as set forth in the Irrigation District Act, as it may be amended, including, but not limited to Colorado Revised Statute § 37-41-107.

ARTICLE XV

DRAINAGE AND SEEPAGE DITCHES

Section 1. Obstructions. Over the course of time, landowners fill, place checks and other obstructions in the District's drainage and seepage ditches. The District may reopen, repair, maintain and operate any drains and/or seepage ditches owned by the District, including but not limited to the Farmers Union Seepage and Drainage Ditch and the San Luis Valley Irrigation District Drain, at any time it determines it is necessary to protect lands from damage or injury. Nothing contained in these Rules and Regulations shall be construed as restricting or, in any manner limiting the authority of the District to operate and maintain the District's drains or seepage ditches.

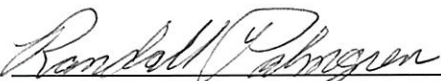
Section 2. Liability. The District's failure to re-open a drainage or seepage ditch or remove any obstructions placed in such a ditch, is not, and shall not be construed as consent to or authorization of such actions. By placing fill, checks or

other obstructions in a drainage or seepage ditch, the landowner assumes all risks and liabilities which may result from any fill, check or other obstruction. Upon a determination that another landowner or person has been or may be injured, the fill, checks or other obstructions may be removed or modified by the District at the landowner's cost.

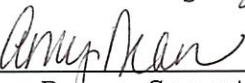
IN WITNESS WHEREOF, the Board of Directors of the San Luis Valley Irrigation District has approved these Amended Rules and Regulations and caused the corporate name of said District to be hereunto affixed by its President, attested by its Secretary on the 11th day of March, 2015.

THE SAN LUIS VALLEY IRRIGATION DISTRICT

(Seal)

By: 
Randall Palmgren, President

Attest:

By: 
Amy Dean, Secretary

15. APPENDIX G – LANDOWNER ACCESS LETTER



Colorado Rio Grande Restoration Foundation
Rio Grande Headwater Restoration Project
623 Fourth Street
Alamosa, CO 81101

March 16, 2023

David Coblentz
6090 County Rd FF
La Jara, CO 81140

Re: Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project Property Access Letter

Dear Mr. Coblentz,

This letter is to certify that you have agreed to partner with the Colorado Rio Grande Restoration Foundation (CRGRF) for completion of the Farmers Union Multi-Benefit Diversion Infrastructure Improvement Project (Project). The San Luis Valley Irrigation District and Rio Grande #1 Ditch water users have partnered with the CRGRF to complete this Project, which will replace the existing Farmers Union Canal diversion dam with a new rock structure, install new headgates for the Farmers Union Canal and Rio Grande #1 Ditch, and complete bank stabilization and revegetation adjacent to the structure. Construction is planned to commence fall 2025.

To complete construction, contractors will require access to the project site, a portion of which is on your property. As the property owner, you acknowledge and have agreed to the restoration activities on your property. Additionally, you acknowledge that in the course of the work being performed on the project site there will be incidental damage to the site by the very nature of the on-site work to be performed and the equipment and materials used in the execution of the work. The Foundation and its representatives will make every effort to minimize this incidental damage. The Foundation will not be held liable for any incidental damages as a result of the work performed on the project site. Please indicate your agreement to allow for construction access and widening of the road by signing this letter below and returning it to me.

We appreciate your support of the Project, as its completion will have a significant positive impact on the Farmers Union canal and Rio Grande #1 Ditch, and the Rio Grande River itself.

Signed,



Daniel Boyes, Executive Director, CRGRF



Dated: 3-16-23
David Coblentz, Landowner