COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Joshua Godwin, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: September 18, 2024 Board Meeting

AGENDA ITEM: 6a. Water Project Loans
Crawford Water Conservancy District
Feeder Canal Stabilization

Staff Recommendation

Staff recommends the Board approve a loan not to exceed $300,000 ($297,030 for project costs and $2,970 for the 1% service fee) to the Crawford Water Conservancy District for costs related to the stabilization of the Feeder Canal, from the Severance Tax Perpetual Base Fund. The loan term will be 27 years at an interest rate of 2.10% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Introduction

The Crawford Water Conservancy District (District) is applying for a loan at the agricultural interest rate to finance the Feeder Canal Stabilization (Project). In December of 2023, a landslide occurred on the Smith Fork Feeder Canal (Feeder Canal) that forced the District to cease sending water to Crawford Reservoir, as well as required implementation of emergency temporary repairs. The slope below the Feeder Canal must be stabilized before the next irrigation season and before further corrective measures can be constructed. The total Project cost is estimated to be $884,000; the District has received an NRCS Water Management Entity grant for $735,000 and a Colorado River Water Conservancy District Community Funding Partnership Grant for $122,000. The District is seeking a CWCB loan for $300,000 to fund the remainder of the Project as well cover construction costs that the NRCS will reimburse after the Project is complete. See attached Project Data Sheet for a location map and Project summary.

Borrower – Crawford Water Conservancy District
The District was created on May 31, 1957, by legal decree in District Court and operates under the 1953 Colorado Revised Statutes, Section 1, Section 17 of Article 6, Chapter 149. The District can deliver up to 32,000 AF of water per year from the Smith Fork drainage and Crawford Reservoir to downstream water users in the District service area through the Feeder Canal and the Aspen Canal - from Crawford Reservoir. The District has 225 water users - with a total of 10,896 shares - and provides supplemental irrigation water supplies for approximately 8,200 acres and sole supplies for 1,423 acres in Delta and Montrose Counties. The service area consists of livestock production and primary crops grown include alfalfa, grass hay, pasture, barley, oats, wheat, and corn. The District collects assessments from its shareholders on a fee per share basis, has the authority to levy and collect taxes, and is permitted to borrow up to $300,000 (limited to $400,000 when including interest) before another approval vote of the members living in the District is required. The District's Board of Directors consists of 7 members who are each appointed by the district court judge for a two year term.

Background
The District was formed as a result of the Bureau of Reclamation's (BOR) federal Smith Fork Project (SFP). The SFP was constructed by BOR as a participating irrigation project as part of the Colorado River Storage Project Act. The District operates and maintains the SFP and its primary mission is to promote the wise use of natural resources to ensure a quality water supply for farmers and ranchers in the area. SFP water comes from the Smith Fork, Iron, Muddy, and Alkali Creeks. The District operates and maintains the Aspen Ditch and the Feeder Canal for the benefit of the Clipper Ditch, the Grandview Canal, the Saddle Mountain Ditch, the Virginia Ditch, the Needle Rock Ditch, and the Daisy Ditch. The Feeder Canal carries up to 32,000 AF per year into Crawford Reservoir for public recreation and to irrigate over 9,000 acres of farmland and hayland in the North Fork Valley of the Gunnison River.

On December 4, 2023 the District became aware of a landslide that had impacted approximately 200 ft of the Feeder Canal. The District immediately secured the affected area by stopping the flow of water through the Feeder Canal and contracting with a construction firm to implement an emergency repair using District reserve funding. The Feeder Canal was surveyed, graded, and retrenched with bentonite applied and compacted to eliminate seepage in the impacted section. The temporary repair allowed for the District to deliver the 2024 spring runoff to Crawford Reservoir with the knowledge that a permanent repair was still required. An investigation performed in June 2024 indicated that the bentonite had eliminated seepage in the landslide area.

While the bentonite seal has provided temporary relief, a permanent solution requires restabilizing the slope below the Feeder Canal. Additionally, after the slope is stabilized, piping of the landslide prone area is recommended to further improve the area's factor of safety and to reduce the long-term maintenance of applying bentonite. This Project is to secure the slide area to prevent further disturbance and structurally support the ground to allow a future phase where the Feeder Canal is piped as a separate project.

Loan Feasibility Study
Final revisions will be necessary prior to acceptance of feasibility study.

Water Rights
The District reports that the Project impacts its water rights listed in Table 1.

TABLE 1: PROJECT WATER RIGHTS

Name	Amount	Appropriation Date	Adjudication Date	Case No.
Smith Fork Feeder Canal	85.62 cfs	09/03/1946	01/31/1964	CA4808
	64.38 cfs	12/10/1978	12/31/1081	81CW0074
	50 cfs	11/22/2016	12/31/2023	23CW0037
Crawford Reservoir	13,650 AF	09/03/1946	01/31/1964	CA4808
	745 AF	09/03/1946	08/11/1969	CA5873

Project Description
The Purpose of this Project is to stabilize the slope below the Smith Fork Feeder Canal from further disturbance and support the ground for subsequent piping of the Canal.

Alternative 1 – No Action: Taking no action is the least expensive option. This option would be to maintain the bentonite compacted liner with no additional stabilization. Without stabilization, there is considerable risk for the slope along the Canal to experience additional settling and damage from future landslides. The geotechnical analysis' target factor of safety (FS) for the repairs is 1.30; without stabilization the emergency repairs alone provide a FS less than 1.10. For these reasons, this alternative was not selected.

Alternative 2 – Tie-back Anchors Applied to Stabilize Slope: The alternative would be to drill anchors into the hillside at the landslide and secure a wall along the slope to prevent further slippage. This alternative provides a FS of 1.30 at the site, but there are risks that the needed appurtenances could destabilize the hillside in adjacent areas, The estimated project costs are $2,225,000 for this alternative - over double to estimated cost for the selected alternative.

Selected Alternative 3 – Buttressing the Toe of the Landslide: This alternative involves setting coarse, angular fill material to the landslide area to increase the resisting forces to sliding. The primary considerations for this alternative are material source, transport, site access, and placement. Compared to the tie-back anchors, there are fewer concerns with destabilizing the adjacent slope with this approach. This method provides a FS of 1.31 and the estimated cost of this alternative is $884,000 as shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Tasks	Cost
Mobilization and Site Work	$121,000
Equipment	$270,000
Materials and Earthwork	$305,000
Administration	$11,000
Contingency (~25%)	$177,000
TOTAL	**$884,000**

Permitting: The District has existing easements to perform the necessary work to fix the Feeder Canal and adjacent landowners have been notified. Additionally, the USDA-NRCS has cleared the project for NEPA Compliance and the Cultural Resources through the State Historical Preservation Office by submitting a CPA-52 Environmental Evaluation Worksheet. This form clears the Project for all wetland, cultural resource, and habitat related criteria. If the Project exceeds one acre of disturbance, then a CDPHE stormwater construction permit will be required prior to construction starting. Fill material is expected to be sourced and permitted through Delta County. Alternatively, if the source material does not meet the necessary criteria, local permitted quarries will be used.

Schedule: The final design began in the summer of 2024. Due to the emergency nature of the Project, construction is expected to begin in October 2024 and be completed before the end of December 2024.

Financial Analysis

Table 2 provides a summary of the Project's financial aspects. The District qualifies for the agricultural interest rate of 2.10% for a 27-year loan. All interest rate evaluations are per CWCB Financial Policy #7 (Lending Rate Determination). The District has a limitation of $400,000 for how much a loan may cost after it is fully repaid (principle plus interest) - a 27-year loan term allows for the District to stay below the $400,000 threshold. The District voted this year for a graduated rate increase for the next 5 years until $15/share was reached if it is found to be warranted for planned infrastructure projects. The District is requesting a loan that would provide more funding overall than needed for the Project in order to provide a financial stopgap to cover construction costs until the NRCS grant can be used once the Project is completed.

TABLE 3: FINANCIAL SUMMARY

Project Cost	$884,000
USDA - NRCS Water Management Entity	$735,000
CRWCD Community Funding Partnership	$122,000
CWCB Loan Amount	$297,030
CWCB Loan Amount (Including 1% Service Fee)	$300,000
CWCB Annual Loan Payment	$14,670
CWCB Annual Loan Obligation (1st Ten Years)	$16,137
Number of Shares	10,896
Current Assessment per Share	$9.00
Annual Loan Obligation per Share	$1.48
Future Assessment per Share	$11.00[1]

1. In 2024 the District increased annual assessments $2, from $9/share to $11/share.

Creditworthiness: The District has no existing debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% | typical: 100% - 120% | strong: >120%	123% (strong) $101K/$82.0K	103% (typical) $101K/$98.1K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% | typical: 100% - 125% | strong: >125%	N/A	118% (typical) ($101K-$82.0K) $16.1K
Cash Reserves to Current Expenses weak: <50% | typical: 50% - 100% | strong: >100%	182% (strong) $149K/$82.0K	152% (strong) $149K/$98.1K
Annual Operating Cost per Acre-Foot (32,000 AF) weak: >$24 | typical: $3 - $24 | strong: <$3	$2.56 (strong) $82.0K/32K	$3.07 (typical) $98.1K/32K

Collateral: Security for this loan will be a pledge of assessment revenues backed by an assessment covenant. This security is in compliance with the CWCB financial Policy #5 (Collateral).

cc: Matt Jensen, General Manager, Crawford Water Conservancy District
Jennifer Mele, Colorado Attorney General's Office

Attachments: Water Project Loan Program – Project Data Sheet

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Feeder Canal Stabilization

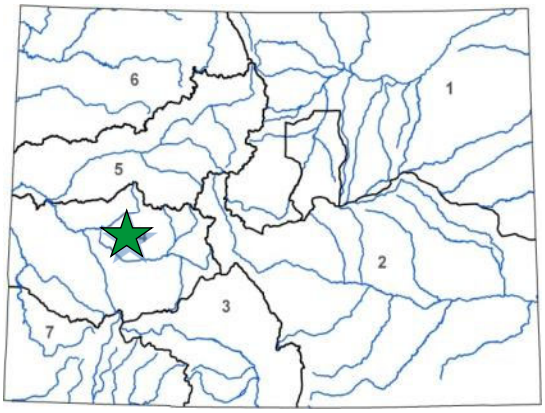
Crawford Water Conservancy District

September 2024 Board Meeting

LOAN DETAILS	
Project Cost:	$884,000
CWCB Loan (with 1% Service Fee):	$300,000
Loan Term and Interest Rate:	27 Yrs @ 2.10%
Funding Source:	Severance Tax Perpetual Base Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
100%	0% Low – 0% Mid – 0% High	0%

PROJECT DETAILS	
Project Type:	Ditch Rehabilitation
Average Annual Diversions:	32,000 AF



LOCATION			
County:			Delta
Water Source:			Smith Fork
Drainage Basin:			Gunnison
Division:	4	*District:*	40

The Crawford Water Conservancy District (District) was formed in 1957 to operate and maintain the Smith Fork Project, which diverts water from Smith Fork to Crawford Reservoir via the feeder canal. The District supplies irrigation water for approximately 10,000 acres in Delta and Montrose counties via the Aspen Ditch and deliveries to six private canals.

A portion of the canal was constructed through an area prone to landslides, and in December 2023 the District found that a landslide had occurred below a portion of the canal. Emergency mitigation was undertaken to ensure delivery of water to the reservoir for the 2024 fill season. That work included regrading and compacting the canal above the slide and applying a bentonite liner to minimize seepage. Initial engineering has identified that the slide area has to be buttressed to reduce the risk of failure, and the canal will need to be piped through the entire landslide formation. This Project will buttress the slide, while piping will occur in a future project. The Project will be funded with grants from NRCS and the Colorado River Water Conservancy District in addition to the loan. Design and engineering is occurring now, with construction anticipated in late fall or early spring of 2024.