COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Cole Bedford, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: September 20-21, 2022 Board Meeting

AGENDA ITEM: 10b. Water Project Loans
Smith and Emmons Ditch Company – Diversion Structures Replacement Project

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Staff Recommendation

Staff recommends the Board approve a loan not to exceed $414,100 ($410,000 for project costs and $4,100 for the 1% service fee) to the Smith and Emmons Ditch Company for costs related to the Diversion Structures Replacement Project, from the Severance Tax Perpetual Base Fund. The loan term will be 30 years at an interest rate of 3.90% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Introduction

The Smith and Emmons Ditch Company (Company) is applying for a blended interest rate loan for the Diversion Structures Replacement Project (Project) to cover approximately 90% of the costs. The Company operates and maintains the Smith and Emmons Ditch (Ditch) southeast of Longmont, Colorado. In 2020, the Company was notified by the Colorado Division of Water Resources of deficiencies of their headgate structure and measurement flume located at the head of their ditch. Additionally, the Company has identified deficiencies with their diversion check structure which will be replaced as part of the Project. The total Project cost is estimated to be $455,500. See attached Project Data Sheet for a location map and Project summary.

Borrower – Smith and Emmons Ditch Company

The Smith and Emmons Ditch Company is a mutual ditch company established in 1946. The Company operates and maintains the Smith and Emmons Ditch for the benefit of five agricultural, municipal, and commercial shareholders. The Company's largest shareholder is Martin Marietta Materials. The Company is directed by a three member board elected annually by a majority vote of shareholders. The Board is authorized to make necessary contracts including authorizing indebtedness. In the event that a shareholder fails to pay their annual assessment, their stock shall be sold to the highest bidder after having been duly advertised. The Company is in good standing with the Colorado Secretary of State's Office.

The Smith and Emmons Ditch is one of several diverting water from Boulder Creek at a structure called the Idaho Creek headgate. Water flows through Idaho Creek, which meets the Rural Ditch, and then waters from both share a common channel for several thousand feet. The Smith and Emmons Ditch diverts off this common Idaho Creek/Rural Ditch channel.

Background

In late 2020, the Division of Water Resources notified the Company that two structures located at the head of the Smith and Emmons Ditch on the Idaho Creek-Rural Ditch common channel, a headgate structure and measurement flume, were deficient. Both structures were likely installed in the mid-20th century. The headgate's stability is threatened by leakage occurring around the structure and the measurement flume is of a non-standard configuration making it difficult to use and potentially inaccurate. The Company has separately identified improvements to a diversion check structure, which consists of concrete blocks and check boards that are adjusted manually to control the level of headwater at the headgate. The Company secured the services of Schnabel Engineering, LLC to consider alternatives to repair or replace these structures. About 10% of the Project costs have already been paid for as part of the design and planning phase.

Loan Feasibility Study

Mark McLean, P.E., with Schnabel Engineering, LLC prepared the Loan Feasibility Study titled, "Diversion Structures Replacement Feasibility Study" dated July 29, 2022. The feasibility study is in accordance with CWCB guidelines and includes an analysis of alternatives, estimated costs, and financial statements prepared by Dan Grant Bookkeeping.

Water Rights

The Company operates under a single water right as shown in Table 1. Over the last five years, the Company has diverted an average of 740 acre-feet per year.

TABLE 1: WATER RIGHTS

Name	Amount (cfs)	Appropriation Date	Adjudication Date	Case No.
Smith and Emmons Ditch Company	47.16	6/1/1863	6/1/1883	94CW062

Project Description

The purpose of this Project is to ensure the Company's ability to adequately divert and measure water into their system.

Alternative 1 – No Action: Taking no action is the least expensive short-term option. However, it would not mitigate the risk of failure of one or more of the structures. Their failure would result in a loss of the ability to deliver water to the Company shareholders. For this reason, it was not selected.

Alternative 2 – Structure Replacements with Automation: This alternative would replace all three structures and install remote sensing and automation equipment. This equipment would provide motorized gate lifts, remote access to flow data, and an ability to adjust flow rates based on real-time conditions. This alternative is the most expensive at an estimated cost of $500,550. Because of the high cost of this alternative, it was not selected, however, the Company may decide to install some or all of this equipment at a future date.

Selected Alternative 3 – Structure Replacements with Manual Operation: This alternative involves replacing the three structures with manual operating equipment. It mitigates the risk of failure of one or more of the structures and ensures that water deliveries to shareholders is maintained. Operations will still require on-site management by the Superintendent, but at a much improved level of safety. While this alternative will not equip all the structures with automation equipment, remote data access on the measurement flume will be provided. The total cost of this alternative is $455,550 as shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Tasks	Cost
Flume Rating, Engineering, and Project Management	$48,550
Headgate Replacement	$158,000
Measuring Flume Replacement	$82,000
Check Structure Replacement	$162,000
Remote Data Access Equipment	$5,000
TOTAL	**$455,550**

Permitting: No permits are needed on the project.

Schedule: The Company intends to undertake the project during the fall and winter of 2022. Bidding will occur as soon as CWCB funding is secured and it is expected that a contractor would be awarded the project in November. The Project will likely be completed in March 2023.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for a blended interest rate of 3.90% for a 30-year loan (Ownership: 22% Agricultural, 31% Middle-Income Municipal, 3% High-Income Municipal, and 44% Commercial). All interest rate evaluations are per CWCB Financial Policy #7 (Lending Rate Determination).

TABLE 3: FINANCIAL SUMMARY

Project Cost	$455,550
CWCB Loan Amount	$410,000
CWCB Loan Amount (Including 1% Service Fee)	$414,100
CWCB Annual Loan Payment	$23,658
CWCB Annual Loan Obligation (1st Ten Years)	$26,024
Number of Shares	8
Current Assessment per Share	$2,000
Annual Loan Obligation per Share	$3,253
Future Assessment per Share (Estimate)	$5,000[1]

[1]The Company anticipates that the Project will result in operation and maintenance cost savings.

Creditworthiness: The Company currently carries no debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% | average: 100% - 120% | strong: >120%	100% (average) $16K/$16K	100% (average) $40K/$40K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% | average: 100% - 120% | strong: >120%	N/A	100% (average) ($40K-$14K) $26K
Cash Reserves to Current Expenses weak: <50% | average: 50% - 100% | strong: >100%	75% (strong) $12K/$16K	30% (weak) $12K/$40K
Annual Operating Cost per Acre-Foot (740 AF) weak: >$20 | average: $10 - $20 | strong: <$10	$21.62 (weak) $16K/740 AF	$54.05 (weak) $40K/740 AF

Collateral: Security for this loan will be a pledge of assessment revenues backed by an assessment covenant and the Project itself, the Smith and Emmons Diversion Structure (WDID 0600553) in Weld County. This security is in compliance with the CWCB financial Policy #5 (Collateral).

cc: Angie Swanson, Secretary and Treasurer, Smith and Emmons Ditch Company
Jennifer Mele, Colorado Attorney General's Office

Attachments: Water Project Loan Program – Project Data Sheet

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Diversion Structures Replacement Project

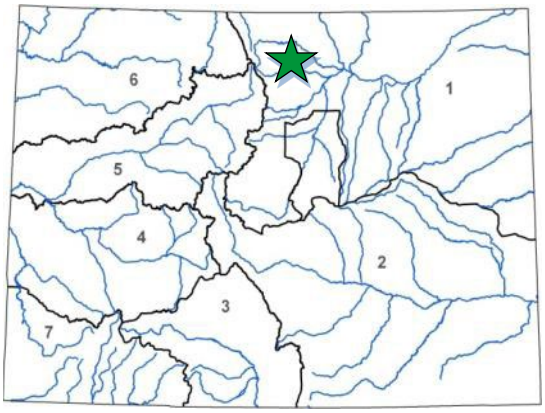
Smith and Emmons Ditch Company

September 2022 Board Meeting

LOAN DETAILS	
Project Cost:	$455,550
CWCB Loan (with 1% Service Fee):	$414,100
Loan Term and Interest Rate:	30 Yrs @ 3.90%
Funding Source:	Severance Tax Perpetual Base Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
22%	0% Low - 31% Mid - 3% High	44%

PROJECT DETAILS	
Project Type:	Ditch Rehabilitation
Average Annual Diversions:	740 AF



LOCATION			
County:			Weld
Water Source:			Boulder Creek
Drainage Basin:			South Platte
Division:	1	*District:*	6

The Smith and Emmons Ditch Company is a mutual ditch company established in 1946. The Company operates and maintains the Smith and Emmons Ditch for the benefit of five agricultural, municipal, and commercial shareholders.

The Company owns three structures at the head of their ditch system which will be replaced as part of this Project: a headgate structure, measurement flume, and check structure. The headgate's stability is threatened by leakage occurring around the structure and the measurement flume is of a non-standard configuration making it difficult to use. Additionally, the diversion check structure will be improved. The Company intends to undertake the project during the fall and winter of 2022. The Project will likely be completed in March 2023.