COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street, Room 718
Denver, CO 80203

P (303) 866-3441
F (303) 866-4474

Jared Polis, Governor
Dan Gibbs, DNR Executive Director
Lauren Ris, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Zach Salin, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: November 20-21, 2024 Board Meeting

AGENDA ITEM: 10a. Water Project Loans
Sterling Irrigation Company
Sterling #1 Ditch Bypass Structure Replacement

Staff Recommendation

Staff recommends the Board approve a loan not to exceed $1,146,350 ($1,135,000 for project costs and $11,350 for the 1% service fee) to the Sterling Irrigation Company for costs related to the Sterling #1 Ditch Bypass Structure Replacement, from the Severance Tax Perpetual Base Fund. The loan term will be 30 years at an interest rate of 2.15% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Introduction

The Sterling Irrigation Company (Company) is applying for a blended interest rate loan for the Sterling #1 Ditch Bypass Structure Replacement (Project). The existing Sterling #1 Ditch bypass structure is a concrete and steel sheet piling structure located on the Sterling No. 1 Ditch approximately 1.75 miles downstream (e.g., northeast) of the Sterling No. 1 Ditch Diversion structure off the South Platte River. The Bypass structure is located at the crossing of the Sterling No. 1 Ditch and Pawnee Creek. The bypass structure allows for return flows to be diverted back to the South Platte via Pawnee Creek. The bypass structure, which was constructed in the mid-1960's, is currently operated by installation of flash boards to control the water level. The current bypass structure is deteriorating and has been undermined by downstream scour. Construction is expected to take place between fall 2025 and spring 2026. The total Project cost is estimated to be $1,135,000. See attached Project Data Sheet for a location map and Project summary.

Borrower – Sterling Irrigation Company
Sterling Irrigation Company is a Colorado mutual ditch company and non-profit corporation. The Company was originally formed in 1873 to construct and operate the Sterling No. 1 Ditch and was incorporated in 1915. The Company is in good standing with the Colorado Secretary of State. The Company's 1,290 shares of stock are split between 74 different shareholders. The Company is led by a six-member Board elected to three-year terms by a vote of Company shareholders. The Board formulates policy, pays bills, is empowered to enter into contracts on behalf of the Company, and is empowered to incur up to $30 million in debt. Company Assessments are set by the Company shareholders at the annual meeting.

The Company maintains and operates approximately 29 miles of surface ditch with a service area that is approximately located between the towns of Atwood and Iliff in Logan County, Colorado. The Company provides water that irrigates approximately 6,700 acres primarily growing corn, alfalfa, and sugar beets.

Background
The Sterling No. 1 Ditch Bypass structure was constructed in the mid-1960s. The structure itself is concrete and steel sheet pilings, and utilizes flashboards installed in bays along the structure to raise and lower the water surface elevation. The Bypass Structure is necessary for the ditch water to cross Pawnee Creek, an ephemeral stream, and allows for flow into Pawnee Creek, which returns to the South Platte.

The existing bypass structure has degraded over time, with significant deterioration of the concrete structure, including spalling, fatigue cracking, and surface erosion; steel components of the existing structure are similarly battered and corroded. Due to downstream scour and erosion, the structure floor and south abutment wall footing have been undermined, which threatens the long term stability of the structure.

This Project will allow the Company to continue diverting and delivering water to their shareholders along the Sterling No. 1 Ditch with improved control and ability to bypass return flows and flood water to the South Platte.

Loan Feasibility Study
Matthew Harris, P.E. with Harris Engineering Consultants, Inc., prepared the Loan Feasibility Study titled, "Feasibility Report - Sterling Irrigation Company Sterling No. 1 Ditch Bypass Structure Replacement" dated July 2024. The feasibility study is in accordance with CWCB guidelines and includes an analysis of alternatives, estimated costs, and unaudited annual financial reports prepared by Northeast Agri-Service for 2021-2023.

Water Rights
The Company diverts and delivers approximately 23,983 AF of water to its shareholders in an average year. A summary of the water rights reportedly associated with the Project are shown in Table 1.

TABLE 1: WATER RIGHTS

Name	Amount (cfs)	Appropriation Date	Adjudication Date	Case No.
Sterling No. 1 Ditch	113.9	07/15/1873	11/15/1984	CA0304

Project Description

The purpose of this Project is to rehabilitate the bypass structure in order to improve its physical condition and to modernize its operation for continued use.

Alternative 1 – No Action: Taking no action would leave the Sterling No. 1 Ditch Bypass Structure in place in its existing configuration. While the least expensive option, the condition of the bypass structure would continue to deteriorate and the operation would continue in its current inefficient manner, so this option was not selected.

Alternative 2 – Install 30-foot used Obermeyer Gate: This alternative would control costs by purchasing a used 30-foot long carbon steel Obermeyer gate and control PLC. Used gates of this type are an older model and often are around 25 years into their service life and need their air bladders replaced. This would accomplish the Project Purpose by the narrowest possible means. This alternative would cost $992,000, approximately 87% of the Selected Alternative 3, however the 30-foot gate will provide reduced control compared to the selected 40-foot gate, the older carbon steel will not perform as well as the newer stainless steel gates, and will likely have a reduced service life due to the use of components with 25 years of use. For these reasons, this alternative was not selected.

Selected Alternative 3 – Install 40-foot new Obermeyer Gate: Similar to Alternative 2, this alternative involves completely replacing the existing, degraded bypass structure with a new reinforced concrete structure and installing a new, 40-foot long, stainless steel Obermeyer gate with fully automated controls and telemetry. The air supply and control system will be housed in a new 12-foot by 15-foot control building. The wider gate will offer improved ability to bypass Pawnee Creek during flood and will improve sediment passage across the ditch inlet and the lower reach of Pawnee Creek. Use of stainless steel equipment will provide improved durability and increased service life over the equipment considered under Alternative 2. The total estimated cost of this alternative is $1,135,000 as shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Tasks	Cost
Engineering, Planning, and Design	$15,000
Mobilization/Demobilization	$115,000
Dewatering, Excavation and Demo	$145,000
Concrete, Fill, and Riprap	$152,000
Structure Construction	$542,000
Construction Engineering and Management, Legal	$44,000
Contingency (~12%)	$122,000
TOTAL	**$1,135,000**

Permitting: The Company expects that the project will be exempt from US Corps of Engineers 404 Permitting and is confirming that with the US Corps of Engineers Omaha Office. The Company believes that no Environmental Assessment or Environmental Impact Statement will be required for the Project. The Company is currently in the process of obtaining a no-rise certification and a floodplain development permit through Logan County.

Schedule: About 60% of the Project's design phase is complete. It is anticipated that the project will be bid in the spring of 2025 and construction started in late fall 2025 after the conclusion of the irrigation season. Construction is expected to be completed in spring 2026.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for a blended (88% Agricultural, 12% low-income municipal) interest rate of 2.15% for a 30-year loan. All interest rate evaluations are per CWCB Financial Policy #7 (Lending Rate Determination).

TABLE 3: FINANCIAL SUMMARY

Project Cost	$1,135,000
CWCB Loan Amount	$1,135,000
CWCB Loan Amount (Including 1% Service Fee)	$1,146,350
CWCB Annual Loan Payment (30-year term at 2.15%)	$52,246
CWCB Annual Loan Obligation (1st Ten Years)	$57,471
Number of Shares	1,290
Current Annual Assessment (per Share)	$160
Estimated Annual Loan Obligation (per Share)	$44.55

Creditworthiness: The Company's only long-term liabilities are two construction loans with CWCB for rehabilitation of their diversion structure and for emergency ditch repairs. Both loans are in good standing and are currently in repayment. This existing debt is described in Table 4. Financial ratios are shown in Table 5.

TABLE 4: EXISTING DEBT

CWCB Loan	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
C150024	$318,583	$94,436.79	$17,868.56	2030	Pledged Assessment Revenues and Certificate of Deposit
CT2015-097	$101,000	$10,790.02	$10,951.87	2025	The Project as well as a Pledge of Assessment Revenues
Totals	$419,583	$105,226.81	$28,820.43	N/A	N/A

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Past Years (Avg)	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% | typical: 100% - 120% | strong: >120%	128% (strong) $224k/$174k	101% (strong) $224k/$221k
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% | typical: 100% - 125% | strong: >125%	298% (strong) ($224k-$138k) $29k	114% (strong) ($224-$138k) $75k
Cash Reserves to Current Expenses weak: <50% | typical: 50% - 100% | strong: >100%	150% (strong) $262k/$174k	119% (strong) $262k/$221k
Annual Cost per Acre-Foot (23,983 AF) weak: >$24 | typical: $3 - $24 | strong: <$3	$7 (typical)	$9 (typical)

Collateral: Security for this loan will be a pledge of assessment revenues backed by an assessment covenant and the Project itself including all access, easements, rights, and appurtenances associated therewith. This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Kathie Seetch, Secretary, Sterling Irrigation Company
Jennifer Mele, Colorado Attorney General's Office

Attachments: Water Project Loan Program – Project Data Sheet

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Sterling #1 Ditch Bypass Structure Replacement

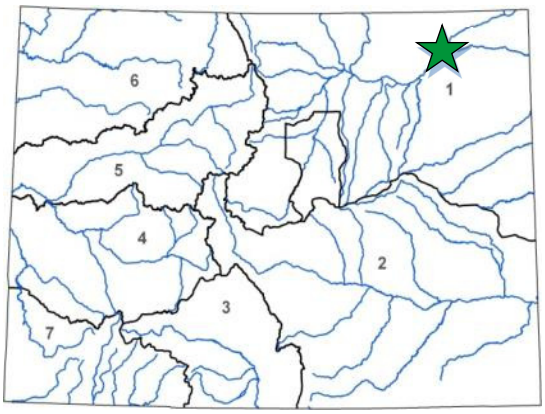
Sterling Irrigation Company

November 2024 Board Meeting

LOAN DETAILS	
Project Cost:	$1,135,000
CWCB Loan (with 1% Service Fee):	$1,146,350
Loan Term and Interest Rate:	30 Yrs @ 2.15%
Funding Source:	Severance Tax Perpetual Base Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
88%	12% Low – 0% Mid – 0% High	0%

PROJECT DETAILS	
Project Type:	Ditch Rehabilitation
Average Annual Delivery:	23,983 AF



LOCATION			
County:			Logan
Water Source:			South Platte
Drainage Basin:			South Platte
Division:	1	*District:*	64

The Sterling Irrigation Company (Company) is a mutual ditch company incorporated in 1915 to provide shareholders with direct flow irrigation water. The Company currently provides 74 shareholders on approximately 6,400 acres with water for direct flow irrigation and augmentation. Primary crops grown with the water are corn, alfalfa, and sugar beets.

The bypass structure is located nearly 2 miles downstream of the Company's headgate, at the intersection with Pawnee Creek. The creek has a drainage basin of 700 square miles and is subject to significant flow variations ranging anywhere from 0 CFS to 2,810 CFS (10-year flood event.) The concrete bypass structure was built in the mid-1960s and is showing extensive signs of deterioration (e.g. fatigue cracking, spalling, and undermining of the structural floor and south abutment wall.) The flashboard system and overhead walkway are also corroded, presenting safety concerns for Company staff. The Project will entail replacing the structure and installing a bladder gate with remote monitoring and operational control. Construction will occur in the fall of 2025 through spring 2026, and completed before the 2026 irrigation season.

Existing Bypass Structure