COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

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

John Hickenlooper, Governor

Robert Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Jonathan Hernandez, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: September 20-21, 2017 Board Meeting

AGENDA ITEM: 15b. Water Project Loans
Bonus Ditch Company – St. Vrain Diversion Replacement

Introduction

The Bonus Ditch Company (Company) is applying for a loan for the St. Vrain Diversion Replacement (Project). The purpose of the Project is to replace one of the Company's two diversion dams damaged in the September 2013 flood event in the tributaries to the South Platte River. Since the flood, the Company has been coordinating with the City of Longmont to ensure the new dam can be integrated into the overall St. Vrain Creek Improvement Project, known as Resilient St. Vrain. The Project cost is estimated to be $1,297,000. The Company is in the process of working through FEMA approvals to build an "improved project" as opposed to replacing the structure to its pre-disaster condition. The Company is requesting this loan to cover 100% of Project cost to help fund the improvements prior to the anticipated FEMA reimbursements. See attached Project Data Sheet for a location map and Project summary.

Staff Recommendation

Staff recommends the Board approve a loan not to exceed $1,309,970 ($1,297,000 for Project costs and $12,970 for the 1% service fee) to the Bonus Ditch Company for costs related to the St. Vrain Diversion Replacement Project, from the Severance Tax Perpetual Base Fund. The loan terms shall be 30 years at a blended interest rate of 2.90% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Additionally staff recommends the following contract condition:

1) FEMA grant funds obtained for the purpose of this Project shall be submitted to CWCB to be applied to the balance of the loan within thirty (30) calendar days after FEMA Project Closeout.

Background

The Company operates the Bonus Ditch for the benefit of its shareholders by providing irrigation water through an existing diversion and ditch system off the St. Vrain Creek and Left Hand Creek in Longmont. The ditch's headgate is located on the Left Hand Creek just upstream of the confluence with the St. Vrain Creek. The St. Vrain diversion structure diverts water out of St. Vrain Creek and delivers it to Left Hand Creek immediately upstream of the Company's Left Hand diversion structure. The Left Hand diversion structure then diverts water into the Bonus ditch headgate where a parshall flume measures the total amount diverted into the ditch. The Bonus ditch is approximately 3.25 miles long and irrigates approximately 1500 acres. Land irrigated under the ditch consists primarily of open space owned by Longmont and Boulder County. This land is leased to farmers growing alfalfa, sugar beets, corn, winter wheat, and barley.

Both of the Company's diversion structures were damaged in the September 2013 flood event. The Left Hand Creek structure was repaired in 2014 and the Company has since only been able to divert its water right out of Left Hand Creek as its St. Vrain diversion has not been rebuilt. That diversion structure was severely damaged, with the northern 100 feet of the dam being completely washed away. Additionally, the river formed a new channel to the north of the original diversion dam. Before the flood, the Company used its St. Vrain diversion to divert approximately 25% of its total diversions, primarily in the late summer and early fall. After the flood, the Company has had to rely solely on Left Hand Creek for its water supply resulting in tighter end of year water management.

Resilient St. Vrain (RSV) is Longmont's extensive, multi-year project to fully restore the St. Vrain Greenway trails and improve the St. Vrain Creek channel to protect people and property from future flooding. The Company's St. Vrain diversion is located within the "City Reach" of the RSV project and has been working with Longmont to coordinate this Project with RSV, and to determine the most cost effective and resilient repair that is mutually beneficial to the city and Company.

The Company has an approved Project Worksheet (PW) with FEMA that allows for the replacement of the original dam as it existed prior to the flood. That PW has been extended to April 30, 2018. The Company has applied for a scope change for an "improved project" to reflect the preferred alternative, which is the alternative that fits best with Longmont's RSV. This loan will cover the total cost of the Project, with any FEMA funding to be used to pay down the loan principal, as applicable.

Loan Feasibility Study

Barb Brunk, with Resource Conservation Partners, LLC, prepared the Loan Feasibility Study titled, "Bonus Ditch St. Vrain Creek Diversion Structure Loan Feasibility Study," dated August 1, 2017. The feasibility study was prepared in accordance with CWCB guidelines. Branden Effland, P.E., with Deere & Ault Consultants, Inc. provided the analysis of alternatives, preliminary engineering, and engineering costs estimates. Financial statements were provided by the Company.

Borrower – Bonus Ditch Company

The Company is a Mutual Ditch Company incorporated in 1908. It operates as a nonprofit corporation and is in good standing with the Colorado Secretary of State. The Company is governed by a three-member board of directors responsible for the affairs and management of the Company. Revenues are typically derived solely from annual stockholder assessments.

The Company is made up of 100 shares held by 8 stockholders. Assessments are set annually by the stockholders. The Bylaws (1993) provide that no water shall be delivered, and no stockholder is entitled to any water, until assessments are paid in full. Further, the Company has first lien on shares and may initiate foreclosure on shares for failure to pay assessments.

Water Rights

The Company owns the following water rights as shown in Table 1.

TABLE 1: BONUS DITCH WATER RIGHTS

Name	Amount (CFS)	Appropriation Date	Adjudication Date	Water Court Case No.
Bonus Ditch	12.73	3/30/1861	6/2/1882	CA1337
Bonus Ditch	10.50	5/30/1865	6/2/1882	CA1337

Average annual diversions before 2013 were 2,221 AF.

Project Description

The objective of the Project is to ensure the Company can reliably divert its full water right by replacing the St. Vrain diversion structure destroyed in the September 2013 flood event.

Alternative 1 – No Action: This alternative was not selected because without the St. Vrain diversion, the Company cannot reliably divert its full decreed water right.

Alternative 2 – Restore to Pre-Disaster Condition: This alternative would replace the diversion structure to resemble what exactly existed before the flood. A benefit to this alternative is that the Company already has a FEMA Project Worksheet covering this scope. The cost of this alternative is approximately $1,400,000 without contingency. This alternative was not selected because the river has significantly changed and no longer flows where the dam was located.

Alternative 3 – Restore to Pre-Disaster Location, Modify for New River Channel: Similar to Alternative 2, this alternative would replace the diversion structure to resemble what existed before the flood, but be widened to a total of 270 LF to accommodate the new channel width. The original structure was approximately 10 feet tall and posed an impediment to Longmont's long term plans for the river corridor before the flood, and would now also be an impediment to the goals of Longmont's RSV project. The cost of this alternative is approximately $2,033,000 without contingency. This alternative was not selected because it was not cost effective and does not fit with the current improved condition (RSV Project) of the creek through this reach.

Selected Alternative 4 – Relocate Diversion to Fit within RSV Project: This alternative will relocate the diversion structure to use a check structure, installed by Longmont as part of the RSV project, as the diversion dam. Behind the check structure, the Company will install a wet well, pumping station, and sluice gate. A pumping station is needed because the proposed location is downstream such that water will not gravity flow to the existing pipeline which discharges immediately upstream of the Company's Left Hand diversion and ditch headgate.

The check structure is a grouted boulder drop and has been designed with other RSV partners to incorporate fish and boat passage. The structure is currently being installed by Longmont and its cost is not the responsibility of the Company. The Company's portion of the Project includes a concrete inlet structure with transition walls, trash rack, a 6'x6' headgate, a 6'x6' sand-out gate, and hand rails. The new diversion structure will operate with a submersible pump which will move water through a 12-inch PVC pipe. That pipe will flow south to a flow meter vault, and intersect the Company's existing pipeline at a new concrete manhole junction. Longmont has agreed to manage the care of the submersible pump, including the removal and safe storage through winter months.

The total cost associated with the Project is $1,297,000 as shown in Table 2. Final design will be paid by Longmont.

TABLE 2: ESTIMATED PROJECT COST

Task	Total
Mobilization & General Conditions	$94,000
Dewatering	$75,000
Earthwork	$80,000
Diversion & Inlet Structure	$547,000
Flow Meter Vault & 12" Discharge Pipeline	$78,000
Bonus Ditch Connection Manhole	$17,000
Electrical	$72,000
Miscellaneous	$66,000
SUBTOTAL	**$1,029,000**
Contingency	$268,000
TOTAL	**$1,297,000**

Permitting: The required Army Corps of Engineers 404 permit is in place. As part of the RSV Project, Longmont prepared an Environmental Assessment and there was a "Finding of No Significant Impact" for the project. The Company will obtain a flood plain development permit and Storm Water Qualify Management permit from Longmont prior to construction.

Schedule: Bidding the Project is on hold until the Company receives a response from FEMA regarding the improved project scope change application.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for a blended interest rate of 2.90% for a 30-year term (Ownership: 46% High-Income Municipal, 52% Mid-Income Municipal, 2% Agriculture). In July 2017, the Company applied to FEMA to change the project scope from rebuilding to the pre-disaster condition (alternative 2) to rebuilding an improved project (alternative 4). If successful, FEMA may reimburse up to 75% of Project costs. Since FEMA funds are not guaranteed the financial analysis assumes the full loan amount. The financial analysis showing the 75% FEMA reimbursement is provided for reference only.

TABLE 3: FINANCIAL SUMMARY

	Without FEMA Funds	Estimated after FEMA Funds
Total Project Cost	$1,297,000	$1,297,000
FEMA Contribution (75% of Construction)	$0	$771,750
CWCB Loan Amount	$1,297,000	$525,250
CWCB Loan Amount (Including 1% Service Fee)	$1,309,970	$538,220
CWCB Annual Loan Payment	$65,973	$27,106
CWCB Annual Loan Obligation (1st Ten Years)	$72,570	$29,816
Number of Shares	100	100
Annual Obligation per Share	$726	$298
Current Assessment per Share	$250	$250
Estimated Required Future Assessment per Share	$975	$470
Annual Obligation per AF delivered (2,221 AF)	$33	$13

Creditworthiness: The Company has no existing debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past 3 Years[1]	Future w/ Project (Full Loan)[2]	Future w/ Project (FEMA Funds)[3]
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	120% (average) $73K/$61K	102% (average) $98K/$96K	104% (average) $55K/$53K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	NA	103% (average) ($98K-$23K) $73K	107% (average) ($55K-$23K) $30K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	97% (average) $59K/$61K	61% (average) $59K/$96	111% (strong) $59K/$53K
Annual Operating Cost per Acre-Foot (2,221 AF) weak: >$20 - average: $10 - $20 - strong: <$10	$27 (weak) $61K/2,221AF	$43 (weak) $96K/2,221AF	$24 (weak) $53K/2,221AF

[1]Over the past 3 years the Company has had significant flood damage and repairs, and therefore these ratios do not indicate normal operating income or expense.
[2]Future assumes normal operating expenses of $23,000, and setting assessments at $975/share
[3]Future assumes normal operating expenses of $23,000, and setting assessments at $470/share

Collateral: Security for this loan will be a pledge of assessment revenues back by a rate covenant and the Project itself (St. Vrain Intake Structure), and the Company's ditch headgate on the Left Hand Creek. This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Reggie Golden, President, Bonus Ditch Company
Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

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St. Vrain Diversion Replacement

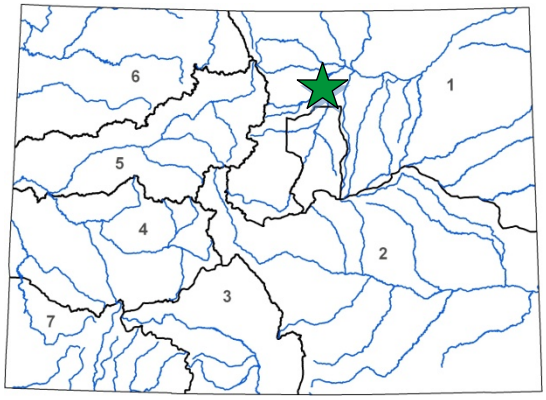
Bonus Ditch Company

September 2017 Board Meeting

LOAN DETAILS	
Project Cost:	$1,297,000
CWCB Loan (with Service Fee):	$1,309,970
Loan Term and Interest Rate:	30 Years @ 2.90 %
Funding Source:	Severance Tax PBF

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
2%	0% Low - 52% Mid -46% High	0%

PROJECT DETAILS	
Project Type:	Ditch Rehabilitation
Average Annual Delivery:	2,221 AF



LOCATION			
County:			Boulder
Water Source:			St Vrain Creek
Drainage Basin:			South Platte
Division:	1	*District:*	5

The Bonus Ditch irrigates open space property leased to farmers in Boulder County and Weld County. Its diversion structure on St. Vrain Creek was destroyed during the September 2013 flood in the South Platte Basin.

The Company is working with Longmont under the Resilient St. Vrain (RSV) project, a multi-year project to fully restore the St. Vrain Greenway trails and improve the St. Vrain Creek channel to protect people and property from future flooding. The Company's diversion structure is located with the "City Reach" of the RSV project. The selected alternative for repairing the diversion structure fits with the goals of the RSV project. The Company has an approved Project Worksheet with FEMA to cover the "like for like" replacement cost of the project. Construction of the repair project is on hold until FEMA acts on a funding request to instead fund an "improved project" as replacing the diversion like for like is no longer feasible due to the post flood channel condition, and does not fit with the goals of the RSV project.