COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

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

DATE: September 11-12, 2014 Board Meeting

AGENDA ITEM: Agenda Item 7a - Change to Existing Loans
Consolidated Home Supply Ditch & Reservoir Company – Emergency Big Dam Diversion Structure Repair

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Introduction

The Consolidated Home Supply Ditch and Reservoir Company (Company) received approval of a $1,616,000 CWCB loan (Contract C150375) to finance the Emergency Big Dam Diversion Structure Repair (Project) at the October 2013 Special Board Meeting. The purpose of the Project was to repair the diversion structure in response to the September 2013 flood event in the South Platte River Basin. During design and construction, additional flood mitigation improvements were identified. The Company is requesting a loan increase of $240,000 to help fund these additional improvements. This is 15% of the original loan request. See attached Project Data Sheet for a location map and Project summary.

Staff Recommendation

Staff recommends the Board approve a loan increase of $242,400 ($240,000 for project costs and $2,400 for the 1% Loan Service Fee) for a total loan not to exceed $1,858,400 ($1,840,000 for project cost and $18,400 for the 1% Loan Service Fee) to the Consolidated Home Supply Ditch and Reservoir Company for engineering and construction costs related to the Emergency Big Dam Diversion Structure Repair Project from the Severance Tax Perpetual Base Fund. The loan terms shall remain 3 years of no interest followed by 27 years at a blended interest rate of 1.95% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

The Company serves approximately 15,000 irrigated acres in Larimer County near Loveland. Its diversion structure, known as the Big Dam, is located on the Big Thompson River just downstream of the canyon mouth west of Loveland. During the unprecedented flood of September 2013 in the tributaries to the South Platte River, a significant number of diversion structures and dams along the river corridor were damaged, including the Company's river diversion.

The Big Dam on the Big Thompson River is a 65-feet high, 70-feet long, and 5-feet wide masonry arch dam built in 1895. It is a low hazard non-jurisdictional dam. The reservoir is filled with alluvium and only a few acre-feet of water are stored to create enough backwater to run the ditch. The Company's headgate is located on the south abutment and the City of Loveland's (City) headgate is on the north abutment. The Big Dam itself is owned by the Company.

Prior to the 2013 flood, the diversion structure was fully functional and in place. During the 2013 flood, the top five feet of the masonry structure was washed out and the mortar between masonry blocks on the north abutment was partially lost. Field observations show that the river was overtopping the structure by approximately 10 feet.

Project Update

Phase 1 of the emergency repairs identified in the original damage assessment consisted of rebuilding the crest of the dam to pre-flood elevations. Approximately 75% of the Phase 1 improvements were completed prior to the 2014 irrigation season. These repairs withstood spring runoff flows well, and allowed the Company to divert its water rights. The remaining Phase 1 work was put on hold during the irrigation season. Work started up again this August and is scheduled to be completed this year. Phase 2 consists of repointing the masonry blocks on the downstream dam face and repair various holes with shotcrete and grout. Originally scheduled to commence and be completed in fall of 2014, this Phase is now scheduled for this winter. The cost associated with the Phase 1 & 2 work have varied from the original loan approval estimate but are still within the total original loan request budget.

As part of the design and evaluation process of the repairs, the Company worked with FEMA, the Company's Engineer (Deere & Ault), and the Company's Construction Manager (Gerrard Construction) to identify any appropriate flood mitigation measures. As a result of these conversations, the following have been added to the Project's flood mitigation scope of work. Together, they will result in creating a spill capacity of approximately 1,200 cfs before flows will overtop the dam crest.

> ***Spillway - $737,000:*** To mitigate damages during routine high-flow events, a spillway will be installed at the location of the historic spillway. The original spillway was filled in to match the dam crest elevation when the City added its diversion on the north end of the dam. This allowed the City to divert more water but also meant that all flows not otherwise diverted by the Company, or the City, now overtopped and ran down the face of the dam. The new spillway will incorporate an Obermeyer gate to allow the City to divert during normal flows, and then will drop during high flows to activate the spillway. The new spillway will have a capacity of 800 cfs.
>
> ***Head Gate Modifications - $438,000:*** During the Phase 1 repairs, the south abutment of the dam had to be modified, resulting in the removal of one of the three existing headgates. In addition to increasing the size of the remaining two gates (to allow the Company to divert its full water right), the headgates will be oversized to be capable of diverting an additional 400 cfs. This additional flow can be spilled back to the river via the sand gates. Also included in the headgate modifications are funds to make the gates automation-ready in anticipation for a future flume replacement project that will see the gates integrated with new flume equipment. Additionally, an access road with retaining wall will be added from the county road to the head gate structure to allow equipment to access the front of the headgate for maintenance and debris cleaning. Finally, the ditch rider catwalk at the headgate, currently in an unsafe condition, will be replaced.

TABLE 1: UPDATED PROJECT COST SUMMARY

Task*	Original Project Cost	Updated Project Cost
Phase One – Dam Repairs	$800,000	$1,100,000
Phase Two – Masonry Repairs	$800,000	$500,000
Flood Mitigation - Spillway	-	$737,000
Flood Mitigation - Headgates	-	$438,000
Total	$1,600,000	$2,775,000

**Tasks include all associate cost including engineering, construction, construction management, and contingencies.*

Schedule: Phase 1 is 75% complete, and is expected to be completed in the fall of 2014. Phase 2 is scheduled to be completed in the winter of 2014/15 concurrent with the flood mitigation measures.

Funding: The Company is working with both FEMA and the City of Loveland to develop Project grant and cost-share agreements. FEMA approved the Project Worksheet for Phase 1 on January 17, 2014 and will provide reimbursement at a rate of 75% of project cost. FEMA will not fund Phase 2 because it was classified as deferred maintenance. FEMA has agreed in principle to fund the additional flood mitigation measures using funds under Section 406 of the Stafford Act, which are available for hazard mitigation. This 406 Flood Mitigation Project Worksheet has not yet been finalized.

The Company has an agreement with the City dating back to 1895 committing the City to contribute 11.36% of all repair cost to the Big Dam. However, given the magnitude of the repair work and the importance of the Big Dam to the City's water supply, the Company entered into an agreement with the City on January 18, 2014 setting the City's cost share to be 50% of Phase 1 cost less FEMA's reimbursement. The City has also agreed to cover 50% of Phase 2 and the additional flood mitigation work costs, less FEMA's reimbursement. This cost-share agreement will be finalized in September 2014. The City is providing funds based off of monthly invoices, and are assuming no FEMA funds will be received. Therefore, the Company will not need to use CWCB funds as bridge financing on the City funds, or the FEMA funds associated with the City's cost share. This allows the Company's loan increase request to only be $240,000. When FEMA funds have been received, the Company will reimburse CWCB and the City at a rate commensurate with the amount of funding received from each entity.

Financial Analysis

Table 2 provides a summary of the Project's financial aspects. The first three years of the loan will be assessed a 0% interest rate. The remaining term of the loan will be assessed a blended interest rate of 1.95% with the principal amortized over 27 years (Ownership: 76% Agriculture, 23% Mid Municipal, <1% High Municipal, <1% Commercial). Staff is recommending an exemption to Financial Policy #11 to allow for 100% funding of eligible Project cost.

TABLE 2: FINANCIAL SUMMARY

	Original Approval	New Request
Total Project Cost	$1,600,000	$2,775,000
CWCB Loan Amount	$1,600,000	$1,840,000
CWCB Loan Amount (Including 1% Service Fee)	$1,616,000	$1,858,400
CWCB Annual Loan Payment	$77,553	$89,186
CWCB Loan Obligation (Including 10% Reserve)	$85,308	$98,104
Number of Shares	2001	2001
Annual Cost Per Share for Loan	$43/share	$49/share
Current Assessment per Share	$163/share	
Future Assessment per Share	$210/share	$230/share

Creditworthiness: The Company has two existing loans with a total of $484,358 in debt as summarized in Table 3. All existing loans are in good standing. Additionally, the Company was approved for a CWCB Emergency Loan (C150380) for flood repairs to its George Rist Ditch. That is an ongoing construction project and the financial analysis assumes a full disbursement will be made.

TABLE 3: EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
USDA Rural Development	$650,000	$71,861	$27,157	12/10/2015	Assessments
CWCB (C150082)	$533,000	$412,497	$29,024	3/1/2034	Mariano Reservoir and Dam; Assessments
CWCB (C150380)	$519,140	*Project In-Progress*	$29,078	2044	George Rist Diversion & Headgate; Assessments

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project*
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	101% (Average) $328K/$324K	102% (Average) $462K/$451K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	107% (Average) $328K-$268K $56K	106% (Average) $462K-$268K $183K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	59% (Average) $191K/$324K	41% (Weak) $191K/$462K
Annual Operating Cost per Acre-Foot (22,000 AF) weak: >$20 - average: $10 - $20 - strong: <$10	$15 (Average) $324K/22K AF	$21 (Weak) $462K/22K AF

**Assumes full disbursement of Emergency Loan C150380 and retirement of USDA Rural Development loan.*

Collateral: Security for the loan will remain a pledge of assessment revenues backed by rate covenant and the Project itself (Big Dam diversion and headgate). This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Minerva Lee, President, Consolidated Home Supply Ditch and Reservoir Company
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

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Emergency Big Dam Diversion Structure Repair

Consolidated Home Supply Ditch & Reservoir Company

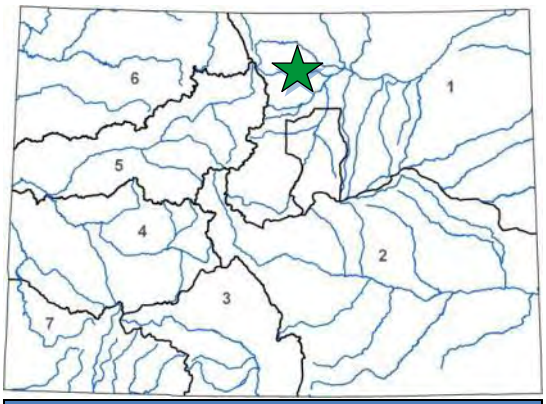
September 2014 Board Meeting

(Loan Increase)

LOAN DETAILS	
Project Cost:	$2,775,000
CWCB Loan (with Service Fee):	$1,840,000 *(15% increase)*
Loan Term and Interest Rate:	30 Years @ 1.95%
Funding Source:	*Severance Tax Perpetual Base Fund*

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
76%	0% Low - 23% Mid - <1% High	<1%

PROJECT DETAILS	
Project Type:	Diversion Rehabilitation
Average Annual Diversion:	22,000 AF



LOCATION			
County:			Larimer
Water Source:			Big Thompson River
Drainage Basin:			South Platte
Division:	1	*District:*	4

During the unprecedented flood of September 2013 in the tributaries to the South Platte River, a significant number of diversion structures and dams along the river corridor were damaged including the Company's "Big Dam" diversion structure. During the flood, the top five feet of the masonry dam structure was washed out and the mortar between masonry blocks on the north abutment was partially lost. Field observations show that the river was overtopping the structure by approximately 10 feet. The purpose of this project is to restore the "Big Dam" diversion structure to its pre-flood crest elevation while improving the structural integrity of the structure.

As part of the design and evaluation process, the Company worked with FEMA, the Engineer, and the Construction Manager to identify any appropriate flood mitigation measures. As a result, improvements will be made to the Big Dam's spillway capacity by reconstructing the abandoned spillway and modifying the Company's headgates. Incorporating these improvements will increase the total Project cost from $1.6 million to $2.8 million. The Company has agreements with FEMA and the City of Loveland to provide funding assistance. The cost-share agreement with the City allows this increase request to only be $240,000. Construction is on-going and is expected to finish in winter of 2014/15.