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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: July 19-20, 2017 Board Meeting

AGENDA ITEM: 23a. Water Project Loans
Consolidated Ditch and Headgate Company – Consolidated Diversion and Headgate Replacement

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Introduction

The Consolidated Ditch and Headgate Company (Company) is applying for a loan for the Consolidated Diversion and Headgate Replacement (Project). The purpose of the Project is to improve the existing Consolidated Ditch diversion structure and headgate on the Rio Grande River. The total Project cost is estimated to be $1,862,000. The Company's share of the Project Cost is $1,000,000. The Colorado Rio Grande Restoration Foundation, will be seeking a WSRF grant to cover a portion of the Company's cost at the September 2017 CWCB Board Meeting. To allow the Project to move forward for construction this fall, the Company is requesting a loan to cover 100% of its cost share. See attached Project Data Sheet for a location map and Project summary.

Staff Recommendation

Staff recommends the Board approve a loan not to exceed $1,010,000 ($1,000,000 for Project costs and $10,000 for the 1% service fee) to the Consolidated Ditch Company for costs related to the Consolidated Diversion and Headgate Replacement Project, from the Severance Tax Perpetual Base Fund. The loan terms shall be 30 years at the agricultural interest rate of 1.8% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

The Consolidated Ditch diversion structure and headgate is located five miles northwest of Monte Vista on the Rio Grande. The diversion structure diverts water to the Consolidated Ditch and Pace Ditch headgates. The Consolidated Ditch then delivers water to eight ditches. In total, the irrigation system includes 40 ditch miles. The diversion and headgate structure were highlighted as river rehabilitation priorities in a 2001 study titled "Rio Grande Headwater Restoration Project." That study analyzed the condition of riparian habitats and structures along a 91-mile reach of the Rio Grande from the town of South Fork to Alamosa, and was sponsored by the San Luis Valley Water Conservancy District and funded with a WSRF grant from the CWCB. A 2007 Rio Grande Watershed Restoration Strategic Plan highlighted the importance of continued efforts to implement the recommendations from the 2001 study.

Previous work out the 2001 study includes the Plaza Project, a multi-phased project intended to improve the health and function of the Rio Grande River in the Sevenmile Plaza area through stream bank restoration, wetland restoration, and the replacement of aging and inefficient diversion and headgate structures. Phase 1 was a planning phase and identified several diversion and headgate structures in need of replacement. Phase 2 (McDonald Ditch Implementation Project) was the Plaza Project's first implementation project and was funded in part with a CWCB Loan (C150334) and WSRF grant (C150492). Phase 3 (Prairie Ditch Implementation Project) was the second implementation project and was funded in part with a CWCB Loan (CT2015-134) and a WSRF grant (CTGG1 2015-295). The Consolidated Diversion and Headgate Replacement Project, though one mile downstream of the Sevenmile Plaza, and so not a part of the Plaza Project, is modeled, and will be implemented in the same fashion, as the Plaza implementation projects.

The Company has partnered with the Colorado Rio Grande Restoration Foundation (Foundation), the fiscal agent for the Rio Grande Headwater Restoration Project (RGHRP), to organize and raise funds for the Project. The Natural Resources Conservation Service (NRCS) is providing design and construction oversight for the project, as well as a $750,000 grant from its Environmental Quality Incentive Program (EQIP). The Foundation will be including this Project as part of a WSRF grant request that, if approved by the Rio Grande Roundtable, will be heard at the CWCB September 2017 Board Meeting. The EQIP grant funds are subject to forfeiture if the Project does not begin construction in Fall 2017. Therefore, to ensure construction can begin as soon as river conditions allow, the Company is seeking this CWCB loan to cover its full cost share. Any WSRF grant funds obtained for this Project will reduce the final loan amount.

Loan Feasibility Study

Emma Reesor, Executive Director, Rio Grande Headwaters Restoration Project prepared the Loan Feasibility Study titled, "Feasibility Study – Consolidated Ditch Implementation Project," dated June 1, 2017. The feasibility study was prepared in accordance with CWCB guidelines. Laurie Clarke, P.E., with the NRCS provided an analysis of alternatives and cost estimates. Financial statements were provided by the Company.

Borrower – Consolidated Ditch and Headgate Company

The Company is a Mutual Ditch Company formed in 1910. 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 general supervision over the affairs of the corporation. The Board has powers over the entire management of the business including the power to borrow money. Assessments are set annually at the February stockholders meeting.

The Company is made up of 4,879.5 shares held by 38 stockholders. All stockholders are owners of smaller ditches who use the Consolidated Ditch to deliver water to their respective headgates. Nearly all revenues (99%) are derived from annual stockholder assessments.

Water Rights

The Company does not own any water rights. Water rights diverted at the Consolidated Ditch diversion are shown in Table 1:

TABLE 1: IMPACTED WATER RIGHTS

Ditch Name	Net Amount (CFS)	Appropriation Date	Adjudication Date	Water Court Case No.
Anderson	16.15	Various	5/1/1896	5/1/1896
Atencio	6.18	Various	5/1/1896	5/1/1896
Horner Ydren	12.70	Various	5/1/1896	5/1/1896
John Anderson	3.20	9/15/1880	5/1/1896	5/1/1896
Marajo	5.00	Various	5/1/1896	5/1/1896
Star	13.60	Various	Various	Various
Rio Grande Lariat	106.80	Various	Various	Various
Rio Grande San Luis	53.24	Various	Various	Various
Pace	1.50	5/31/1873	5/1/1896	5/1/1896

Average annual diversions are 33,550 AF.

Project Description

The objective of the Project is to replace the deteriorating and inefficient Consolidated Ditch diversion structure and headgate. During the development of the 2001 study, project stakeholders (NRCS, Consolidated Ditch, Pace Ditch, Monte Vista Canal, Rio Grande Piedra Ditch, and landowners) analyzed several alternatives. The NRCS performed preliminary surveys of the project elements and developed initial designs for each of the alternatives.

Alternative 1 – No Action: This alternative was not selected because the diversion dam is at the end of its service life and cannot effectively divert water at low or high flows. Each year the Company has to artificially raise a sand bar in the middle of the river to divert any flows. Further, no action by the Company would result in the loss of the $750,000 EQIP grant.

Alternative 2 – Use Monte Vista/Piedra Diversion: This alternative would relocate the diversion of the Consolidated Ditch a half mile upstream to the Monte Vista and Piedra Diversion, and install a grade control structure at the existing diversion location. That diversion would be upgraded and a new ditch would run south into the existing ditch. This alternative was not selected due to complications with constructing a new ditch across private land.

Alternative 3 – Relocate Division Upstream: This alternative would relocate the diversion structure 1000 feet upstream in a more stable location and install a grade control structure at the existing diversion location. A new ditch would run over private land to the existing ditch. This alternative was not selected because after preliminary design, it was determined the new location still required significant work to be suitable for a diversion dam, thus eliminating this alternative's advantage.

Selected Alternative 4 – New Infrastructure at Existing Location: This alternative will replace the existing diversion and headgates of the Consolidated and Pace Ditch. Additionally, river channel

shaping and stream bank stabilization work will occur around the new structure, including the removal of gravel bars and the filling of eroded banks. This alternative was selected as it addresses the issues facing the existing structure and avoids complications of requiring new landowner negotiations and easements.

The new diversion structure will be a concrete dam, spanning the width of the river and will include a radial sluice gate and fish passage. Project partners have been, and will continue to, coordinating with Colorado Parks and Wildlife staff regarding the design of the fish passage. The structure will not prevent passage at this location. The diversion dam will resemble the diversion built in the Plaza Project Phase 2 for the McDonald Ditch. The existing headgate will be replaced with a concrete headgate with six gates, including four manual gates, and two automated gates to regulate ditch flows, improve diversion accuracy and accounting. The Pace Ditch Headgate off the existing diversion dam will be relocated to the new Headgate structure and will include a manual slide gate with a pipe to deliver water to the Pace Ditch. A 54-inch arch pipe and slide gate will be installed as a sluice next to the headgate. The headgate will resemble the headgate built in the Plaza Project Phase 3 for the Prairie Ditch.

At the diversion structure location, the channel has widened and its stream banks are held in place by rocks and miscellaneous rubble. Narrowing the river channel, removing the rubble, and stabilizing and revegetating the banks will improve flow and river function. The stream banks will be sloped, stabilized, and revegetated, and fish habitat structures will be installed.

The total cost associated with the Project is shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Task	Total
Final Design	$100,000
Diversion Replacement	$887,500
Headgate Replacement	$782,500
Channel/Stream Bank	$13,000
Monitoring	$35,000
Outreach and Education	$4,000
Administration	$40,000
TOTAL	**$1,862,000**

Permitting: Work will occur within existing ditch easements and rights-of-way. Project partners have met with the US Army Corps of Engineers and work is planned to fall under the Nation Wide Permits.

Schedule: Final designs will be completed this summer with bidding and construction and of the diversion and headgates occurring between the 2017 and 2018 irrigation season. Channel shaping, stream bank stabilization, and monitoring work may continue through 2020.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for an agricultural interest rate of 1.8% for a 30-year term. In order to raise its cash reserves in anticipation of this Project, assessments were raised from $5 per share before 2012, to $10 per share in 2012 and 2013, and to $12 per share in 2014. Since 2015 assessments have been set at $8.50 per share. If a WSRF grant is not approved for the Project and the full loan amount is disbursed, assessments will need to be increased to $13 per share. The Company's strong savings account will be used for unexpected project increases.

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	$1,862,000
NRCS EQIP Grant	$750,000
NRCS In-Kind (Engineering Services)	$100,000
RGHRP In-Kind	$12,000
CWCB Loan Amount	$1,000,000
CWCB Loan Amount (Including 1% Service Fee)	$1,010,000
CWCB Annual Loan Payment	$43,866
CWCB Annual Loan Obligation (1st Ten Years)	$48,252
Number of Shares	4879.5
Annual Obligation per Share	$9.89
Current Assessment per Share	$8.50
Annual Obligation per AF delivered (33,550 AF)	$1.44

Creditworthiness: The Company has no existing debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past 2 Years	Future w/ Project[1]
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	277% (strong) $39.6K/$14.3K	101% (average) $63.4K/$62.6K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	NA	102% (average) ($63.4K-$14.3K) $48.3K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	1510% (strong) $216K/$14.3K	345% (strong) $216K/$62.6K
Annual Operating Cost per Acre-Foot (33,550 AF) weak: >$20 - average: $10 - $20 - strong: <$10	$0.43 (strong) $14.3K/33,550 AF	$1.87 (strong) $62.6K/33,550 AF

[1]*Assumes increase of assessment to $13/share.*

Collateral: Security for this loan will be a pledge of assessment revenues back by a rate covenant and the Project Itself (diversion dam and headgate structure). This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Scot Schaefer, President, Consolidated Ditch Company
Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

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Consolidated Diversion and Headgate Replacement

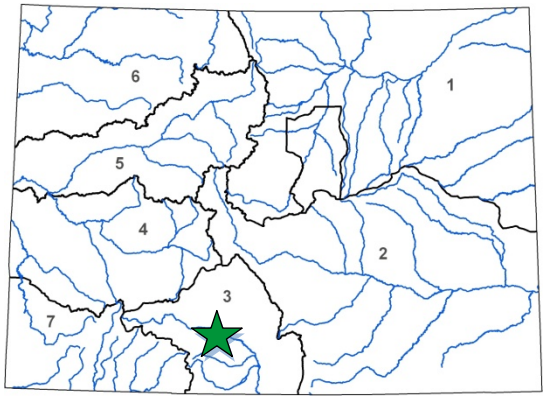
Consolidated Ditch and Headgate Company

July 2017 Board Meeting

LOAN DETAILS	
Project Cost:	$1,862,000
CWCB Loan (with Service Fee):	$1,010,000
Loan Term and Interest Rate:	30 Years @ 1.8%
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 Delivery:	33,500 AF



LOCATION			
County:			Rio Grande
Water Source:			Rio Grande
Drainage Basin:			Rio Grande
Division:	3	*District:*	20

The Company is a Mutual Ditch Company formed in 1910. Its diversion and headgate structures are located five miles northwest of Monte Vista on the Rio Grande. The company serves 38 shareholders made up of water right owners who use the ditch as a carrier ditch. The diversion dam and headgate structures are at the end of its service life and are no longer effective at low or high river flows. These structures were highlighted as river rehabilitation priorities in 2001 study titled "Rio Grande Headwater Restoration Project." That study analyzed the condition of riparian habitats and structures along a 91-mile reach of the Rio Grande from the town of South Fork to Alamosa.

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