



**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:** May 19-20, 2021 Board Meeting

**AGENDA ITEM:** 20b. Water Project Loans  
South Platte Ditch Company - Diversion Structure Rehabilitation

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### Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$1,075,650 (\$1,065,000 for Project costs and \$10,650 for the 1.0% service fee) to the South Platte Ditch Company for costs related to the Diversion Structure Rehabilitation, from the Severance Tax Perpetual Base Fund. The loan terms shall be 30 years at an interest rate of 1.10% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

### Introduction

The South Platte Ditch Company (Company) is applying for a CWCB loan for the Diversion Structure Rehabilitation (Project). The Company operates and maintains an irrigation ditch system that diverts from the south side of South Platte River east of Sterling, Colorado near the Town of Merino in Washington County. The system serves 4,400 acres for 20 shareholders. The diversion structure that diverts from the river into the Company's system has several issues including poor condition of the structure floor, erosion of the downstream channel, undermining of the downstream face of the structure, and deterioration of a bladder gate. The proposed Project will address these issues. The total Project cost is estimated at \$1,065,000. See attached Project Data Sheet for a location map and Project summary.



### **Borrower - South Platte Ditch Company**

The South Platte Ditch Company is a mutual ditch company and non-profit corporation located in Logan and Washington Counties. It is in good standing with the Secretary of State. It is governed by a board of five directors elected at each year's annual meeting. The Company was incorporated in June 1881 to construct and operate the South Platte Ditch for the benefit of shareholders by providing direct flow irrigation water. Currently, the Company has 20 shareholders among whom 206.9 shares of stock are divided. The majority of shareholders irrigate corn, alfalfa, beans, and sugar beets. Collection of assessments from these shareholders make up the bulk of the Company's revenue. Shares upon which an assessment has been delinquent for more than one year may be forfeited in accordance with the Company's Bylaws. The Company's distribution system consists of approximately 14 miles of surface ditch with two wasteways that allow for return of excess water to the river. The Company also operates the Sandhill Recharge Project which branches off the main ditch and delivers water to natural ponds and man-made impoundments to recharge the alluvial aquifer.

Per the Company's Articles of Incorporation and Bylaws, it may take on debt upon the assent of a majority vote of the shareholders. The vote to approve the proposed project loan contract will take place in June 2021.

### **Background**

The diversion structure is a reinforced concrete slab structure with a 6-foot wide radial arm gate, a 20-foot long bladder gate and a 175-foot long concrete rollover wall. The total length of the structure is 202 feet. Although the exact age of the structure is unknown, components of it have likely been in place since the early 1900's. The existing concrete shows signs of deterioration including spalling, fatigue cracking, erosion from abrasion, and general decay throughout. The existing bladder gate, headgate structure, and control building were installed in 1997 as part of a rehabilitation project necessitated by damage sustained in the 1995 flood. That project was funded by a CWCB Loan (C153717). \$30,989.73 remains to be repaid and it is in good standing. The headgate structure and control building are in good condition. The bladder gate, though relatively new, has been subject to significant abrasive action from sand passage and needs to be replaced. The gate was one of the first of its kind and subsequent versions have been upgraded with more wear-resistant materials, therefore the new gate is expected to function for at least as long as the term of the loan.

### **Loan Feasibility Study**

The Loan Feasibility Study titled "Feasibility Report, South Platte Ditch Company, Diversion Structure Rehabilitation Project" dated March 31, 2021 was prepared by Harris Engineering Consultants, Inc. It is in accordance with CWCB guidelines and includes an analysis of alternatives, preliminary engineering design, a construction cost estimate, and recent years' annual financial reports.

### **Water Rights**

The Company utilizes several different water rights for its operations whose total absolute water right is 137.5 cfs. Annual diversions over the past fifteen years have increased over the historic average due to the implementation of augmentation plans and the increased use of recharge sites in the Company's service area. The average annual diversion over the past fifteen years is 15,620 acre-feet. The Company's rights are detailed in Table 1.

**TABLE 1: WATER RIGHTS**

Source Name	Rate or Volume	Adjudication Date	Appropriation Date	Water Court Case No.
South Platte River	22.5 cfs	11/15/1894	05/01/1872	CA0304
	7.5 cfs	02/24/1903	02/15/1876	CA0765
	20.0 cfs	02/24/1903	04/21/1883	CA0765
	37.5 cfs	02/24/1903	05/01/1890	CA0765
	50.0 cfs	09/29/1902	04/01/1896	CA0605

**Project Description**

The purpose of the Project is to ensure the continued diversion of water in a safe and efficient manner:

**Alternative 1 - No Action:** This alternative would entail continuing to use the existing diversion structure in its current deteriorated state. It is not desirable as it would maintain the existing status quo and risk associated with the aging structure. It would not improve the safety or efficiency of the structure.

**Alternative 2 - Replacement of the Existing Diversion Structure:** This alternative would attempt to replace the entire diversion structure. The new diversion would be constructed on or near the footprint of the existing structure, but re-oriented for more efficient intake at the headgate. The floor of the new structure would be lowered to accommodate the river channel. The cost estimate of this alternative is \$1,795,000. This alternative is feasible and achieves the project purpose, but was not chosen due to its high cost.

**Selected Alternative 3 - Rehabilitation of the Diversion Structure:** This alternative was selected as the preferred alternative as it achieves the project purpose and does so while minimizing costs. It consists of rehabilitation whose focus will be on the immediate areas of concern including replacement of the diversion gate, installing a reinforced concrete overlay on the damaged structure floor, and installing a scour pad. This alternative will halt further undermining and improved the overall stability of the structure.

The cost estimate of this alternative is \$1,065,000 as shown in Table 2.

**TABLE 2: ESTIMATED PROJECT COST**

Task	Total
Engineering and Administration	\$57,000
Control of Water and De-Watering	\$200,000
Site Prep and Modification (Mobilization, Excavation, Import Riprap, Etc.)	\$141,000
Sheet Piling, Friction Piling, and Obermeyer Gates	\$299,000
Cast-in-place Concrete	\$204,000
Reinforcing Steel, Fill Concrete, Site Cleanup, and Misc.	\$144,000
<b>TOTAL</b>	<b>\$1,065,000</b>

**Permitting:** All construction will take place on Company property and no new easements or rights-of-way will be required. It is also expected that the work will be exempt from 404 permitting through the Corps of Engineers.

**Schedule:** The project design will be completed in July 2021 followed by ordering of long-lead-time items and bidding. Construction will begin in late fall of 2021 and continue through spring of 2022. The site will be cleared and the structure will be fully operational in time for the 2022 irrigation season beginning in April.

**Financial Analysis**

Table 3 provides a summary of the Project’s financial aspects and Table 4 details the Company’s current existing debt. The Company qualifies for a blended interest rate of 1.10% (Share ownership: 99.0% agricultural, 1.0% middle-income municipal) for a 30-year term.

**TABLE 3: FINANCIAL SUMMARY**

Total Project Cost	\$1,065,000
CWCB Loan Amount	\$1,065,000
CWCB Loan Amount (Including 1% Service Fee)	\$1,075,650
CWCB Annual Loan Payment	\$42,291
CWCB Annual Loan Obligation (1 <sup>st</sup> Ten Years)	\$46,520
Number of Shares	206.9
Current Assessment per Share	\$204.40
Annual Loan Obligation per Share	\$224.84
Future Assessment per Share	\$429.24

**Creditworthiness:** The Company has one existing loan with CWCB which is in good standing, as shown in Table 4.

**TABLE 4: EXISTING DEBT**

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
CWCB (C153717)	\$101,000	\$30,989.73	\$5,959.82	2026	Pledge of Assessments

**TABLE 5: FINANCIAL RATIOS**

Financial Ratio	Prior Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100%   average: 100% - 120%   strong: >120%	157% (strong) \$83K/\$53K	100% (average) \$100K/100K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100%   average: 100% - 120%   strong: >120%	600% (strong) <u>\$83K-\$47K</u> \$6K	100% (average) <u>\$100K-\$47K</u> \$53K
Cash Reserves to Current Expenses weak: <50%   average: 50% - 100%   strong: >100%	132% (strong) \$70K/\$53K	70% (average) \$70K/\$100K
Annual Operating Cost per Acre-Foot (15,620 AF) weak: >\$20   average: \$10 - \$20   strong: <\$10	\$3.40 (strong)	\$6.09 (strong)

**Collateral:** Security for this loan will be a pledge of assessment revenues and the project itself (the South Platte Ditch Company Diversion Structure). This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Dave Kautz, President, South Platte Ditch Company  
 Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program - Project Data Sheet

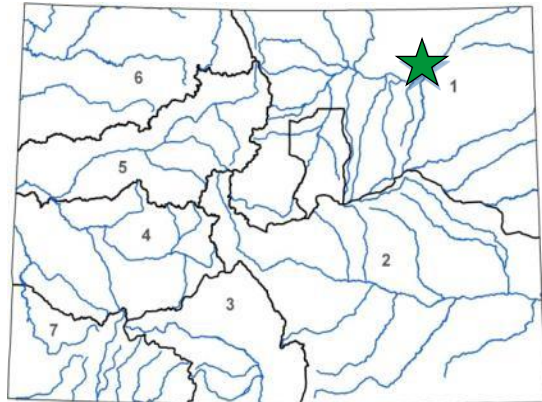


# Diversion Structure Rehabilitation

South Platte Ditch Company

May 2021 Board Meeting

L O A N   D E T A I L S	
Project Cost:	\$1,065,000
CWCB Loan (with 1% Service Fee):	\$1,075,650
Loan Term and Interest Rate:	30 Yrs @ 1.10%
<b>Funding Source: Severance Tax Perpetual Base Fund</b>	
B O R R O W E R   T Y P E	
Agriculture	Municipal      Commercial
99%	0% Low - 1% Mid - 0% High      0%
P R O J E C T   D E T A I L S	
Project Type:	Diversion Structure Rehabilitation
Average Annual Diversions:	15,620 AF



The South Platte Ditch Company (Company) is a mutual ditch company that was incorporated in 1881. It provides direct flow irrigation water to 20 shareholders with approximately 4,400 acres in Washington and Logan counties between Atwood and Sterling. Shareholders grow primarily corn, alfalfa, beans, and sugar beets.

L O C A T I O N	
County:	Washington
Water Source:	South Platte River
Drainage Basin:	South Platte
Division:	1      District: 64

The original diversion structure was constructed in the early 1900s and underwent rehabilitation in 1997 to repair damage resulting from a flood in 1995. The Company also decided to add a bladder gate, radial gate and control building to improve operations. Since then, sand laden water has damaged the bladder gate system, downstream concrete floor, and has eroded the downstream channel between 2 and 3 feet, with the downstream face of the structure now being undermined. This project will replace the bladder gate components, overlay the damaged structure floor, and install a scour pad in the downstream channel floor with energy dissipation improvements. Construction is expected to begin in December 2021 and be completed in the spring of 2022.

