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Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Derek Johnson, P.E., Project Manager
Kirk Russell, P.E. Finance Section Chief

DATE: November 16-17, 2016 Board Meeting

AGENDA ITEM: 14a. Water Project Loans
Town of Firestone – Storage Development and Water Rights Purchase

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Introduction

The Town of Firestone (Town), acting by and through its water activity enterprise, is applying for a loan for the Storage Development and Water Rights Purchase (Project). The Town seeks to develop a non-potable water supply and associated water storage. Currently the Town relies on Colorado – Big Thompson Project (C-BT) water, treated by the Central Weld County Water District, to meet all water needs, the costs for which continue to increase, and the Town's non-potable irrigation needs would be more effectively served with non-potable water supplies. Estimated Project costs are $10,043,150. The Town is requesting a loan from the CWCB for $10,000,000 of Project costs. See attached Project Data Sheet for a location map and Project summary.

Staff recommendation

Staff recommends the Board approve a loan not to exceed $10,000,000 ($9,900,990 for Project costs and $99,010 for the 1% service fee) to the Town of Firestone, acting by and through its water activity enterprise, for costs related to the Storage Development and Water Rights Purchase Project from the Construction Fund. The loan terms shall be 20 years at the reduced high-income municipal interest rate of 2.35% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

The Town of Firestone's municipal boundary encompasses approximately 14.2 square miles and has a planning area of approximately 26 square miles. The Town is generally located east of Interstate 25 between Highway 66 and Highway 52, north of the Denver Metro area, with a smaller municipal area situated on the west side of I-25. The Town operates a water distribution network of approximately 58.5 miles of pipeline and associated facilities to provide services to approximately 12,000 residents.

Currently, the Town's sole source for potable water is derived from its C-BT Project shares, which are transferred annually to the Central Weld County Water District (CWCWD) through the Northern Colorado Water Conservancy District (Northern). The amount transferred is equal to 120% of the Town's water usage in the previous year plus additional water to meet anticipated growth in the coming year. CWCWD treats the water for potable use and delivery to the Town's infrastructure via 11 points of connection, each consisting of a master meter vault and SCADA appurtenances. The Town uses this water to supply both potable and non-potable irrigation needs.

To meet the needs of its member entities, and to prevent speculative water purchases, Northern has set limits on the amount of C-BT water each entity can own in relation to its water demand. Since the Town owns sufficient C-BT shares to meet demand, its allowable C-BT ownership, based upon demand associated with its committed taps, has been exceeded. Because of this fact, the Town is "capped" and cannot purchase additional C-BT supplies through the open market. Accordingly, the Town must rely on additional C-BT acquisition through dedication from developers annexing into the Town. This Northern requirement requires the Town to seek out other sources of domestic supply, since it cannot purchase additional C-BT water to meet its needs.

Current C-BT supplies are sufficient to meet the Town's water demands, and to-date, there have not been any potable supply shortages. However, it should be noted that the C-BT system was originally designed as a supplemental supply to native water rights. Each year, the amount of water delivered by the C-BT system is set, based on demand, and an adequate supply is not guaranteed.

Due to high demand and high cost of C-BT water in the area, development in the Town has slowed and water costs have increased. The Town seeks to secure a non-potable water supply to be used for the irrigation of parks, rights-of-way, and other areas, thus freeing up the Town's C-BT supplies for existing potable needs and diversifying the Town's water rights portfolio.

Loan Feasibility Study

Steve Nguyen, P.E. of Clear Water Solutions prepared the Loan Feasibility Study titled "CWCB Feasibility Study for The Town of Firestone Carbon Valley Resource Pit", dated October 2016. Audited financial statements were prepared by Anton Collins Mitchell LLP. The feasibility study, prepared in accordance with CWCB guidelines, includes an analysis of alternatives, preliminary engineering design, and construction cost estimates.

Borrower – Town of Firestone

The Town is a statutory town in Weld County, which was incorporated in 1908. The Town operates a separate Water Department as a Water Activity Enterprise, which invoices residents and businesses for water service. The Town adopted a Water Conservation Plan in June of 2007, followed by a formal update in 2015, which is currently in compliance with CWCB requirements.

Water Rights
The only water rights owned by the Town are 5,103 shares of C-BT water. The Town has a current irrigation demand of approximately 442 acre-feet, which is expected to increase to nearly 988 acre-feet based on the Town's Non-Potable Water Rights Master Plan. The Towns potable water demand is presently 2,000 to 2,100 acre-feet annually.

Project Description
The purpose of this Project is to construct a water storage project to help meet the Town's current and future water needs. The seniority of water rights factors largely into the amount of non-potable storage needed to meet this demand. For junior water rights, three to five times the demand may be the storage volume needed to provide reliability for irrigation. Senior water rights may only need 1.5 to two times the demand. For long-range planning purposes, the Town will pursue 2,000 acre-feet of storage.
The Town analyzed multiple alternatives to obtain water storage and associated water rights. This loan will provide funds to acquire 1,092 acre-feet of storage.

Storage Alternative 1 – No-Action: The no-action alternate was not selected as the Town would remain solely dependent upon its ownership of 5,103 units of C-BT for its irrigation supply. While this would be the least expensive alternate, the Town would still need to address its outstanding supply issues in the future at greater cost and more limited availability, as other entities near the Town actively pursue their own storage facilities and supplies.

Storage Alternative 2 – Central Park Storage: This alternate proposes on-site storage in the Town's future Central Park. Advantages to this location include its central location in a critical area for non-potable storage, proximity to a large irrigation demand, and use of the storage as a park amenity. Disadvantages include a fluctuating water surface in a public lake amenity, distance to river for augmentation purposes, and distance from the St. Vrain Sanitation Wastewater Treatment Plant, which in the future will be generating fully consumable wastewater. Project cost for this alternate was estimated to be $10,300 per acre-foot. This alternate is high compared to the others because it would need to be excavated from scratch, and there would be no gravel sales to offset the cost of the facility.

Storage Alternative 3 – Hokestra Pit Storage – Cells 2 and 4: This alternate proposes storage in the Hokestra Pit, which is currently owned and operated by Weld County for gravel mining operations, and consists of twelve cells. Among the advantages of this location are that Cell 2 is completed and lined, Cell 4 is unmined but lined, proximity to the St. Vrain River, possible future use for water rights storage drawn from the river, and good storage volumes. Disadvantages include the fact that the site fails to fully meet the Town's storage needs by approximately 1,400 acre-feet, it is not an ideal location to take advantage of future effluent reuse, and the cost was higher than the other alternatives. Project cost for this alternate was estimated to be $4,200 per acre-foot.

Selected Storage Alternative 4 – Carbon Valley Resource Pit: This alternate provides a single storage reservoir at the Carbon Valley Pit, currently owned and operated by LG Everist, Inc. for gravel mining operations. Upon completion of mining operations, the resulting volume of the proposed Carbon Valley Pit is estimated to be approximately 1,092 acre-feet. Advantages of this location include proximity to the St. Vrain River, strategic location for future augmentation obligations, good storage volume, future expansion possibility as LG Everist, Inc. will be mining the property adjacent to the west, storage on the river opens up more water rights that can be purchased and used, infrastructure for this location is right next to the St. Vrain Sanitation Waste Water Treatment Plant for access to

reusable effluent, and the cost is within the market range for storage in this area. The Town has contracted to purchase the lined storage from LG Everist Inc. for $2,800 per acre-foot.

As part of the development of the Carbon Valley Resource Pit, the Town will construct: 1) an inlet and pump station on the St. Vrain River to deliver water to the pit, 2) a pump station to deliver water from the pit back to the St. Vrain River, and 3) a delivery system from the Last Chance Ditch to the pit.

Water Rights Purchase: The following water rights and will be acquired with this project:

Rural Ditch Shares: 1.41 shares of the Rural Ditch Company are included in the contract for the purchase of the Carbon Valley Pit. This water is expected to produce an average yield of 105 acre-feet per share annually.

Lower Boulder Ditch Shares: The Town has also submitted a letter of intent to purchase a number of Lower Boulder shares. The Lower Boulder Ditch has preferred shares and common shares, the difference being that the preferred shares have a high priority for deliveries. Many cities and counties have bought these shares and transferred them for municipal use. This water is expected to produce an average yield of 34.5 acre-feet per share annually for the preferred shares, and 11.5 acre-feet per share annually for the common shares.

TABLE 1: PROJECT COST

Task	Cost
Carbon Valley Reservoir Lined Storage	$ 3,057,600
Carbon Valley Reservoir Delivery/Outlet Infrastructure	$ 4,982,750
Non-Potable Water Rights: Rural Ditch Company shares	$ 424,800
Non-Potable Water Rights : Lower Boulder shares	$ 1,578,000
TOTAL	**$ 10,043,150**

Permitting: Anticipated permitting includes a Weld County Floodplain Development Permit, a no-rise certification through a LOMR/CLOMR process, an Individual 404 Permit, wetland and cultural resources surveys, and other miscellaneous construction permitting.

Schedule:

Purchase Carbon Valley Reservoir Infrastructure	December 2017
Begin Design of Carbon Valley Reservoir Infrastructure	March 2017
Complete Design of Carbon Valley Reservoir Infrastructure	March 2018
Start Construction of Carbon Valley Reservoir Infrastructure	May 2018
Complete Construction	March 2019

Financial Analysis

The Town qualifies for a high-income municipal interest rate of 2.60% 30-year term. The Town is seeking a 20-year term, allowing a rate reduction of 0.25% per Financial Policy #7. The Town's interest rate for 20 years will be 2.35% per annum. Table 2 provides a summary of the Project's financial aspects. The Town will pay for its contribution using available cash on-hand.

TABLE 2: FINANCIAL SUMMARY

Total Project Cost	$10,043,150
Borrowers Contribution	$142,160
CWCB Loan Amount	$9,900,990
CWCB Loan Amount (Including 1% Service Fee)	$10,000,000
CWCB Annual Loan Payment	$632,417
CWCB Annual Loan Obligation (1st Ten Years)	$695,659
Monthly Cost of Loan per Tap (including 10% debt reserve funding)	$12.48(1)

(1) The Town currently has 3,895 physical taps of varying sizes, which have been converted to Single Family Equivalents (SFEs) of a standard 5/8-inch residential tap. The converted tap count is 4,646 SFEs using rounded pipe area equivalents.

Creditworthiness: The Town carries no debt tied to its water activity enterprise. Per the Town's 2014 Water Rate Study, the Town has scheduled varying rate increases between 6% and 8% through 2023, which will cover additional capital improvements and debt service resulting from this Project.

TABLE 3: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	126% (strong) $3.11M / $2.47M	121% (strong) $3.84M / $3.17M
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	NA	197% (strong) ($3.84M-$2.47M) / $695.7K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	238% (strong) $5.88M / $2.47M	202% (strong) $6.41M / $3.17M
Debt per Tap (Based on 4,646 Tap SFEs) weak: >$5,000 - average: $2,500 - $5,000 - strong: <$2,500	NA	$2,152 (average)
Average Monthly Water Bill weak: >$60 - average: $30 - $60 - strong: >$30	$54.50 (average)	$71 (weak)

Collateral: Security for this loan will be a pledge of water activity enterprise revenues backed by a rate covenant and annual financial reporting. This security is in compliance with CWCB Financial Policy #5 (Collateral).

cc: Julie Pasillas, Resources and Sustainability Coordinator, Town of Firestone
Jennifer Mele, Colorado Office of the Attorney General

Attachment: Water Project Loan Program – Project Data Sheet

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Storage Development and Water Rights Purchase

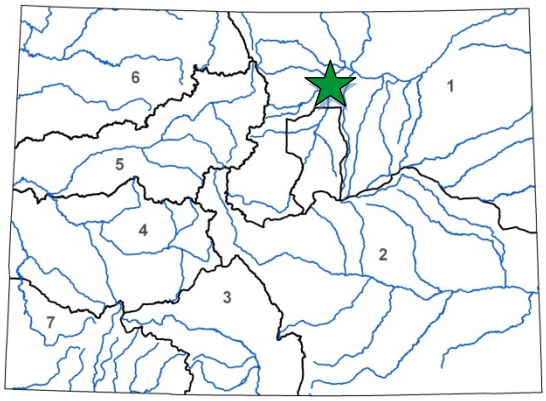
Town of Firestone

November 2016 Board Meeting

LOAN DETAILS	
Project Cost:	$10,043,150
CWCB Loan (with Service Fee):	$10,000,000
Loan Term and Interest Rate:	*20 Years @ 2.35%*
Funding Source:	Construction Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
0%	0% Low - 0% Mid - 100% High	0%

PROJECT DETAILS	
Project Type:	Storage and Water Rights Purchase
Average Annual Delivery:	2442 AF
Storage Created:	1092 AF



LOCATION			
County:			Weld
Water Source:			*St. Vrain River / Boulder Creek*
Drainage Basin:			South Platte River
Division:	*1*	*District:*	*2*

The Town of Firestone's boundary encompasses approximately 9,089 acres and is generally located east of Interstate 25 between Highway 66 and Highway 52. The Town of Firestone provides water and wastewater services to approximately 12,110 residents and operates a water distribution network of approximately 58.5 miles of pipeline and associated facilities. The purpose of this project is to provide a water storage project to help meet the Town's current and future non-potable water needs. For planning purposes, the Town is pursuing a little over two times the demand, or 2,000 acre-feet of non-potable storage for the Town. As a short-term water supply goal, the Town is requesting funds to Purchase the Carbon Valley Resource Pit and acquire 1,092 acre-feet as part of this project.