



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Rachel Pittinger, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: March 10-11, 2021 Board Meeting

AGENDA ITEM: 19b. Water Project Loans
City of Victor - Victor Reservoir No. 2 Dam Rehabilitation

Staff Recommendation for CWCB Loan

Staff recommends the Board approve a loan not to exceed \$378,750 (\$375,000 for the Project costs and \$3,750 for the 1% service fee) to the City of Victor, acting by and through its utility enterprise fund, for costs related to the Victor Reservoir No. 2 Dam Rehabilitation, from the Construction Fund. The loan terms shall be 20 years at an interest rate of 1.25% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Introduction

The City of Victor (City), acting by and through its utility enterprise fund, is applying for a CWCB low-income municipal interest rate loan, reduced for a 20 year term, for the Victor Reservoir No. 2 Dam Rehabilitation (Project). The purpose of the Project is to maintain the function of the dam outlet works and to prevent the need for emergency repairs. The Project will also enable the City to continue water delivery to the City's treatment facility and to the Cripple Creek and Victor gold mine. The City of Victor is categorized as a Disadvantaged Community and is actively working with the Department of Local Affairs (DOLA) to obtain additional funding through the Energy and Mineral Impact Assistance Fund Tier 1 grant program. If approved, the DOLA grant would go toward the total project costs. The Project cost is estimated at \$512,000. The City is requesting a loan for approximately 73% of Project costs with the balance of the costs to be covered by cash reserves, if grant funds are not available. See attached Project Data Sheet for a location map and Project summary.



Borrower - City of Victor

The City is located on the western side of Pikes Peak in the Pike National Forest. It was founded in 1881, platted in 1893 and officially became a City in July of 1894. Gold was discovered in 1890 in the Teller County area. Since then, the depleted ore, labor strife, and miners leaving caused a steep decline in the City's economy. In 1976, the Cripple Creek and Victor Gold Mining Company formed as a joint venture to restart the mining district where mining occurs today. The utility enterprise fund accounts for activities related to the offering of water and wastewater services to the City's residents and users. The City does not deliver more than 2,000 AF of water and therefore a Conservation Plan is not required for this loan.

Background

Victor Reservoir No. 2 is a 202 acre-foot on-stream reservoir located on West Beaver Creek, a tributary to the Arkansas River. Streamflow from the creek either flows into the reservoir and the City of Victor Pipeline or it is diverted into the nearby Bison Reservoir, also owned by the City. Originally constructed in 1897, the dam was raised to increase storage capacity in the 1960's. In the 1990's, the spillway size was increased to meet the dam safety Probable Maximum Flood (PMF) requirements. The Victor Reservoir No. 2 dam is classified as a jurisdictional, significant hazard dam by the State Engineers Office (SEO).

Victor Reservoir No. 2 has two service outlets that include a 20-inch cast iron pipeline that serves as a low-level outlet and a 12-inch cast iron pipeline that serves as a water supply line and flows directly into the City's water treatment facility. Both outlet pipes are controlled by valves operable from the top of the tower constructed from stacked, reinforced concrete cylinders. A metal catwalk provides access to the inlet structure. In the spring of 2020, the outlet works tower required emergency stabilization due to lateral movement caused by ice action. If the tower structure were to fail, access to the valves may be lost and the valves damaged. In August 2020, the Dam Safety Branch of the SEO inspected the dam and noted the damaged outlet works conditionally satisfactory with the need for a long-term rehabilitation solution.

Loan Feasibility Study

Elizabeth Steffens, P.E., with JDS-Hydro Consultants, Inc. prepared the Loan Feasibility Study titled, "Loan Feasibility Study Victor Reservoir #2 Outlet Control Modifications for the City of Victor" dated January 2021. The feasibility study was prepared in accordance with CWCB guidelines and includes an analysis of alternatives, preliminary engineering, and estimated engineering costs. The audited financial statements were provided by Clifton Larson Allen, LLP and Haynie and Company, Certified Public Accountants.

Water Rights

The water rights associated with the Project are shown in Table 1. The City has 435 water taps that serve municipal, domestic, commercial, recreation, mining, fire protection and industrial customers. This Project will not provide any additional water rights or water supplies to the City. No new or increased diversions will occur from West Beaver Creek, no additional water supply, and no additional storage capacity will be created from this Project.

TABLE 1: City of Victor Water Rights

Name	Amount	Appropriation Date	Adjudication Date	Water Court Case No.
City of Victor Pipeline - Reservoir No. 2 Outlet	0.25 cfs	05/20/1864	02/03/0894	CA9886
City of Victor Pipeline - Reservoir No. 2 Outlet	0.75 cfs	04/01/1865	02/03/1894	CA9886
City of Victor Pipeline - Reservoir No. 2 Outlet	4.8 cfs	05/06/1895	03/13/1954	CA6913
City of Victor - Reservoir No. 2	202.77 AF	08/14/1897	03/13/1954	CA6913

Project Description

The purpose of the Project is to maintain function of the dam and to prevent the need for emergency repairs. With this Project, the City will be able to continue water delivery to the treatment facility and to the Cripple Creek and Victor gold mine.

Alternative 1 - No Action: This alternative requires the City to continue to rely on the existing tower as-is. The outlet tower at Victor Reservoir No. 2 required stabilization in the spring of 2020 due to lateral movement caused by ice action. This stabilization was intended as a temporary solution to allow the City time to determine if repair or replacement of the outlet controls was necessary. This alternative was not selected because it may result in losing access to upstream valves or extensively damaging them if the tower fails.

Alternative 2 - Partial Tower Replacement: This alternative includes replacing the existing tower above the embankments and the existing valves would remain in place. This alternative was not selected because the outlet works will continue to be problematic in poor weather situations. The unstable, lower tower section also remains and any instability may impact the new concrete tower resulting in outlet works failure.

Selected Alternative 3 - Sloped Gate Operator: This alternative consists of removing the upper section of the existing concrete tower and installing a traditional sloped gate operator on the upstream embankment. The lower section of the existing concrete tower would remain in place and flow filled after opening the old valves and removing the valve stems. A cast-in-place concrete inlet structure with trash rack would be placed at the inlet pipe. The lines would be equipped with a manually lifted slide gate, a handwheel operator, threaded stem, and lifting pedestal located on the dam crest. The gate stem and vent pipe would be encased in concrete on the upstream embankment to protect it from damage due to ice/elements. This alternative would require the reservoir to be fully drained. A small cofferdam will be used to divert any storm flows around the construction area. The estimated cost for this alternative is \$512,000 and is shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Tasks	Cost
Construction	\$369,000
Outlet works pipe lining	\$75,000
Manhole Installation, 12-inch line	\$15,000
2, 12" Valve Replacement	\$15,000
Construction Engineering, Design Engineering, Project Management	\$38,000
TOTAL	\$512,000

Permitting: The City owns the reservoir property. The City anticipates a U.S. Army Corps of Engineers Nationwide Permit No. 3 - Maintenance. The Colorado Department of Public Health and Environment, Water Quality Control Division, Construction Dewatering Permit will be obtained. Additionally, the City will submit and receive approval of Review of Plans and Specifications for the Alteration, Modification, or Repair of a Dam to the State Engineer’s Office prior to construction.

Schedule: The City anticipates final design and dam safety approval to be completed in April of 2021. The reservoir will be drained in April of 2021. Construction will begin in May of 2021 and completion of construction is anticipated September of 2021.

Financial Analysis

Table 3 provides a summary of the Project’s financial aspects. The City qualifies for a low-income municipal interest rate of 1.50% for a 30-year term (Ownership: 100% Low-Income Municipal). Because the City requested a 20-year term, a 0.25% interest rate reduction is applied per Policy #7, bringing the interest rate to 1.25%.

TABLE 3: FINANCIAL SUMMARY

Project Cost	\$512,000
City Cash Reserves	\$137,000
CWCB Loan Amount	\$375,000
CWCB Loan Amount (Including 1% Service Fee)	\$378,750
CWCB Annual Loan Payment	\$21,521
CWCB Annual Loan Obligation (1 st Ten Years)	\$23,673
Number of Taps	435
Monthly Loan Obligation per Tap (435 taps)	\$4.54

Creditworthiness: The City’s capital projects fund, utility enterprise fund, and general fund has no existing debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past Years	Future w/ Project ²
Operating Ratio (revenues/expenses) ¹ weak: <100% average: 100% - 120% strong: >120%	134% (strong) \$801K/\$599K	129% (strong) \$801K/\$623K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% average: 100% - 120% strong: >120%	N/A	854% (strong) (\$801K-\$599K) 24K
Cash Reserves to Current Expenses weak: <50% average: 50% - 100% strong: >100%	52% (average) \$310K/\$599K	28% (weak) \$173K/\$623K
Debt per Tap (435 taps) weak: >\$5,000 average: \$2,500 - \$5,000 strong: <\$2,500	N/A	\$871 (strong) \$379K/435taps
Average Monthly Water Bill weak: >\$60 average: \$30 - \$60 strong: <\$30	\$23 (strong)	\$23 (strong)

¹Utility enterprise fund revenues and expense shown in Table 4 exclude treated water, wastewater and liquid waste revenues.

²Assumes no DOLA grant.

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

cc: Mr. Richard Mann, City Administrator, City of Victor
 Jennifer Mele, Colorado Attorney General's Office

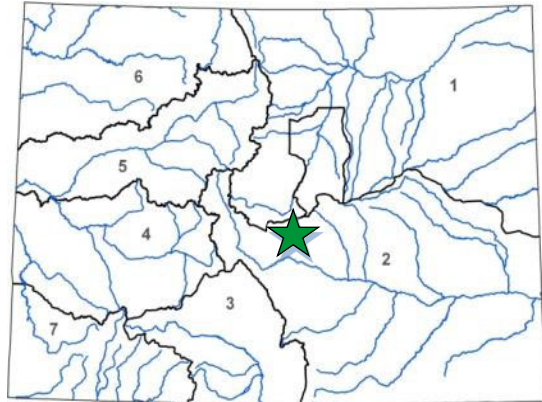
Attachment: Water Project Loan Program - Project Data Sheet



Victor Reservoir No. 2 Dam Rehabilitation

City of Victor
 March 2021 Board Meeting

L O A N D E T A I L S		
Project Cost:	\$512,000	
CWCB Loan:	\$375,000	
CWCB Loan (with 1% Service Fee):	\$378,750	
Loan Term and Interest Rate:	20 Yrs @ 1.25%	
Funding Source:	Construction Fund	
B O R R O W E R T Y P E		
Agriculture	Municipal	Commercial
0%	100% Low - 0% Mid - 0% High	0%
P R O J E C T D E T A I L S		
Project Type:	Dam Rehabilitation	
Storage Preserved:	202 AF	
Average Annual Diversions:	1,384 AF	



L O C A T I O N			
County:	Teller		
Water Source:	West Beaver Creek		
Drainage Basin:	Arkansas		
Division:	2	District:	12

The City of Victor owns and operates the Victor Reservoir No. 2 that serves as a backup supply for the City’s municipal system and is the primary supply for the Cripple Creek and Victor (CC&V) Gold Mine.

The dam, originally constructed in 1897, is classified as significant hazard by the State Engineer’s Office (SEO) Dam Safety Branch. It includes an inlet structure tower 30-feet from the dam crest. In the spring of 2020 the City performed emergency repairs to stabilize the tower from ice loading that was moving the tower horizontally. This project will provide a long term solution by removing the upper section of the tower and installing a traditional sloped gate operator on the upstream dam embankment, along with a bubbler to limit the formation of ice on the valves inside the intake structure. Additional funding for the Project may be obtained by a Department of Local Affairs grant or the City will use cash reserve funds. Construction is expected to begin in May of 2021 and continue through the summer of 2021.

