STATE OF COLORADO

Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us

TO: Colorado Water Conservation Board Members

FROM: Anna Mauss, P.E., Project Manager
Kirk Russell, P.E., Chief
Finance and Administration Section

DATE: September 13, 2013

SUBJECT: **Agenda Item 29a, September 24-25, 2013 Board Meeting**
Finance/Water Supply Planning– CWCB Loan and WSRA Grant
City of Lamar – Raw Water Transmission Line Replacement Project

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Introduction
The City of Lamar, acting by and through its Water Activity Enterprise (City), is applying for a WSRA grant and CWCB loan to finance the Raw Water Transmission Line Project (Project). The purpose of the Project is to replace a deteriorated transmission line from one of the City's well fields to its treatment facility. The total Project cost is estimated to be $1,970,000. In June of 2013, the City was approved for a $150,000 Statewide Grant and a $50,000 Basin Grant 200,000 grant by the Arkansas Basin Roundtable from the Water Supply Reserve Account (WSRA). In July of 2013, it was also awarded a $985,000 grant from the Department of Local Affairs (DOLA) Energy/Mineral Impact Assistance Fund. The City is requesting a loan from the CWCB to cover the remaining 40% of Project Costs. See attached Project Data Sheet for a location map and a Project summary.

Staff Recommendation for WSRA Grant
Staff recommends approval of up to $150,000 from the Statewide Account and $50,000 from the Arkansas Basin Account to the City of Lamar, acting by and through its Water Activity Enterprise, to fund the Raw Water Transmission Line Project.

Staff Recommendation for CWCB Loan
Staff recommends the Board approve a loan, from the Construction Fund, not to exceed $792,850 ($785,000 for project costs and $7,850 for the 1% Loan Service Fee) to the City of Lamar, acting by and through its Water Activity Enterprise, for the Raw Water Transmission Line Replacement Project. The loan terms shall be 30 years at the low-income municipal rate of 2.25% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background
The City is located in Prowers County in southeastern Colorado. It provides water service to a population of approximately 7,800 people in a four-mile service area.

The water supply for the City comes from 29 active wells divided into three well fields: the North, Middle, and South. The North and Middle wells fields have total dissolved solids (TDS) concentrations above the Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) required limits. The South well field has higher quality raw water with TDS levels within the allowable range per EPA and CDPHE standards.

Although the water quality is better, the South well field is the farthest from the City's treatment facility. The transmission line from the wells was constructed of cast iron in 1933 as a part of the Works Projects Administration. Recent testing of the line showed high amounts of scale build-up, pin-hole leaks, and pressure drops. Additionally, because of the build-up within the line, the amount of pumping energy has to be increased to overcome the friction losses.

Currently, it is estimated that between 378 to 662 acre-feet (AF) of water will be saved annually once a new transmission line is installed from the South well field. By reducing the amount of wasted raw water, the City will be able to blend a larger quantity of water with the North and Middle well fields, thus reducing the amount of treatment necessary.

Additionally, a new transmission line from the South well field will maintain desired redundancy to the water system.

Loan Feasibility Study
JVA, Inc., a consulting engineering firm in Boulder,CO , prepared the Loan Feasibility Study, titled "*Loan Feasibility Study for Raw Water Transmission Line Replacement for The City of Lamar*," dated July 24, 2013. The Study was prepared in accordance with CWCB guidelines and includes preliminary engineering and an engineer's estimate of probable costs that were used in determination of the total Project cost.

Borrower - City of Lamar
The City was founded in 1886. The water service is operated as a Water Activity Enterprise servicing 3,000 residential taps and 500 commercial taps. Enterprise revenues come from water sales, facility investment fees, and water leased to farmers. The average water bill is $60 per month.

In a normal water year, 2,005 AF of water is delivered annually. Because the City delivers more than 2,000 AF annually, it is a covered entity as defined by the Water Conservation Act of 2004, requiring an approved Water Conservation Plan prior to executing a loan with the CWCB. The City's plan was approved in 2009.

Water Rights
The City owns a portfolio of both groundwater and surface water rights. The groundwater wells are primarily used for potable water and the surface water rights are used for City irrigation and aquifer recharge. Lamar owns 3,199.6 shares of the Fort Bent Ditch Company, 350 shares of the Lamar Canal Company, and 293 shares of the Lower Arkansas Water Management Association. The City is also able to purchase Fryingpan-Arkansas Project water from the Southeastern Colorado Conservancy District.

The City has groundwater rights to 43 wells for use in the water supply system. Of these, 29 are active wells used for potable use. Raw water from the wells is pumped to a chlorination building and stored in above grade storage tanks. The remaining wells are scattered throughout the City for irrigation of parks, for use at the City's maintenance shop, and for use at the airport.

Project Description

The existing South well field's main water transmission line is constructed of cast iron and is in very poor condition. Recent sampling of the pipeline by the City Water Department and Honeywell Building Solutions indicated a significant amount of scale build-up, pressure drop, and pin-hole leaks. This sampling included water quality tests, pumping (energy) head loss testing, and removal of a section of pipe for visual inspection. The condition of the pipe contributes to less than desired water quality, excess pumping energy, serious risk for pipeline failures and water loss. It was determined that replacement of this critical infrastructure pipeline is the only viable alternative, and that implementation should proceed immediately.

Three alternatives were considered:

Selected Alternative 1- Replace Southern Transmission Line with Polyvinyl Chloride (PVC) Pipe: This alternative evaluated replacing the transmission line with 34,200 linear feet of PVC pipe to conserve water and improve energy efficiency. Replacing the line with 16-inch PVC offers superior corrosion resistance, ease of installation, and is substantially cheaper than Ductile Iron Pipe.

Alternative 2 - Replace the Southern Transmission Line with Ductile Iron Pipe (DIP): This alternative evaluated replacing the transmission line with DIP. The price DIP is more expensive than PVC; therefore, this alternative was eliminated based on cost.

Alternative 3 – No Action: This alternative was not considered a viable option due to poor condition of the existing transmission main. The hundreds of AF of lost water every year makes this project the most urgent water improvement project for the City. The superior water quality also allows the City to reduce water treatment costs by using more water from the South well field source.

TABLE 1: TOTAL PROJECT COST SUMMARY

Task	Cost
Pipeline Construction	$1,360,500
Final Design and Construction Management	$369,300
Permitting	$13,600
Contingency	$226,600
Total	$1,970,000

Schedule: The Project schedule is as follows: bid the Project in November of 2013; construction in the winter/spring of 2013/14.

TABLE 2: PROJECT FUNDING SUMMARY

WSRA Grant	
Arkansas River Basin (25% of WSRA Grant Request)	$50,000
Statewide (75% of WSRA Grant Request)	$150,000
TOTAL (10% of the Total Project Cost)	$200,000
CWCB Construction Fund Loan (40% of Total Project Cost)	$785,000
DOLA Grant (50% of Total Project Cost)	$985,000
Total Project Cost	$1,970,000

Funds will disbursed at a rate of 50% DOLA grant to 40% CWCB loan to 10% WSRA grant of each invoice amount for Project related expenses, up to the approved grant and loan limits.

Water Supply Reserve Account Grant

At the July 2013 Arkansas Basin Roundtable meeting, the Roundtable granted approval of the Lamar Water Transmission Line Replacement Project application request for $50,000 in Basin Funds and recommended approval of $150,000 of Statewide Funds.

Source of Funds: *$150,000 Statewide Funds, $50,000 Arkansas Basin Funds*
Matching Funds: *$785,000 CWCB Loan and $985,000 DOLA Grant*

Threshold and Evaluation Criteria: The application articulates how the project satisfies the Threshold and Evaluation Criteria as summarized below:

Tier 1: Promoting Collaboration/Cooperation & Meeting Water Management Goals & Identified Needs:
This Project addresses multiple issues including consumptive and non-consumptive needs of the basin. It is a structural project that will replace a main transmission line that is in danger of failing. It is estimated that 20-35% of the water in the line is being lost due to leakage. Replacement of the line will save an estimated 378-662 AF annually and will reduce the amount of energy required for pumping costs. It also improves that quality of water provided to users and will maintain desired redundancy in the system.

Tier 2: Facilitating Water Activity Implementation: Due to the size of the Project, the City does not have the financial resources to fund the Project on its own. Additionally, the median household income in the City is well below the statewide average, so increasing water rates could be a difficult financial burden to citizens. In addition to the WSRA funds, the City is leveraging a DOLA grant and CWCB loan funds to complete the Project.

Tier 3: The Water Activity Addresses Issues of Statewide Value and Maximizes Benefits: This Project improves water efficiency, freeing up water for other uses in the City including non-potable irrigation of City parks and open space.

Discussion:
The proposed Project effectively meets the objectives of HB 1177 and both consumptive needs and non-consumptive needs of the Arkansas Basin by rehabilitating existing infrastructure to reduce water loss and ensure a reliable water supply to the City.

Issues/Additional Needs:
No additional issues or needs were identified.

Reporting and Deliverables: All products, data and information developed as a result of this grant must be provided to CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements provided below:

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the

completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act § 12-25-102(10). C.R.S.(2012). performed under this grant shall be performed by or under the responsible charge of a professional engineer licensed by the State of Colorado to practice Engineering.

CWCB Loan Program

Financial Analysis
The City qualifies for the low-income municipal interest rate of 2.25% for a 30-year term. Table 3 provides a financial summary of the loan request.

TABLE 3: LOAN FINANCIAL SUMMARY

Total Project Cost	$1,970,000
DOLA Grant (50% of the total Project cost)	$985,000
WSRA Grant Request (10% of the total Project cost)	$200,000
CWCB Loan Amount (40% of total Project cost)	$785,000
CWCB Loan Amount (including 1% Service Fee)	$792,850
CWCB Annual Loan Payment	$36,629
CWCB Annual Loan Obligation (including reserve account)	$40,292
Number of Taps	3,500
Monthly Cost of new CWCB debt service per tap	$1

Creditworthiness:
The City's Water Activity Enterprise's debt is summarized in table 4. All existing long-term debt is secured by a pledge of water rate payer revenues.

TABLE 4: LONG-TERM DEBT SERVICE

Lender	Project	Annual Payment	Remaining Balance	Maturity Date
Water Revenue Bonds	Refund of a 1999 Water Activity Revenue Bond Series	$211,562	$1,570,838	2019
Colorado Water Resources and Power Development Authority	Relocation of chlorine building & storage tank improvements	$389,773	$7,333,907	2031
Bank of America	Well field infrastructure rehabilitation	$270,000	$3,335,907	2021

TABLE 5: FINANCIAL RATIOS

Financial Ratio	2009-2011	Future w/ Project
Operating Ratio (operating revenues/operating expenses) weak: <100% - average: 100% - 120% - strong: >120%	105% (average) $6M/$5.7M	105% (average) $6M/$5.5M
Debt Service Coverage Ratio (total eligible revenues-operating expenses)/total debt service weak: <100% - average: 100% - 120% - strong: >120%	138% (strong) $(6M-4.8M)/$871K	132% (strong) ($6M-4.8M)/$912K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	8% (weak) $482K/$5.7M	8% (weak) $482K/$5.7M
Debt per Tap (Based on 3,500Taps) weak: >$5,000 - average: $2,500 - $5,000 - strong: <$2,500	$3,429 (average) $12M/3,500	$3,714 (average) $13M/3,500
Average Monthly Water Bill weak: <$60 - average: $30 - $60 - strong: >$30	$60 (average/weak)	$61 (weak)

Collateral: As security for the loan, the City's Enterprise will pledge water rate revenues backed by a rate covenant and will provide annual financial reporting. This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: John Sutherland, City Administrator, City of Lamar
Josh Cichocki, Water/Wastewater Director, City of Lamar
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

Water Project Loan Program
Project Data Sheet

Borrower:	City of Lamar, Water Activity Enterprise	**County:**	Prowers
Project Name:	Raw Water Transmission Line Replacement Project	**Project Type:**	Pipeline Construction
Drainage Basin:	Arkansas / District 67	**Water Source:**	Groundwater
Total Project Cost:	$1,970,000	**Funding Source:**	Construction Fund, Water Supply Reserve Account Grants, and Department of Local Affairs Grant
Type of Borrower:	Low-Income Municipal	**Avg. Annual Delivery:**	2,005 AF
CWCB Loan:	$792,850 (w/ 1% service fee)	**Interest Rate:**	2.25% **Term:** 30 years

The City, located in Prowers County in southeastern Colorado, provides water service to a population of approximately 7,800 people. The water supply comes from 29 active wells. The transmission line from the highest quality water producing wells was constructed of cast iron in 1933 as a part of the Works Projects Administration. Recent testing of the line showed high amounts of scale build-up, pin-hole leaks, and pressure drops. It is estimated that between 378 to 662 acre-feet of water will be saved annually once a new transmission line is installed. In June of 2013, the City was approved for a $200,000 grant by the Arkansas Basin Roundtable from the Water Supply Reserve Account ($50,000 from the Arkansas Basin Account and $150,000 from the Statewide Account). In July of 2013, it was also awarded a $985,000 grant from the Department of Local Affairs (DOLA) Energy/Mineral Impact Assistance Fund. Construction is expected to occur in early to mid 2014.