

# STATE OF COLORADO

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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., Chief  
Finance Section

DATE: May 9, 2014

SUBJECT: **Agenda Item 30a, May 21-22, 2014 Board Meeting**  
**Water Infrastructure and Supply Efficiency (WISE) Project Loans**  
**Cottonwood Water and Sanitation District**

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### Introduction

The Cottonwood Water & Sanitation District (Cottonwood or District), acting by and through its water activity enterprise, is requesting a loan for its participation in the Water Infrastructure and Supply Efficiency (WISE) Project. The WISE Project is included in the CWCB Projects Bill (HB14-1333). For the purposes of this loan, the Project is defined as the District's participation therein. The goal of the Project is to reduce the District's dependence on non-renewable water sources. The District is requesting a loan from the CWCB for 90% of its \$4,960,000.00 project cost. See attached Project Data Sheet for a location map and a project summary.

### Staff Recommendation

Staff recommends the Board approve a total loan not to exceed \$4,508,640 (\$4,464,000 for Project costs and \$44,640 for the 1% Loan Service Fee) to the Cottonwood Water & Sanitation District, acting by and through its water activity enterprise, for its participation in the Water Infrastructure and Supply Efficiency (WISE) Project from the Construction Fund. The loan terms shall be 30 years at the high-income municipal interest rate of 3.0% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

(INFORMATION IN SMALL CAPS IS COMMON TO ALL WISE LOANS)

### **WISE Project Overview**

THE WISE PROJECT IS THE RESULT OF REGIONAL COOPERATIVE PLANNING EFFORTS BETWEEN DENVER WATER, AURORA WATER, AND 10 REGIONAL WATER PROVIDERS IN THE SOUTH METROPOLITAN AREA.

WATER PROVIDERS IN THE SOUTH METROPOLITAN DENVER AREA RELY PRIMARILY ON BEDROCK GROUNDWATER TO SUPPLY MUNICIPAL AND INDUSTRIAL WATER NEEDS. ALTHOUGH THERE IS A SUBSTANTIAL AMOUNT OF GROUNDWATER IN BEDROCK AQUIFERS UNDERLYING THE DENVER AREA, THESE SUPPLIES DO NOT HAVE A NATURAL SOURCE OF REPLENISHMENT AND ARE THUS CONSIDERED TO BE NON-RENEWABLE. GROUNDWATER AND WELL PRODUCTION DATA INDICATE THAT GROUNDWATER LEVELS ARE DECLINING IN MANY AREAS AS A RESULT OF GROUNDWATER PUMPING. AREA WATER PROVIDERS RECOGNIZE THE NEED TO TRANSITION TO RENEWABLE WATER SUPPLY SOURCES.

THE SOUTH METRO WISE AUTHORITY (WISE AUTHORITY) IS COMPRISED OF TEN GOVERNMENTAL WATER PROVIDERS IN DOUGLAS AND ARAPAHOE COUNTIES BOUND TOGETHER BY A 2013 INTERGOVERNMENTAL AGREEMENT. STAFF IS RECOMMENDING FOUR WISE AUTHORITY MEMBERS FOR LOAN FUNDING THROUGH CWCBC.

THE WISE PROJECT WILL UTILIZE EXCESS CAPACITY IN AURORA'S PRAIRIE WATERS PROJECT AND AS-AVAILABLE REUSABLE RETURN FLOWS FROM DENVER WATER AND AURORA WATER TO CREATE A NEW SURFACE WATER SUPPLY FOR WISE AUTHORITY MEMBERS. REUSABLE RETURN FLOWS WILL BE DELIVERED FROM THE SOUTH PLATTE RIVER THROUGH AURORA'S PRAIRIE WATERS SYSTEM TO ITS BINNEY WATER PURIFICATION FACILITY. TREATED WATER WILL THEN BE DELIVERED TO A MASTER METER FOR FURTHER DISTRIBUTION TO WISE AUTHORITY MEMBERS.

WATER DELIVERIES RESULTING FROM THE WISE PROJECT WILL BE VARIABLE AND, AT TIMES, INTERMITTENT. WATER DELIVERIES THROUGH THE WISE PROJECT CAN BE DIRECTLY USED IN PARTICIPANTS' DISTRIBUTION SYSTEMS WHEN DEMANDS COINCIDE WITH THE AVAILABILITY OF SUPPLIES. TO THE DEGREE THAT DELIVERIES EXCEED DEMAND (IN ANY GIVEN MONTH OR DAY), EXCESS WATER CAN BE PUT INTO STORAGE FOR LATER WITHDRAWAL. STORAGE SITES THAT MAY BE UTILIZED INCLUDE RUETER-HESS RESERVOIR AND AQUIFER STORAGE AND RECOVERY (ASR).

WATER WILL BE DELIVERED TO PARTICIPANTS BASED ON THE AMOUNTS DEFINED IN THE WATER DELIVERY AGREEMENT BETWEEN AURORA WATER, DENVER WATER AND THE WISE AUTHORITY. THIS DEFINED VOLUME IS REFERRED TO AS THE SUBSCRIPTION LEVEL, AND IS BASED ON AVERAGE ANNUAL WATER DELIVERIES OVER A 10-YEAR BLOCK OF TIME IN ACRE-FEET PER YEAR. THE FOLLOWING *TABLE 1: WISE PARTICIPANTS & DELIVERIES* LISTS THE AMOUNT OF WATER TO WHICH EACH WISE AUTHORITY MEMBER HAS COMMITTED IN THE WATER DELIVERY AGREEMENT.

**TABLE 1: WISE PARTICIPANTS & DELIVERIES**

| <b>WISE Authority Member</b>                              | <b>10-Year Guar. Delivery (acre-feet)</b> | <b>Subscription Level (acre-feet per year)</b> |
|---|---|--|
| <b>Cottonwood *</b>                                       | <b>4,000</b>                              | <b>400</b>                                     |
| <b>Inverness *</b>  | <b>5,000</b>                              | <b>500</b>                                     |
| <b>Parker *</b>   | <b>12,000</b>                             | <b>1,200</b>                                   |
| <b>Pinery *</b>   | <b>5,000</b>                              | <b>500</b>                                     |
| Rangeview   | 5,000                                     | 500  |
| Castle Rock   | 10,000                                    | 1,000  |
| Centennial  | 10,000                                    | 1,000  |
| Dominion  | 13,250                                    | 1,325  |
| Stonegate   | 5,000                                     | 500  |
| Meridian  | 3,000                                     | 300  |
| <b>Totals</b>   | <b>72,250</b>                             | <b>7,225</b>                                   |
| <i>* Entities in bold are recommended for CWCB loans.</i> |   |  |

FACILITIES TO BE CONSTRUCTED OR ACQUIRED FOR THE WISE PROJECT CAN BE CONSIDERED CORE OR LOCAL COMPONENTS. CORE INFRASTRUCTURE COMPONENTS ARE THOSE DOWNSTREAM OF AURORA'S BINNEY WATER PURIFICATION FACILITY (BWPF) CLEAR WELL AND MASTER METER THAT ARE NECESSARY FOR SERVICE TO ALL OR MOST OF THE PARTICIPANTS, AND RELATED COSTS THEREFORE ARE DISTRIBUTED AMONG ALL WISE AUTHORITY PARTICIPANTS ACCORDING TO THEIR COMMITTED DELIVERY SUBSCRIPTION LEVEL. LOCAL INFRASTRUCTURE COMPONENTS ARE NECESSARY ELEMENTS FOR INDIVIDUAL OR SMALLER GROUPS OF WISE AUTHORITY PARTICIPANTS, AND ARE DIRECTLY APPLIED TO THE BENEFITING MEMBERS. THE CWCB LOANS FOR THE OVERALL PROJECT HAVE BEEN DIVIDED INTO FOUR SEPARATE LOAN CONTRACTS ACCORDING TO FUNDING, TIMELINE, AND LOCATION:

CONTRACT #1 - EAST CHERRY CREEK VALLEY (ECCV) PIPELINE PURCHASE: DELIVERIES TO THE WISE AUTHORITY MEMBERS WILL BE BROUGHT SOUTH THROUGH AURORA'S PRAIRIE WATERS PIPELINE TO A DELIVERY AND MASTER METER POINT LOCATED AT AURORA'S BWPF. SUBSEQUENT DELIVERY TO AREAS WEST WILL BE MADE VIA THE ECCV WESTERN PIPELINE. THE WISE AUTHORITY WILL PURCHASE AN 85% OWNERSHIP INTEREST IN THE 15-MILE ECCV WESTERN PIPELINE, WITH THE REMAINING 15% OWNERSHIP TO BE HELD BY DENVER WATER. ECCV WILL RETAIN RIGHTS TO CARRYING CAPACITY IN THE PIPELINE.

CONTRACT #2 - PHASE 1 INFRASTRUCTURE: COMPONENTS INCLUDED IN THIS PHASE/LOAN INCLUDE A TEMPORARY DIRECT CONNECTION TO AURORA'S DISTRIBUTION SYSTEM TO PROVIDE SHORT-TERM DELIVERIES, AND MODIFICATIONS TO THE ECCV WESTERN PIPELINE NECESSARY TO MAKE WISE WATER DELIVERIES. LOCAL COMPONENTS CONSIST OF SEVERAL TURNOUTS TO BE CONSTRUCTED TO DELIVER WATER DIRECTLY TO WISE PARTICIPANTS WITH SYSTEMS ADJACENT TO THE PIPELINE. ADDITIONAL PUMP STATIONS WILL BE CONSTRUCTED TO DELIVER WATER TO STORAGE IN RUETER-HESS RESERVOIR AND CONVEY WATER TO PARTICIPANTS LOCATED SOUTH OF RUETER-HESS RESERVOIR. THIS PHASE INCLUDES TWO PUMP STATIONS, AND 45 MILES OF NEW PIPELINES VARYING BETWEEN 8- AND 42- INCHES IN DIAMETER.

CONTRACT #3 - PHASE 2 INFRASTRUCTURE: COMPONENTS INCLUDED IN THIS PHASE/LOAN INCLUDE A PUMP STATION AND PIPELINE FROM THE BWPF TO THE EXISTING ECCV PIPELINE, REPLACING THE TEMPORARY INTERCONNECT WITH THE AURORA DISTRIBUTION SYSTEM AND INCREASING THE CAPACITY OF THE OVERALL SYSTEM. WATER WILL BE PUMPED GENERALLY WEST TO A HIGH POINT, THEN WEST ALONG THE HIGHWAY E-470/C-470 CORRIDOR THROUGH THE EXISTING ECCV WESTERN PIPELINE.

CONTRACT #4 - DENVER INTERNATIONAL AIRPORT (DIA) CONNECTION: THE DIA CONNECTION PROJECT COMPONENT, A 24-INCH 6 MILE PIPELINE INTERCONNECTION BETWEEN DENVER WATER'S TREATED DISTRIBUTION SYSTEM NEAR DIA AND AURORA'S PRAIRIE WATERS PIPELINE, WILL PROVIDE BLEND WATER DELIVERIES FOR THE WISE AUTHORITY MEMBERS. DENVER WATER WILL OWN AND OPERATE THE DIA CONNECTION.

**TABLE 2: WISE AUTHORITY PROJECT COSTS**

| WISE Authority Member | ECCV Pipeline Purchase | Phase 1 & 2 Infrastructure | DIA Connection | Totals         |
|-----------------------|------------------------|----------------------------|----------------|----------------|
| <b>Cottonwood *</b>   | \$ 420,000             | \$ 4,140,000               | \$ 400,000     | \$ 4,960,000   |
| <b>Inverness *</b>    | \$ 2,030,000           | \$ 2,870,000               | \$ 500,000     | \$ 5,400,000   |
| <b>Parker *</b>       | \$ 4,870,000           | \$ 11,226,000              | \$ 1,210,000   | \$ 17,306,000  |
| <b>Pinery *</b>       | \$ 2,030,000           | \$ 8,390,000               | \$ 500,000     | \$ 10,920,000  |
| Range view            | \$ 2,030,000           | \$ 3,903,900               | \$ 500,000     | \$ 6,433,900   |
| Castle Rock           | \$ 4,060,000           | \$ 34,934,900              | \$ 1,000,000   | \$ 39,994,900  |
| Centennial            | \$ 4,060,000           | \$ 4,046,900               | \$ 1,000,000   | \$ 9,106,900   |
| Dominion              | \$ 5,370,000           | \$ 37,008,400              | \$ 1,330,000   | \$ 43,708,400  |
| Meridian              | \$ 1,220,000           | \$ 1,272,700               | \$ 300,000     | \$ 2,792,700   |
| Stonegate             | \$ 2,030,000           | \$ 4,304,300               | \$ 500,000     | \$ 6,834,300   |
|                       |                        |                            |                |                |
| Component Totals      | \$ 28,120,000          | \$ 112,097,100             | \$ 7,240,000   | \$ 147,457,100 |

*\* Entities in bold are recommended for CWCB funding.*

**SCHEDULE:** ALL FACILITIES ARE SCHEDULED TO BE CONSTRUCTED BY MID-2020. MAJOR MILESTONES TO NOTE INCLUDE:

- ALL AGREEMENTS WILL BE FINALIZED BY THE MIDDLE OF 2014
- PURCHASE OF THE ECCV PIPELINE IS EXPECTED IN 2014
- DESIGN OF PHASE 1 INFRASTRUCTURE AND A DIRECT CONNECTION TO AURORA WATER'S DISTRIBUTION SYSTEM WILL BEGIN IN 2014. CONSTRUCTION OF THESE COMPONENTS WILL BEGIN IN 2015 AND IS PLANNED TO BE COMPLETED MID-2016.
- DESIGN OF PERMANENT PHASE 2 INFRASTRUCTURE TO REPLACE THE TEMPORARY CONNECTION TO THE AURORA WATER DISTRIBUTION SYSTEM WILL BEGIN IN 2018. CONSTRUCTION OF THESE COMPONENTS WILL BEGIN IN 2019 AND IS PLANNED TO BE COMPLETED MID-2020.
- DENVER WATER HAS AGREED TO DESIGN AND CONSTRUCT THE DIA CONNECTION ON OR BEFORE MAY 31, 2020.

## **Borrower - Cottonwood Water & Sanitation District**

In 1981, the Cottonwood Water & Sanitation District was formed, pursuant to Title 32 C.R.S., to provide water supply and treatment systems for customers within its service area. In 1996, the Board of Directors passed a Resolution establishing a water activity enterprise. The District meets the requirement for a state-approved conservation plan by virtue of its participation in the cooperative Douglas County Water Conservation Plan, which combines the individual conservation plans of 15 regional water providers into a single document.

The District contains approximately 1,300 acres, located along the northern border of Douglas County. Approximately 2/3 of the District is within the Town of Parker and the remainder is in unincorporated Douglas County. Currently it supplies water to a total of 2,300 single family equivalent (SFE) taps.

In 2013, the District supplied a total of 789 acre-feet of water to its customers, equating to an average 705,000 gallons per day. The highest daily usage recorded for 2013 was 1.4 million gallons. Currently, the District's water supply is provided through tributary water rights from Cherry Creek, and non-tributary water from the Denver Basin (Arapahoe aquifer). Both of these water sources are reusable by right. The District reuses much of its water supply. Including Cherry Creek alluvial supply water rights, the District has access to 2,456 acre-feet annually.

The District estimates that through the importation of additional renewable water through the WISE Project, most of its water supply in average and wet years will come through its renewable water supplies (Cherry Creek tributary water rights, WISE deliveries, and reuse). In these years, the District will store excess WISE water in its non-tributary aquifers or in Rueter-Hess Reservoir. In dry years, when WISE deliveries are curtailed or when alluvial supplies on Cherry Creek are diminished, the District will rely more heavily on non-tributary ground water pumping and deliveries of WISE water from storage.

## **Water Rights**

The District has 1,690 acre-feet of non-tributary ground water rights, and 766 acre-feet of Cherry Creek tributary water rights. The District currently only has non-tributary wells in the Arapahoe Aquifer with an entitlement of 1,003 acre-feet. The District's 766 acre-feet of tributary water varies from year to year. All water rights are reusable and the District is able to effectively reuse its water rights to replace out-of-priority depletions per its decreed augmentation plans on Cherry Creek.

## **Borrower's Participation**

Cottonwood has subscribed to 400 acre-feet of water on an average annual basis through the WISE Project.

Cottonwood's local project infrastructure components will extend from an existing tee located on the ECCV Western Pipeline, where a below-grade vault with flow control and metering equipment will be installed. From this location 500 feet of 36-inch pipe will be installed to connect to an existing Cottonwood pipeline. In addition, Cottonwood will also participate in a Rueter-Hess Reservoir fill pipeline and pump station being constructed by Parker.

The estimated total project cost for all of the WISE Project components is \$147.5M. The amount that each WISE Authority member is required to pay depends on the amount of water each WISE Authority member has committed to taking, as well as the amount of local infrastructure that must be constructed

to deliver each member's WISE water. Cottonwood's project cost components are shown in Table 3 below:

**TABLE 3: LOAN CONTRACTING SUMMARY**

| Contract      | Earliest Contract Date | Time of Performance | Project Cost *      | CWCB Loan Contract Amount (w/o service fee) | Project Activity       |
|---------------|------------------------|---------------------|---------------------|---|------------------------|
| 1             | 7/1/2014               | 2 Years             | \$ 420,000          | \$ 378,000                                  | ECCV Pipeline Purchase |
| 2             | 1/1/2015               | 4 Years             | \$ 2,900,000        | \$ 2,610,000                                | Phase 1 Infrastructure |
| 3             | 1/1/2015               | 8 Years             | \$ 1,240,000        | \$ 1,116,000                                | Phase 2 Infrastructure |
| 4             | 7/1/2014               | 8 Years             | \$ 400,000          | \$ 360,000                                  | DIA Connection         |
| <b>Totals</b> |                        |                     | <b>\$ 4,960,000</b> | <b>\$ 4,464,000</b>                         |                        |

\* *Project Cost is defined as the District's participation cost in the overall WISE Project.*

**Contracting:** In anticipation of a multi-year and multi-phased project, CWCB will enter into multiple contracts, for increments of the approved loan limit. This will put the District into repayment on completed portions of the Project and allow CWCB to best utilize its loan funds. CWCB will enter into contracts for project activities no sooner than the dates shown in the above table. Given the potentially long Time of Performance of each contract, interest during construction will be required to be paid annually unless otherwise approved by CWCB.

### Loan Feasibility Study

Black & Veatch prepared a Loan Feasibility on behalf of the WISE Authority dated October 23, 2013 and titled "*Water Infrastructure and Supply Efficiency Project Loan Feasibility Study*". This study was prepared in accordance with CWCB guidelines and includes an alternatives analysis, conceptual design descriptions, exhibits, cost estimates, and financial statements audited by Haynie & Company, CPA. Additional clarification and information was provided by Eric Hecox and Rick Marsicek, P.E. of South Metro Water Supply Authority.

### Financial Analysis

Table 4 shows a summary of the financial aspects of the Project. Based on the median household income of its members, the District qualifies for the high municipal income rate of 3.00% for a 30-year term.

**TABLE 4: PROJECT FINANCIAL SUMMARY**

|  |              |
|--|--------------|
| Total Project Cost   | \$ 4,960,000 |
| Borrower Match   | \$ 496,000   |
| CWCB Loan  | \$ 4,464,000 |
| CWCB Loan (Including 1% Service Fee)                             | \$ 4,508,640 |
| CWCB Annual Loan Payment   | \$ 230,027   |
| CWCB Annual Loan Obligation (including 10% debt reserve funding) | \$ 253,030   |
| Monthly Cost of Loan per SFE (2300 SFEs)                         | \$ 9.17      |
| Cost per Acre-Foot of Subscribed Deliveries (400 AF)             | \$ 12,400    |

CWCB will disburse loan funds at a rate of up to 90% of Project Cost, up to the approved loan contract limit.

**Creditworthiness:** Per the District's 2012 financial statements, the District has \$21.4M in outstanding debt. None of its debt is tied to water activity enterprise revenues.

**TABLE 5: EXISTING DEBT**

| Lender             | Original Balance     | Current Balance      | Annual Payment      | Maturity Date | Collateral        |
|--------------------|----------------------|----------------------|---------------------|---------------|-------------------|
| Series 2006A Bonds | \$ 9,825,000         | \$ 7,395,000         | \$ 635,000          | 12/1/2020     | Property Tax Levy |
| CWRPDA             | \$ 9,996,005         | \$ 8,242,995         | \$ 450,617          | 8/1/2027      | Property Tax Levy |
| Series 2008A Bonds | \$ 6,730,000         | \$ 5,800,000         | \$ 275,000          | 2027          | Property Tax Levy |
| <b>Totals</b>      | <b>\$ 26,551,005</b> | <b>\$ 21,437,995</b> | <b>\$ 1,360,617</b> |               |                   |

**TABLE 6: ENTERPRISE FINANCIAL RATIOS**

| Financial Ratio   | Past 3 Years                       | Future w/ Project                               |
|---|------------------------------------|---|
| Operating Ratio (revenues/expenses)<br>weak: <100% - average: 100% - 120% - strong: >120%                             | 104%<br>(average)<br>\$3.2M/\$3.1M | 102%<br>(average)<br>\$3.4M/\$3.4M              |
| Debt Service Coverage Ratio<br>(revenues-expenses)/debt service<br>weak: <100% - average: 100% - 120% - strong: >120% | NA                                 | 100%<br>(average)<br>(\$3.4M-\$3.1M)<br>/\$0.3M |
| Cash Reserves to Current Expenses<br>weak: <50% - average: 50% - 100% - strong: >100%                                 | 42%<br>(weak)<br>\$1.3M/\$3.1M     | 33%<br>(weak)<br>\$1.1M/\$3.4M                  |
| Debt per Tap (2300 SFEs)<br>weak: >\$5,000 - average: \$2,500 - \$5,000 - strong: <\$2,500                            | NA                                 | \$1,960<br>(Strong)<br>\$4.5M / 2300<br>SFEs    |
| Monthly Residential Water Bill<br>weak: >\$60 - average: \$30 - \$60 - strong: <\$30                                  | \$54<br>(average)                  | \$62<br>(weak)                                  |

**Collateral** - Security for this loan will be a pledge of the District's water activity enterprise revenues backed by a rate covenant as evidenced by annual financial reporting. Parity status will be required with all existing revenue-secured loans. This security is in compliance with CWCB Loan Policy #5 (Collateral).

cc: Patrick Mulhern, General Manger, Cottonwood Water & Sanitation District  
Eric Hecox, Executive Director, South Metro Water Supply Authority  
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet



**CWCB Water Project Loan Program  
Project Data Sheet**

**C150408**

**Borrower:** Cottonwood Water & Sanitation District

**County:** Douglas & Arapahoe

**Project Name:** Water Infrastructure and Supply (WISE) Efficiency Project

**Project Type:** New Water Supply

**Drainage Basin/ District:** South Platte / 8

**Water Source:** South Platte

**Total Project Cost:** \$4,960,000

**Funding Source:** Construction Fund

**Type of Borrower:** High-Income Municipal

**Average Annual Delivery:** 789 AF

**CWCB Loan:** \$4,508,640 (with 1% service fee) **Interest Rate:** 3.00% **Term:** 30 years

In 1981, the Cottonwood Water & Sanitation District was formed, pursuant to Title 32 C.R.S., to provide water supply and treatment systems for customers within its service area.

Cottonwood's local project infrastructure components will extend from an existing tee located on the ECCV Western Pipeline, where a below-grade vault with flow control and metering equipment will be installed. From this location 500 feet of 36-inch pipe will be installed to connect to an existing Cottonwood pipeline. In addition, Cottonwood will also participate in a Rueter-Hess Reservoir fill pipeline and pump station being constructed by Parker.

The WISE Project is the result of regional cooperative planning efforts between Denver Water, Aurora Water, and 10 regional water providers in the south metropolitan area. The South Metro WISE Authority (WISE Authority) is comprised of ten governmental water providers in Douglas and Arapahoe Counties bound together by a 2013 Intergovernmental Agreement. The WISE Project will reduce dependence on non-renewable groundwater resources.

