Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 22-23, 2017
Agenda Item 24b

Co-Applicants:	Colorado Water Protective and Development Association & Catlin Augmentation Association
Grantee:	Colorado Water Protective and Development Association
Water Activity Name:	Catlin Canal Recharge Pond Demonstration Project
Water Activity Purpose:	Agricultural
County:	Pueblo, Lincoln, Crowley, Bent, and Otero
Drainage Basin:	Arkansas
Water Source:	Arkansas River
Amount Requested/Source of Funds:	$5,000 Arkansas Basin Account $30,500 Statewide Account* $35,500 Total Grant Request * The discrepancy between the Statewide Account request in the application, the Roundtable Chair Recommendation Letter ($50,000), and that stated herein can be attributed to the applicant's voluntarily reducing their request to accommodate the Statewide Account shortfall.
Matching Funds:	Basin Account Match ($5,000) = 16.4% of Statewide Account request (meets 10% min); Applicant's In-kind Match ($44,400) = 145.6% of Statewide Account request (meets 10% min); Total Match (Basin & Applicant Match of $49,400 = 162% of Statewide Account request (meets 50% min). (refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to $5,000 from the Arkansas Basin Account; and $30,500 from the Statewide Account to help fund the project titled: Catlin Canal Recharge Pond Demonstration Project

Water Activity Summary:

If funded, the objectives of this project are to: (1) demonstrate the physical and legal viability of locating and constructing recharge facilities under the Catlin Canal within the Arkansas River Basin; (2) demonstrate through actual operations, how recharge ponds can be used to meet the return flow obligations of changed water rights to protect Arkansas River Basin water rights and to meet the State's Arkansas River Compact compliance requirements; and (3) provide a proof-of-concept for the construction and use of recharge at other locations and for the purposes within the Arkansas River Basin.

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The proposed recharge facility will help address the issue of storage in the basin. The creation of storage will come indirectly to Pueblo Reservoir through a mechanism of less storage by the Colorado Water Protective and Development Association (CWPDA) & Catlin Augmentation Association (CAA). This mechanism will take the water currently stored in the reservoir downstream along the Catlin Canal delivered to the recharge facility and back to the river over the course of time, reducing the amount of storage required by the co-applicants. Based on the location and geology of the facility, the return flows could be witnessed along the Arkansas River anywhere from six months to 72 months. Creating this constant supply of water back to the river, the two entities will have less demand for storage to meet the depletion replacement maintenance under the Amended Rules of the Colorado Kansas Compact Compliance. By using recharge facilities, CWPDA's and CAA need to store and release water from Pueblo Reservoir pursuant to operation of Annual Rule 14 Replacement Plans will be considerably lessened. This will free up storage for other Arkansas River water users.

The proposed recharge pond is estimated to be capable of delivering fully consumable water for replacement of out of priority well depletions and changed water rights' delayed return flow obligations of CWPDA and CAA pursuant to the Amended Rules and CAA pending change of water and future post-85 Wells Plan for Augmentation. (CAA has a pending water rights change to allow use of Catlin Canal shares as a new source of replacement water). Recharge facilities will help with the timing of the water that is returned to the river leading to smaller releases from reservoirs, most closely matching the timing replacement water accretion to the wells' stream depletions ultimately leading to protection of Arkansas River Water Rights and Compact Compliance and while reducing the reservoir storage needs.

The Catlin Canal is the ideal location for CWPDA to build a recharge facility due to the large depletions that are created in the Arkansas River under the Catlin Canal. The canal itself is approximately 34 miles in length, servicing 18,600 irrigated acres. Per the H-I modeling performed by Division of Water Resources, the irrigation well pumping under the Catlin Canal and Catlin Canal irrigation return flows, impact the river in reaches 6, 7, and 8. The river reach extends from a point about four miles west of Manzanola to La Junta. Specifically, CWPDA services 30 members whom of which own 112 wells, reportedly irrigating 9,270 acres. CAA members own approximately 41 percent of the Catlin Canal shares and irrigate approximately 7,761 acres. Given this largely concentrated area, CWPDA and CAA have the intent to focus replacement and augmentation by recharge accretions to the Arkansas River in the reach from Manzanola to La Junta. Another advantage to identifying the Catlin Canal is the use of member supplied decreed Catlin Canal shares that can be used for augmentation and replacement in addition to CWPDA's surface and reservoir supplies.

In order to meet the depletion replacement maintenance in dry years, the ideal location of the facility will be constructed under geological formations that will carry return flows back to the river over the course of 72 months or more. The geology will also help ensure that the facility is not constructed on alluvial shale hence, helping to reduce the mineral content returning to the river. This analysis should help in identifying water quality benefits to the project as well. An ideal location will be in a geological region with little to no shale, far enough for 72-month recharge, and ease of access.

Discussion: This recharge facility will help address the storage needs outlined in the Arkansas Basin Implementation Plan (Section 1.6.1) as well as Colorado's Water Plan (6.5.1). The storage of water is one of the primary focuses of the Colorado Water Plan. This proposed project helps to identify those

needs, by creating recharge and taking less pressure off the current existing water supplies storage systems both of which would assist in meeting both the M&I and agricultural water gaps.

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

Eligibility Requirements:
The application meets requirements of the three subsections of the Eligibility Requirements: General Eligibility, Entity Eligibility, and Water Activity Eligibility.

Eligibility Based on Funding Match Requirements:
The application meets the Statewide Account Matching requirements.

Evaluation Criteria:
This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRF Application for applicant's detailed response.

Funding Source	Cash	In-kind	Total
CWPDA and CAA Membership	$44,400	$0	$44,400
WSRF Arkansas Basin Account	$5,000	n/a	$5,000
WSRF Statewide Account	$30,500	n/a	$30,500
Total Project Costs	$79,900	$0	$79,900

CWCB Project Manager: Ben Wade

All products, data and information developed as a result of this grant must be provided to the 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. The specific requirements are 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.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.