Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(a)

Applicant & Fiscal Agent:	WateReuse Colorado
Water Activity Name:	Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands
Water Activity Purpose:	Study
County:	Multiple
Drainage Basin:	Multiple
Water Source:	
Amount Requested/Source of Funds:	$25,000 Metro Basin Account $15,000 South Platte Basin Account $15,000 Colorado Basin Account $2,500 North Platte Basin Account $131,455 Statewide Account $188,955 Total Grant Request
Matching Funds:	Basin Account Match ($57,500) = 30.4% of total grant request (meets 5% min); Basin Account & Applicant Match ($172,025) = 91% of total grant request (meets 25% min); Applicant/3rd Party Match ($114,525) = 60.6% of total grant request (refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to $2,500 from the Metro Account; $15,000 from the South Platte, Basin Account; $15,000 from the Colorado Basin Account; $2,500 from the North Platte Basin Accounts; and $131,455 from the Statewide Account to help fund the project titled: Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

Water Activity Summary: WSRA funds, if approved, will be expended to fund Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands (the Project). The water activity proposed is three-pronged and geared towards: establishing the regulatory environment to facilitate DPR, facilitating public acceptance, and adapting existing tools to help Colorado utilities evaluate if reuse, including potable, is a viable and cost-effective option.

While some indirect potable reuse occurs, much existing municipal reuse in Colorado is for non-potable irrigation and some commercial and industrial use. Reuse volumes gained from non-potable reuse are limited due to seasonality and demand constraints and the typical need for a separate delivery infrastructure. Potable reuse provides greater flexibility than non-potable reuse, can meet year-round demands, and is more drought-resistant and can be more cost-effective than other water supply options. It can produce a higher "yield" than non-potable reuse, due to reusable return flows from indoor uses. Advances in treatment technologies, national implementation and public

perception, combined with water supply limitations around the West are leading a rapidly-growing number of communities to consider DPR. And while indirect potable reuse (IPR) projects have already been implemented in Colorado, it is anticipated that DPR will become the most feasible option for some communities considering potable reuse.

Task 1: DPR Regulatory and Institutional Framework for Colorado: This task will document the bases for development of potential DPR regulations in Colorado that are protective of public health and safety and reflective of best management practices. There is no framework for regulatory development or project-specific approvals specifically designed for direct potable reuse in Colorado. The project will utilize ongoing research and the approaches and experience in other Western States to develop a proposed Colorado-specific approach to DPR project approvals and/or regulations that describes appropriate treatment, monitoring, and operational requirements for DPR systems. A broad-based technical/regulatory/water user work group will be convened, including Colorado Department of Public Health and Environment (CDPHE) regulatory staff, Colorado water utilities (both large and small), environmental and agricultural representatives, regulators and water utilities from other states, national experts, and other water users and interested parties, with most participants providing their time as in-kind contributions. The end goal of this task is to develop a proposed roadmap for the State of Colorado and its water users to follow in the future development of DPR projects.
[Note: The proposed roadmap developed as part of this process is not to be presented to or construed by the CDPHE as being endorsed by any Basin Roundtable, the CWCB, the IBCC, or any other entity unless that specific entity affirmatively states so in writing.]

Task 2: Public Outreach for DPR at the Local and State Level: This task will help bolster public understanding and acceptance of potable reuse through public information and outreach programs. While the science and engineering behind potable reuse is advancing at unprecedented rates, public perception remains one of the most significant challenges in implementing a potable reuse project. This project will provide specific tools and actions to advance public understanding and acceptance of potable reuse projects in Colorado. We will focus on water utilities, regulators, legislators, opinion leaders and the general public with the guidance and assistance of an education/outreach workgroup consisting of the groups listed under Task 1, with the addition of the CWCB's Outreach and Education Coordinator. All workgroup participants and outreach, with the exception of the project consulting team, will provide their time on an in-kind basis.

Task 3: Leveraging Potable Reuse Planning Tools: This task will enhance existing planning tools and assist Colorado utilities with their assessment of DPR as a potential supply option. Research being conducted nationally has resulted in many approaches and tools that can be used locally to support the analysis and implementation of potable reuse projects, with a specific interest in cost comparisons of water supply options, treatment train options, and other cost-benefit analyses. This task includes updating/adapting an existing treatment alternatives screening tool for Colorado utilities' use and demonstrating its use at the local level. This will avoid providers needing to "start from scratch" when assessing treatment train options (including alternatives to membrane- based treatment and the corresponding need for brine management) and the potential role of potable reuse in a supply portfolio. Three Colorado case studies for DPR analysis will be completed using these tools to represent real world applications for utilities that are seriously considering DPR as a supply option.

Discussion: The proposed study aligns with needs, projects and initiatives identified in Colorado's Water Plan regarding direct potable reuse and the contributions to closing the gap for consumptive water needs.

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

Threshold and Evaluation Criteria:
The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:
This proposal has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

Funding Source	Cash	In-kind	Total
Water Reuse Colorado	$10,000	$0	$10,000
Denver Water	$10,000	$10,000	$20,000
City of Aurora	$7,500	$15,000	$22,500
Centennial Water and Sanitation District	$5,000	$6,500	$11,500
Western Resource Advocates	$4,000	$10,500	$14,500
Town of Castle Rock	$7,500	$0	$7,500
Plum Creek Water Reclamation Authority	$5,000	$0	$5,000
South Metro Water Supply Authority	$1,000	$0	$1,000
WateReuse Research Foundation	$5,000	$0	$4,000
Colorado Springs Utilities	$0	$6,525	$6,525
MSK Consulting	$0	$6,000	$6,000
WateReuse Association	$0	$5,000	$5,000
Sub-total matching funds	$55,000	$59,525	$114,525
WSRA Metro Basin Account	$25,000	n/a	$25,000
WSRA South Platte Basin Account	$15,000	n/a	$15,000
WSRA Colorado Basin Account	$15,000	n/a	$15,000
WSRA North Platte Basin Account	$2,500	n/a	$2,500
WSRA Statewide Account	$131,455	n/a	$131,455
Total Project Costs	**$243,955**	**$59,525**	**$303,480**

CWCB Project Manager: Kevin Reidy

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.