WaterSMART Grants: Small-Scale Water Efficiency Projects FOA# BOR-DO-18-F009



Applicant

Rodney Banks, District Manager Roy Water Conservancy District 5440 Freeway Park Drive Riverdale, Utah 84405 801-825-9744 rodney@roywater.com

Project Manager

Bryce Wilcox, PE 466 North 900 West Kaysville, Utah 84037 801-547-0393 BKW@JUB.com

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Technical Proposal and Evaluation Criteria

Executive Summary

Applicant Information

Date: July 31, 2018

Applicant Name: Roy Water Conservancy District **City, County, State:** Riverdale, Weber County, Utah

Requested Reclamation Funding: \$75,000; **Total Project Costs:** \$150,000

Project Summary

Specify the work proposed, including how funds will be used to accomplish specific project activities. Briefly identify how the proposed project contributes to accomplishing the goals of this FOA.

Roy Water Conservancy District's proposed Secondary Water System Metering Project, herein referred to as "the Project," will involve the installation of approximately 130 secondary water meters located within the District's service area – Map 1 on page 14, within the Wildwood and Summer Pointe subdivisions in Hooper and Roy, respectively – Map 2 on page 15. The Project will also include public involvement and conservation education measures to help residents understand and implement better water management practices, and to also understand how these practices will benefit water supply in the community and in the state of Utah.

The Project will contribute to accomplishing the goals of this FOA in the following ways:

- Better management of 10,106 acre-feet of water to better allocate a limited water supply caused by drought and overwatering of residential lawns and gardens.
- Promote conservation through public involvement and conservation education
- Achieve objectives listed in the District's 2015 Water Conservation Plan. These objectives are outlined below under Planning Efforts Supporting the Project.

The Roy Water Conservancy District has created a new policy that all new secondary water connections be metered. In addition to this policy, the District desires that all existing connections also be metered. The proposed project is the first phase of many that will be completed to install meters on all existing Roy Water Conservancy District secondary water connections.

Length of Time

State the length of time and estimated completion date for the proposed project.

Roy Water Conservancy District, herein referred to as "RWCD" or "the District," is prepared to move forward with the Project as soon as funds are awarded. The District anticipates that the contract with Reclamation will be signed between September and December 2018. The District plans to begin preparing the environmental document shortly thereafter in January 2019, and anticipates that the environmental process will take between three to six months to complete; January to July 2019. Project coordination and bidding is expected to take approximately two

months to complete, and the installation of the proposed secondary water meters is expected to take approximately three to six months to complete. Installation will take place outside of irrigation season between October 2019 and April 2020. Final reporting and Project close-out will occur by September 2020. The Project will be completed within two years of award.

Federal Facility

Is the proposed project located on a Federal facility?

The Project is not directly located on a Federal facility. However, RWCD was constructed by the Bureau of Reclamation through the Small Reclamation Loan Act.

RWCD receives its water from Davis and Weber Counties Canal Company (DWCCC), which receives its water from Echo and East Canyon reservoirs, which are owned by Reclamation.

Background Data

Roy Water Conservancy District was originally Roy Water Conservancy Subdistrict, but due to a change in Utah Code, the Subdistrict became a District on April 30, 2007. The Subdistrict was established on February 16, 1965, and construction on the Subdistrict infrastructure began in 1974, and was completed in 1977. The Subdistrict was built as a small Reclamation project by the U.S. Bureau of Reclamation through the Small Reclamation Loan Act. Initial Federal funding for the Subdistrict infrastructure was \$8,400,000, and now has a present value in excess of \$40,000,000. The District's service area is primarily Roy City, but has grown to include small portions of West Haven, Hooper, and Riverdale.

Source of water supply

RWCD receives its water from DWCCC, which receives its water from Echo and East Canyon reservoirs via the Weber River.

Total quantity of water supply managed and supplied

RWCD currently manages 10,106 acre-feet of water during a normal year, and depending on the year, the District supplies approximately 7,250 acre-feet of water.

Water rights involved

RWCD receives one-hundred percent of its water from DWCCC through shares of stock that the District owns.

Current water uses (i.e., agricultural, municipal, domestic, or industrial)

Current RWCD water uses include municipal lawn and garden use, and a small portion of agriculture/irrigation use.

Number of water users served

RWCD has a little over 10,500 connections in Roy, West Haven, Hooper, and Riverdale. The population served is a little more than 40,000.

Current and projected water demand

Current water demand averages 7,250 acre-feet per year with a projected demand of 8,500 acre-feet at build out.

If water is primarily used for irrigation, describe major crops and total acres served

Current RWCD water uses primarily include municipal lawn and garden use.

Agriculture/irrigation use makes up about 10 percent of the RWCD service area, mainly in Hooper and West Haven. Major crops include alfalfa, corn, pumpkins, and a variety of other vegetables.

Potential shortfalls in water supply

Potential shortfalls in the water supply include loss of water due to drought conditions, growth, and water overuse. During a normal year, the District's water supply is 10,106 acre-feet, but in a drought year, when DWCCC does not have as much water in their reservoirs, the District has been reduced by as much as forty percent. The RWCD service area is a fast-growing area with population growth of over 3,000 people in four years. If the proposed and future meter installation phases are not completed (including water conservation education), the District's water supply will become even more limited. In 2011, the RWCD service area population was 37,101, and in 2015, it was 40,166. The population at build-out is estimated to be 46,500.

Describe the applicant's water delivery or distribution system, as appropriate. For municipal systems, include the total approximate length of distribution lines, number of sizes of storage tanks, number of pump stations and capacities, and the number of connections and/or number of water users served and any other relevant information describing the system.

RWCD maintains approximately 135 miles of pressurized pipe, a 136 acre-foot storage reservoir, and services 5,528 acres of domestic lawn and garden watering, along with a small portion of agriculture. 90 percent of the available property in the District is currently developed, which means 10 percent is agriculture/farmland. The District maintains over 10,500 secondary water connections and serves approximately 40,000 residents.

Identify any past working relationships with Reclamation, including date(s), description of the relationship(s) with Reclamation, and a description of the project(s).

The District was created in February of 1965, and the District's Board of Directors immediately went to work on securing a loan from the Bureau of Reclamation to build the District's secondary water system. A project loan repayment contract between the District and Reclamation was signed in September of 1971. The secondary water system was completed in early 1977 and the first water was delivered in April of 1977. The District completed payment of its contract obligations to Reclamation in 1988.

Project Location

Provide specific information on the proposed project location or project area including a map showing the geographic location.

The Project takes place within RWCD's service area – outlined on Map 1 on page 14. The District's service area is primarily Roy City, but has grown to include small portions of West Haven, Hooper, and Riverdale; all in Weber County, Utah. Meters will be installed at the Wildwood subdivision (approximately 41°09′24.26″N, 112°05′20.69″W) in Hooper, and the Summer Pointe subdivision (approximately 41°11′19.84″N, 112°02′33.93″W) in Roy. Maps of these subdivisions are found on page 15, which also detail where meters will be installed.

Technical Project Description

Describe the work in detail, including specific activities that will be accomplished. The description shall have sufficient detail to permit a comprehensive evaluation of the proposal. Problems and needs

RWCD's water supply has been reduced due to the effects of drought, growth, and because residents in the service area are overwatering. Even though drought is a concerning factor affecting water availability, growth is an even more pressing matter that needs to be addressed, as previously discussed under Potential Shortfalls in Water Supply. In order to conserve water to help meet future water demands, RWCD needs to begin installing meters on secondary water connections within its service area. Many water districts and companies throughout the state of Utah are installing secondary water meters due to an increasing need for water conservation and the need to understand individual water use. This critical conservation measure has become the norm, and RWCD seeks to follow suit and install water meters on all new and existing connections. Doing so will provide the District with the knowledge to help promote, educate, and implement better water management practices. It is important that the District and its water users hold themselves accountable for their water use and do their part in contributing to the District's and the state of Utah's shared water conservation goals.

How the project is intended to address the problems and needs

The Project will begin to address the problems and needs outlined above by installing 130 secondary water meters on existing connections in two subdivisions within its service area; the Wildwood subdivision in Hooper and the Summer Pointe subdivision in Roy. The proposed metering project will begin to help RWCD and residents understand individual water use. This knowledge will then be used to help educate and promote water use accountability throughout the area and to encourage better water management practices. Public involvement and conservation education will be the most important step in realizing actual water savings by encouraging a more sustainable way of life that will ensure a more reliable source of water for years to come as the community continues to grow. It is important to note that the proposed project is the first phase of many that will install meters on all existing secondary water connections in RWCD's service area.

Expected outcomes

The expected outcome of the proposed project is to produce significant reductions in secondary irrigation water usage. The water savings realized from metered connections will improve water levels in Echo and East Canyon reservoirs, allowing larger amounts of water to be held in the reservoirs for longer periods of time. Water savings due to metered connections will also help the District meet future water demands in a rapidly growing community. Conserving water in this way will allow for a more sustainable way of life, balancing human needs with that of the natural environment.

Evaluation Criteria

Evaluation Criterion A – Project Benefits

Describe the expected benefits and outcomes of implementing the proposed project.

- What are the benefits to the applicant's water supply delivery system?
 - As secondary water connections are metered:
 - 20 acre-feet per year of water savings will be realized. As previously stated, the proposed project is only the first phase of many that will eventually install meters on all existing RWCD service area connections. When all phases are complete, greater water savings will be realized.
 - RWCD's water supply delivery system will be able to stretch the water further into the irrigation season, providing all of its service area with a fair allocation of water, especially since water supply is becoming more limited as the years go by.
 - Overuse of water will be less of a problem, if not completely mitigated, as water users are held accountable for their water use.
 - The effects of drought, though inevitable, will be less of a burden as the District and its water users work together to better manage their valuable water supply.
- If other benefits are expected explain those as well. Consider the following:
 - O Extent to which the proposed project improves overall water supply reliability Upon completion of the proposed project, RWCD will be able to monitor water use on its metered connections at the Summer Pointe and Wildwood subdivisions. Other subdivisions will follow as more connections are metered in future phases. Metered connections will allow the District to understand how much of the available water supply each individual connection is using and allow the District to keep its users accountable for their water use. Doing so will conserve water, allowing valuable DWCCC water supply to be held up in Echo and East Canyon Reservoirs for longer in the season.
 - The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin)
 The project will begin to conserve water that will stay in Echo and East Canyon Reservoirs and the Weber River, improving the water supply in the Weber Basin Drainage. Over time, as more meters are installed in future phases, even more water will be contributed to these reservoirs.
 - Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism)
 Metering the secondary irrigation system will begin to secure the water supply for RWCD in times of drought. As previously mentioned, greater water security will be realized as future phases are completed. This will benefit the agricultural users by providing water for a longer irrigation season. Conserved water will be able to stay in Echo and East Canyon Reservoirs and in the Weber River, improving the environment and providing recreation opportunities.

 Extent to which the project will complement work done in coordination with NRCS in the area

The project will support RWCD as they better manage their secondary irrigation system and educate the users of their system on their water use. There are no anticipated EQIP projects on their system.

Evaluation Criterion B – Planning Efforts Supporting the Project

Describe how your project is supported by an existing planning effort.

- Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?
 - Yes, on page nine of RWCD's Water Conservation Plan, it states that there are no effective ways to determine individual water use within the District. It also states that many water users in the District lack the understanding of how to efficiently water landscaped areas; their practices are based on convenience or habit. Between 1995 and 2015, the District's service area reduced its water use by 34 percent. Their objective for 2015 to 2020 is to reduce water use by an additional 2 percent or an estimated water savings of approximately 415 acre-feet per year. RWCD's Water Conservation Plan is available upon request.
- Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.
 The proposed project has been determined as a priority in the existing planning effort because system improvements without an understanding of actual secondary water use and better conservation practices is ineffective. Water conservation requires the combined efforts of both system and user. If no meters are installed, achieving the objectives listed above will not be possible.

Evaluation Criterion C – Project Implementation

Describe the implementation plan for the proposed project.

The District is ready to move forward as soon as the project is awarded. The anticipated schedule is as follows.

- Sign contract with Reclamation: September to December 2018
- Prepare the environmental document: January to June 2019
- Project coordination and bidding: July to August 2019
- Project construction: October 2019 and April 2020
- Project closeout: September 2020

Describe any permits that will be required, along with the process for obtaining such permits. A street excavation permit from Roy and Hooper Cities will be required. All work will be within Roy and Hooper City road rights-of-way.

Identify and describe any engineering or design work performed specifically in support of the proposed project.

RWCD has created a standard meter connection detail for meter installations. This design drawing will be used as the basis for the new meter installations.

Describe any new policies or administrative actions required to implement the project. No new policies will need to be created. The District has an existing policy that requires all new connections to be metered.

Describe how the environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation office?

The environmental compliance has been estimated based on previous meter installation projects from Weber Basin Water Conservancy District and Davis and Weber Counties Canal Company.

Evaluation Criterion D – Nexus to Reclamation

Is the proposed project connected to a Reclamation project or activity? If so, how? Please consider the following:

- Does the applicant receive Reclamation project water?
 Yes. RWCD receives its water from DWCCC, which receives its water from Echo and East Canyon reservoirs via Weber River, which are Reclamation projects.
- Is the project on Reclamation project lands or involving Reclamation facilities?
 No. The Project does not directly involve Reclamation project lands or facilities.
- Is the project in the same basin as a Reclamation project or activity? Yes. The project is within the Weber Basin Project area.
- Will the proposed work contribute water to a basin where a Reclamation project is located?

Yes. RWCD will conserve water in the Weber Basin Project area.

Will the project benefit any tribe(s)?

No, the Project will not benefit any tribe(s).

Evaluation Criterion E – Department of the Interior Priorities

Creating a conservation stewardship legacy second only to Teddy Roosevelt

Teddy Roosevelt stated, "The conservation of natural resources is the fundamental problem. Unless we solve that problem, it will avail us little to solve all others." RWCD's proposed project will contribute to solving this "fundamental problem" by metering residential lawn and garden users, which will educate users to keep them from overwatering and conserve an estimated 20 acre-feet of water per year. Concern over water conservation is most prevalent in the western United States, and especially Utah – the second driest state in the nation. Because of drought, water conservation in Utah is something that is taken seriously by water distributors and users throughout the state. Although RWCD can do nothing to stop drought, the District actively seeks ways to reduce the disastrous effects of drought on the state, and by extension, their water users. By metering and educating users to use the correct amount of water, RWCD is

protecting Utah's water resources and ensuring that these resources are made available to sustain those living within their service area.

Restoring trust with local communities

Many of the local communities and secondary water users are concerned about water overuse from their neighbors. Without understanding the amount of water that is being used, it is difficult to resolve these concerns. This project will educate and validate many grievances about watering and may even help those who are concerned understand how they too can implement better practices that will conserve water.

Modernizing our infrastructure

Secondary metering became a viable option with the development of electromagnetic meters. These meters can now be installed to track, monitor, and educate homeowners on water usage, allowing suppliers the ability to understand the amount of water that is actually being used by individual users. In the past, this has only been a guess, and all suppliers could do is provide guidelines for smart water management practices with the hope that water users would hold themselves accountable.

Project Budget

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained.

The non-federal cost share will come from the operating budget of RWCD.

How you will make your contribution to the cost-share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant (e.g., reserve account, tax revenue, and/or assessments).

RWCD will provide cash from their annual operating budget.

Describe any funding requested or received from other Federal partners.

No funding has or will be requested or received from other Federal partners for the proposed project.

Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied.

There are no pending funding requests.

Table 1 – Summary of Non-Federal and Federal Funding Sources

Funding Sources	Amount
Non-Federal Entities	
1. Recipient Funding	\$75,000
Non-Federal Subtotal	\$75,000
Other Federal Entities	
Other Federal Subtotal	\$0.00
Requested Reclamation Funding	\$75,000
Total Project Funding	\$150,000

Budget Proposal

Table 2 – Budget Proposal

Budget Item Description	Computation		Quantity Type	Total Cost
	\$/Unit	Quantity		
Salaries and Wages	\$0.00	-	-	\$0.00
Fringe Benefits	\$0.00	-	-	\$0.00
Travel	\$0.00	-	-	\$0.00
Equipment	\$0.00	-	-	\$0.00
Supplies and Materials	\$0.00	-	-	\$0.00
Contractual /Construction				\$150,000
Meters	\$1,065	130	EA	\$138,450
Public Involvement/Construction Management	\$7,550	1	EA	\$7,550
Environmental Review (NEPA)	\$4,000	1	EA	\$4,000
Other				\$0.00
Total Direct Costs				
Indirect Costs				
Type of rate	Percentage	\$base		\$0.00
Total Estimated Project Costs				\$150,000

Budget Narrative

Salaries and Wages

No RWCD salaries or wages will be included. All services will be contracted.

Fringe Benefits

No fringe benefits will be required.

Travel

No travel will be necessary.

Equipment

Equipment will be part of the contracted portion of the Project.

Materials and Supplies

Materials and Supplies will be part of the contracted portion of the project and will be documented as required.

Contractual

Contractual will include the installation of meters, public involvement/construction management, and environmental review. The installation of meters will be competitively bid. The costs in the project budget have been based on previous meter installations by DWCCC.

Environmental and Regulatory Compliance Costs

The entire project will take place in existing street rights-of-way in front of existing homes. It is assumed that a Categorical Exclusion can be done to satisfy the NEPA requirements. 32 hours at \$125 = \$4,000 has been included in the project for the Categorical Exclusion.

Other Expenses

No other expenses will be associated with the Project.

Indirect Costs

No indirect costs will be associated with the Project.

Total Costs

Total Project Costs: \$150,000; Federal Cost Share: \$75,000; Non-Federal Cost Share: \$75,000

Environmental and Cultural Resources Compliance

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

Impacts will be those associated with installing meters in front of existing homes. The proposed project improvements will take place entirely within the existing street right-of-ways. In the past, similar projects have had minimal impacts, usually less than 10ft by 10ft per meter. The surface vegetation will be restored upon completion of the project.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

RWCD is not aware of any impacts concerning threatened or endangered species in this area.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

RWCD is not aware of any impacts to wetlands in this area.

When was the water delivery system constructed?

Construction on RWCD's water delivery system was completed in 1977 when the District was called a Subdistrict. Since then, many improvements have been made. As part of the completed environmental document, the required historical documentation for the project will be completed.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No, the proposed project will install 130 new water meters on secondary water connections located in two subdivisions in RWCD's service area.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

RWCD is not aware of any building, structure or features that would qualify. A cultural resource inventory will be completed as part of the submitted environmental document.

Are there any known archeological sites in the proposed project area?

RWCD is not aware of any impacts to or locations of archeological sites.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No. The Project will not require a right-of-way or relocations from adjacent properties and will have no impact on residential uses within the study area.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

RWCD is not aware of any impacts to or locations of any of these types of sites. An inventory will be completed as part of the submitted environmental document.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

No. The Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.

Required Permits or Approvals

A street excavation permit from Roy and Hooper Cities will be required as part of the Project. This permit will be obtained by the contractor prior to construction.

Letters of Project Support

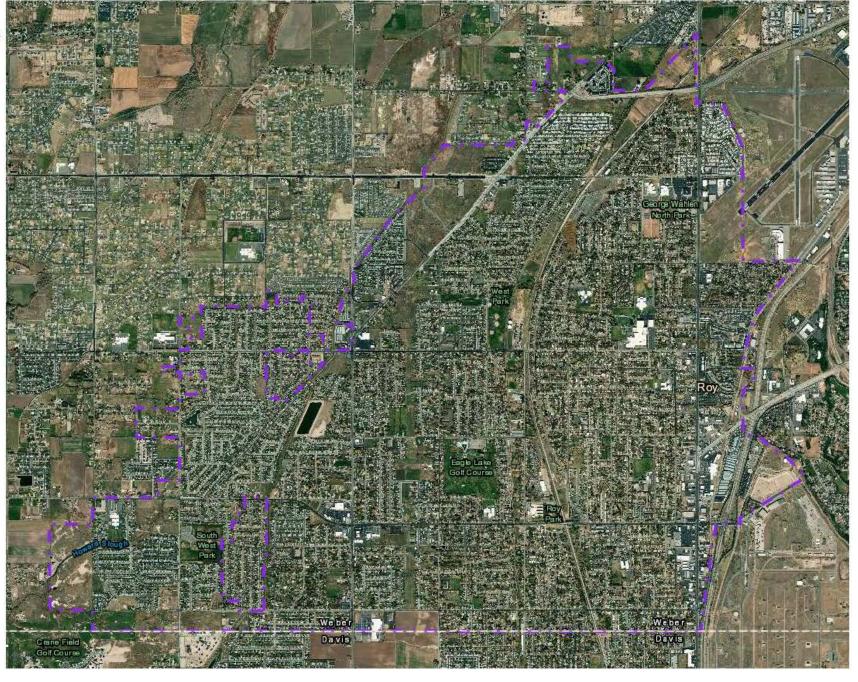
Letters of support are attached from Davis and Weber Counties Canal Company and Weber Basin Water Conservancy District.

Official Resolution

The Official Resolution for RWCD's Secondary Water System Metering Project will be submitted within 30 days of the application deadline.

Map 1 – Roy Water Conservancy District Service Area





Map 2 – Proposed Meter Locations

Summer Pointe Subdivision in Roy





Wildwood Subdivision in Hooper





Davis and Weber Counties Canal Company

138 West 1300 North ▲ Sunset, Utah 84015-2918 ▲ Office: (801) 774-6373 ▲ Fax: (801) 774-5424 ▲ davisweber.org

July 25, 2018

Mr. Rodney Banks General Manager 5440 S. Freeway Park Dr. Riverdale, UT 84405

Dear Rodney,

The Davis and Weber Counties Canal Company is pleased to write this letter in support of your grant application that is being submitted to the WaterSMART program of the Bureau of Reclamation to install secondary water meters. We are an advocate to meter use in order to better educate the end user on water use. We applied your efforts to increase accountability for secondary water use.

We strongly support your grant application and are willing to provide any insights that we've gained or learned as we've begun to meter ourselves.

Sincerely,

Davis and Weber Counties Canal Company

Richard (Rick) D. Smith, P.E.

Rick Suite

General Manager



WEBER BASIN WATER CONSERVANCY DISTRICT

2837 East Highway 193 • Layton, Utah 84040 • Phone (801) 771-1677 • (SLC) 359-4494 • Fax (801) 544-0103

July 25, 2018

Tage I. Flint General Manager/CEO

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Dave Ure Summit County

Dee Alan Waldron Morgan County Rodney Banks, District Manager Roy Water Conservancy District 5440 Freeway Park Drive Riverdale, UT 84405

RE: Letter of Support for Small-Scale Water Efficiency Project

Dear Rodney,

Weber Basin Water Conservancy District (District) is pleased to write in support of your grant application to the Bureau of Reclamation for a Small-Scale Water Efficiency Project. We applaud your efforts to increase the efficiency of your system to conserve valuable water through secondary water metering. We have implemented similar secondary metering projects and have documented significant water savings as consumers are made aware of their water use.

The District recognizes the importance of water conservation in our often water-short basin. The water saved through these improvement projects will provide benefit to water users and the regional environment. Roy Water Conservancy District continues to be a valuable partner promoting wise water uses in our area.

We strongly support your grant application and appreciate the advancements it will make in water savings and improving water efficiencies within the boundaries of Weber Basin Water Conservancy District.

Sincerely,

Tage I flint, PE

General Manager/CEO

TIF/DH/bjt