

Twin Falls Canal Company Inc.
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Grant Application for:
Funding Opportunity Announcement No. BOR-DO-20-F006

Offered through:
Department of Interior, Bureau of Reclamation

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Executive Summary

Date: February 20, 2020

Applicant Name: Twin Falls Canal Company Inc.

The Twin Falls Canal Company, (TFCC) is pleased to submit this application for grant funding to install a Rubicon SlipMeter at Tap #23-5 on our Mainline Canal. The requested funding will allow TFCC to purchase and install a 36" X36" SlipMeter into the existing concrete diversion structure at that location to provide for consistent and accurate water measurement while ensuring that over delivery of water at this location cannot occur.

The proposed project is one element of a larger effort by the TFCC to improve water measurements to high side water users whose irrigation practices have changed significantly over the years making their diversions very complicated and difficult to not only measure, but to limit these water users ability to divert more water to their land than what they are entitled it divert.

The Tap 23.5 project is a simple purchase and installation project.

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Background Data

The Twin Falls Canal Company diverts water out of the Snake River at Milner Dam and conveys that water to nearly 200,000 acres of agricultural lands in southern Idaho. The Canal System is comprised of over 100 miles of main canals, and over 1000 miles of smaller canals, laterals, and drains. We measure water from nearly 4000 head gates, and proudly boast as to our consistency of delivery, and accuracy of measurement.

The vast majority of our delivery structures are equipped with standard measuring devices i.e. Rectangular weirs, Cipolletti weirs, and our unique double panel gates, all of which do a fantastic job measuring and regulating flow to our shareholders. These standard measuring devices generally require consistent flow, and elevation change for them to provide consistent, accurate measurements.

There are approximately 5000 acres on the TFCC tract where the ground that the water is being delivered to is higher than the water surface in the canal. This area is locally known as the Hansen Butte, and the water users on the butte receive their water from our diversion structures into large ponds. Many of these large ponds have pump banks with several pumps drawing water from the ponds, as well as several others pumping ground water into the ponds. With multiple outputs, several inputs, and the fact that the pond at Tap 23.5 covers nearly 3 acres, accurate measurement can be accomplished at any given time, but it is nearly impossible to predict what the pond elevation might do in the near future. Pumps may come on thereby drawing the pond elevation down (creating more flow) or shut off, and submerge the pond elevation back into the measurement device.

After years of multiple changes in the delivery structure and the measuring devices, several failed attempts to automate the facility, we discovered the Rubicon SlipMeter. TFCC staff visited the Kennewick Irrigation District in Washington in 2108 to tour their facilities, meet with the Rubicon folks, and observe the Rubicon SlipMeter in action. In the spring of 2019 we purchased and installed our first Rubicon SlipMeter in a very similar application as somewhat of a prototype to ensure that this technology was the answer to our struggles. After being in service throughout the 2019 irrigation season we are convinced that the Rubicon SlipMeter is the right technology for this application.

Project Location



Project is located just outside of Murtaugh Idaho, approximately 20 miles east of Twin Falls Idaho. 1 Mile downstream of the Murtaugh Lake Diversion Structure.

Project Site



Tap 23.5 site. Existing delivery structure indicated by the red star. New SlipMeter fits right into existing concrete structure.

Pump Bank Photos



A view from across the pond at the bank of pumps.

Pump Bank Photos



8 pumps pumping out of the pond.

Pump Bank Photos



1 Of 3 pumps pumping groundwater into the pond.

Existing Measurement Device



Existing device is a 7-foot-wide rectangular weir. Note the smaller gate on the right side of the structure opens to an unmeasured 24-inch pipe to facilitate water delivery early and late in the season when the canal elevation is not high enough to get over the weir.

Existing Measurement Device



Existing weir from the downstream side. Note the black high-water mark suggests that the 7-foot weir spends a great deal of time submerged. Submerged weir measurement is less than ideal.

Existing Diversion Structure



Existing Diversion Structure



Existing diversion structure has a 48-inch-wide throat where the SlipMeter will be installed.

Project Description

The Tap #23.5 project is a simple purchase and install project. Existing concrete structure will accommodate the new Rubicon SlipMeter. A mounting shroud will be installed, frame will be installed into the shroud, and the SlipMeter will be installed onto the frame. When installation is complete this facility will be automated and tied into TFCC's existing SCADA System.

Evaluation Criteria

A. Project Benefits:

The benefits that are expected from implementation of the proposed project are the ability to constantly measure, manage, limit, and monitor water delivery to approximately 1000 acres. This ability will allow TFCC to meet with their goals of providing fair and equitable water distribution and delivery throughout the tract by removing water user's temptation and ability to divert more water than is appurtenant for the land.

B. Planning Efforts Supporting the Project:

The Twin Falls Canal Company has for many years continued to upgrade diversion and measurement structure throughout the tract. Implementing new technology whenever appropriate to help us improve our water delivery system efficiency and measurement accuracy. Fair, equitable, and consistent water delivery is a top priority with TFCC. The proposed project is one element of a larger effort by the TFCC to improve water measurements to high side water users in the area of the Hansen Butte and part of our ongoing effort to provide a high level of service to TFCC Water Users. TFCC has toured the Kennewick Irrigation District in Washington with representatives from Rubicon to observe their SlipMeter in use. Rubicon Representatives have also toured the TFCC tract to assess the appropriateness of the SlipMeters for this application. TFCC has purchased and installed a SlipMeter in a very similar application with good results.

C. Project Implementation:

This project is a simple purchase and install. TFCC's intentions are to purchase the Rubicon SlipMeter August 2020 as it may take up to 16 weeks for delivery. Water goes out of the canals on or about November 1, 2020. Installation of the Slipmeter will occur approximately November 15, 2020, and will be in place for the 2021 irrigation season.

D. Nexus to Reclamation:

The Twin Falls Canal System is not a Bureau of Reclamation project. TFCC does however convey and deliver water via Bureau of Reclamation storage contracts in American Falls Reservoir and the Jackson Lake Dam both of which are Bureau of Reclamation Facilities.

E. Department of Interior and Reclamation Priorities:

The Twin Falls Canal Company will use the reliable, consistent measurement and control of the Rubicon SlipMeter to more efficiently measure, control, and limit the water delivery to approximately 1000 acres. Resulting in reliable delivery not only to those 1000 acres but also resulting in a more reliable delivery to the rest of the TFCC tract as the potential for over diversion from poor measurement and control facilities has created in the past. Such water stewardship

and conservation measures are a priority of the Department of the Interior. Water measurement and accuracy is especially important in short water years, and this project will help TFCC and their water users endure those water short years by enhancing water delivery throughout the tract, which is also an initiative of the WaterSMART Program.

Environmental and Cultural Resources Compliance

The proposed project does not include any ground disturbing activities and will therefore not require any environmental compliance.

No species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat is known to be in the project area.

There are no wetlands or other surface waters within the project area that potentially fall under Clean Water Act (CWA) jurisdiction as Waters of the United States.

The water delivery system was originally constructed in approximately 1902.

No buildings, structure, or features within the project area are listed or eligible for listing on the National Register of Historic Places.

There are no archeological sites in the proposed project area.

The proposed project will have no disproportionately high and adverse effect on low income or minority population.

The proposed project will not limit access to any ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

The proposed project does not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

Required Permits or Approvals

No permits or approvals will be required for this project.

Project Budget

Project Costs	
3' X 3' SlipMeter	\$33,087.00
Installation Supervision & commissioning	\$1500.00
Total	\$34,587.00

Funding Sources	
Twin Falls Canal Company	\$17293.50
Requested Reclamation Funding	\$17293.50
Total	\$34,587.00

Official Resolution

WaterSMART Grant: Small-Scale Water Efficiency Projects

Funding Opportunity Announcement No. BOR-DO-20-F006

WHEREAS, The Twin Falls Canal Company is in receipt of the U.S. Bureau of Reclamation Funding Opportunity Announcement No. BOR-DO-20-F006, *WaterSMART Grant: Small-Scale Water Efficiency Project for FY 2020*; and

WHEREAS, The Twin Falls Canal Company has legal authority to enter into a grant agreement with the U.S. Bureau of Reclamation; and

WHEREAS, the Board of Directors of the Twin Falls Canal Company supports the application submitted; and

WHEREAS, the Twin Falls Canal Company is capable of providing the amount of funding specified in the funding plan; and

WHEREAS, the Twin Falls Canal Company will work with the U.S. Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement; and

WHEREAS, receiving financial assistance through a WaterSMART Grant does not subject the Twin Falls Canal Company to the discretionary provisions of the Reclamation Reform Act of 1982,

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors that the Twin Falls Canal Company is committed to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance.

DULY ADOPTED during the regular meeting of the Board of Directors this 11th day of February, 2020.

General Manager


