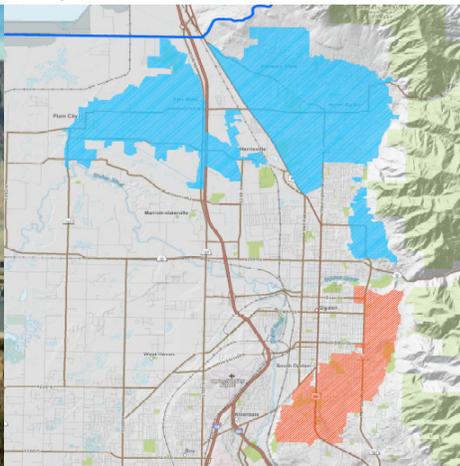
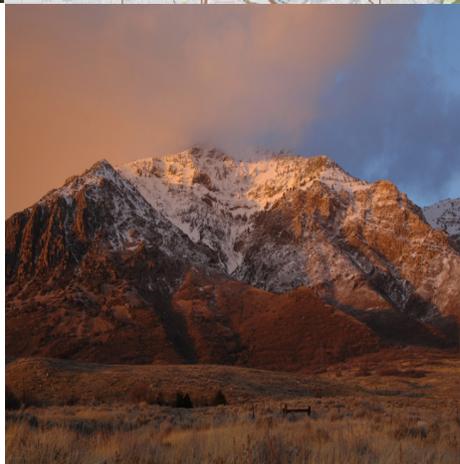


WaterSMART: Small-Scale Water and Energy Efficiency Grants for FY 2017

Funding Opportunity Announcement # BORDO17F011



RECLAMATION
Managing Water in the West



Ogden River Water Users Association Supervisory Control & Data Acquisition (SCADA) Project

APPLICANT

Ogden River Water Users Association
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Ogden, Utah 84404

PROJECT MANAGER

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Technical Proposal and Evaluation Criteria

EXECUTIVE SUMMARY

Date, Applicant Name, City, County and State

- » **Date:** April 27, 2017
- » **Applicant name:** Ogden River Water Users Association
- » **City, County, State:** Ogden, Weber, Utah
- » **Project Manager**
 - **Name:** Greg Seegmiller
 - **Title:** Project Manager/Engineer
 - **Telephone:** 801-547-0393
 - **E-mail:** gseegmiller@jub.com
- » **Project funding request:** \$75,000
- » **Total funding:** \$150,000

Project Summary

The proposed project will provide Supervisory Control and Data Acquisition (SCADA) to several of Ogden River Water Users Association (ORWUA) canal and reservoir systems. ORWUA canals and reservoirs deliver 29,540 acre-feet of water every irrigation season and currently rely on canal riders to monitor and operate headgates and over 35 miles of canals. The proposed project will allow ORWUA real-time access to changes in flow conditions to increase water efficiency and conservation. To achieve this efficiency and conservation, ORWUA will install and/or upgrade nine priority sites documented on attachment A-I Project Location Map. These priority sites include Project 1-Project 5, all of which are identified in the proposed Automation Master Plan and will consist of the following installations:

- » 4 solar power units
- » 1 DC power unit to existing meter
- » 10 cameras
- » 8 remote telemetry units (RTUs)
- » 6 radio transmitters
- » 7 cabinets
- » 3 valve actuators
- » 4 software updates to Exactraq
- » 7 10X10 concrete pads

- » 1 measuring device for stilling well
- » 9 ultrasonic measuring devices
- » 1 pressure transducer in surge tank
- » 2 tie-in barrels and slides
- » 3 float and pulleys for ramp flumes
- » 8 stilling well installations
- » 3 cellular transmitters
- » 2 gate actuators
- » 3 conduits for power and comm
- » 2 programmable logic controllers
- » Project 4B will require the installation of high and low level alarms, and low level shut-off for pump station

Length of Time and Estimated Completion Date

Ogden River Water Users Association is ready to begin installation of SCADA technology upon signing of contracts, and completion of environmental report. Planning, engineering, and public involvement have already taken place. It is estimated the project will take 4-7 months to complete and will take place before and during irrigation season.

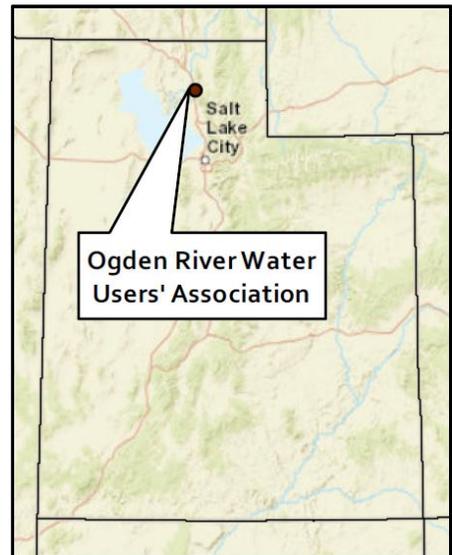
Federal Facility

Is the proposed project located on a Federal facility?

The proposed SCADA technology will be used to operate Bureau of Reclamation facilities. The Ogden Canyon Pipeline and the Ogden-Brigham Canal are Bureau facilities. ORWUA relies on federal resources to provide irrigation and secondary water resources for the majority of the populated areas of Weber and Box Elder Counties. This resource is provided to the system by canals which feed reservoirs and subsequently the distributing piping systems.

BACKGROUND DATA

The Ogden River Water Users Association is part of what is referred to as Pineview Water Systems – a management company for Ogden River Water Users Association, South Ogden Conservation District (SOCD), and Weber-Box Elder Conservation District (WBECD). ORWUA has been providing water from Pineview Reservoir, a Reclamation facility, since the 1930s and has water rights from the Ogden River. The staff of Pineview Water Systems maintain ditches, canals, reservoirs, pumps, and pressurized secondary water pipelines originating from Pineview Reservoir and the Ogden River. Most of this network of canals and reservoirs is part of the ORWUA.



ORWUA has three canals that service eleven systems associated with Weber-Box Elder and South Ogden Conservation Districts, which provide irrigation and secondary water for the majority of the populated areas of Weber and Box Elder Counties. The Bureau of Reclamation in conjunction with ORWUA has developed a master plan for the improvement of these canal systems with an emphasis on water conservation, risk reduction and cost effectiveness.

Geographic Location

The proposed project involves canal and reservoir systems from Brigham City to South Ogden, Utah. These canals and reservoirs are owned/managed by the ORWUA and are located within the boundaries of the WBECD and SOCD service areas, as seen in Attachment A-I Project Location Map. These canals and reservoirs include:

- Ogden Brigham Canal
- South Ogden Highline Canal
- Ogden Canyon Pipeline
- Perry Reservoir
- South Willard Reservoir

Source of Water Supply, Water Rights, Current Water Users

- » **Source of water supply.** The agricultural water is primarily provided by the Ogden and Weber rivers, operated by ORWUA using water from Pineview Reservoir, a Reclamation facility.

- » **Water rights involved.**
WBECDC and SOCD subscribe to 15,338 acre-feet from ORWUA which receives its water from Pineview Reservoir.
- » **Current water uses.**
Agriculture and secondary water
 - Agriculture: fruit orchards, berries, hay, row crops, corn
 - Residential lawns and gardens
- » **Number of water users served.** Water is provided to 28,190 agricultural and secondary connections within the Weber-Box Elder and South Ogden Conservation Districts.
- » **Current and projected water demand.** The estimated amount of water currently used is 29,540 acre-feet annually. Combined, Weber and Box Elder counties have seen nearly a 15% population increase since 2010, setting the estimated population increase of 18% for 2010 through 2020 significantly ahead of schedule. This population growth will increase the secondary water demand.
- » **Potential shortfalls in water supply.**

Drought

Utah is the second driest state in the nation, experiencing significantly less precipitation than the rest of the United States. Droughts are a recurrent concern in their area. The water conserved will remain in Pineview Reservoir as a result of this project and can provide a buffer during especially dry years. The agricultural water in the Weber-Box Elder and South Ogden Conservation Districts is vital to the livelihood of the community, emphasizing the importance of efficiency in using the water supply.

Efficiency

ORWUA canal systems are losing valuable water resources. Water is over allocated, often times going unused and overflowing into local drainages and at end of canals, reducing available water for use, flooding fields, yards and roads. Without the implementation of the proposed automation project, water will continue to be wasted rather than efficiently delivered to water users. Conserving water is crucial in providing sufficient irrigation and secondary water resources to all users even with rapid growth in population.

Water Delivery System

For agricultural systems, please include the types and approximate total lengths of canals and laterals (e.g., unlined or lined open channel, pipe, including types of pipe and lining materials), the number of irrigation turnouts and other significant existing irrigation improvements (e.g., automated control structures, remote monitoring devices and SCADA systems).

The ORWUA has three canals that service the systems downstream, a total of 35.62 miles of canal:

1. Ogden Canyon Pipeline - 5.06 Miles
2. South Ogden Highline Canal – 6.66 miles – which services the SOCD
3. Ogden-Brigham Canal -23.9 miles – which services the WBECD

Eleven pressure irrigation systems are associated with the WBECD: and one system located within the SOCD.

Relationship with Reclamation

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

ORWUA and Pineview Water just recently completed an Automation Master Plan with the Provo, Utah area field office. This Master Plan is the basis of this project and has a number priority projects that will be passed in over a number of years. ORWUA has had a long history of working and commutating with Reclamation in that they manage the water from Pineview Dam which was constructed as part of the Reclamation's Ogden River Project completed in 1937. Pineview is the primary source of water for the proposed project.

PROJECT DESCRIPTION

The project description should describe the work in detail, including project milestones and specific activities that will be accomplished. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal.

Identify the problems and needs

ORWUA delivery systems require canal riders and staff to travel to a site to manually shut off and assess shortfalls in the system. Delayed response results in backed up or blocked canals, flooding, loss of valuable water resources, and reduced efficiency in the delivery. Time is critical when obtaining control, conserving water resources, and reducing risk.

The proposed project will give canal riders and staff remote contact to canals through the use of SCADA technology, utilizing desktop and mobile technology to provide immediate access to

overwhelmed canal and reservoir systems. Swift response times will protect the homes, roads and the environment by reducing the risk of canal system failure. Maintenance/repair costs will be significantly reduced. Real-time access will maximize data collection which will lead to well-informed, data-driven decisions, ultimately increasing reliability of the water delivery systems. The project will implement flow measuring devices, canal emergency waste ways controls, reservoir level sensing, and pumping systems to reservoirs. All of which will provide real-time response action to help reduce potential shortfalls in canal systems and/or repairs needed to conserve water and provide continual water flows.

» **Break-Down of Canal/Reservoir Projects**

Project 1 Tunnel 7 South Canal Operation

Communication will be established from the south canal meter to the existing south operation gate at tunnel 7. To accomplish this:

- A solar unit and DC power will be installed at the meter to meet the needs of the new SCADA system
- Remote telemetry units (RTUs) will allow for the closing of the inline gate valve for the pipeline
- Existing monitoring software (Missions) will be replaced with Exactracq for greater compatibility with new system
- Cameras will be mounted to monitor the site

Project 2 Head of North Canal and Surge Tank

- RTUs will allow for quick access to gates to control flows in Ogden-Brigham Canal
- Existing controls will be tied into RTUs for operation of Barrel Gate and Slide Gate
- A float pulley will be installed in existing stilling well for the transducer (also to be installed) for measuring water level
- Cameras will be mounted to monitor the site



Project 3-A Perry Reservoir

Communication will be established with the reservoir inlet valve and the canal to utilize excess water and high water in the event of level sensor activation at the Maple Hills trashrack. To accomplish this:

- A stilling well and ramp flume will be installed with a float pulley in the stilling well, and two more stilling wells will be installed for reservoir inlet – one inflow, one back flow, also with float pulleys
- Solar will be installed if it proves a more feasible option than A/C power
- Gate controls for the reservoir will be installed
- Cameras will be mounted to monitor the site



Project 3-A and Project 3-B Perry Wasteway, Maple Hills Trashrack

Communication will be established with the trashrack at Maple Hills, Perry Reservoir, and Perry wasteway in the event that the high water level sensor is activated. To accomplish this:

- Existing monitoring software will be replaced with Exactraq.



Project 4-A 900 West Pump Station and Canal Meter

Communication will be established with pumphouse at North pump VFD and Ogden-Brigham Canal meter, to pump excess water to “H” Reservoir (P-4B). To accomplish this:

- RTUs will be installed at pumps, Ogden-Brigham Canal meters will communicate with 900 West Pump Station
- Float pulleys will be installed at existing stilling well
- Existing monitoring software will be replaced with Exactraq
- Cameras will be mounted to monitor the site



Project 4-B H Reservoir and Pump Station

Communication will be established with 900 West Pump Station. To accomplish this:

- A transducer for reservoir elevation, high and low level alarms, and low level shut off for pump station will be installed.
- Existing monitoring software will be replaced with Exactraq
- Cameras will be mounted to monitor the site



Project 4-C 500 West Wasteway

- RTUs for the slide gate will be installed, along with an actuator, and a meter for monitoring elevation of wasteway as it is filling
- Solar and batteries for D/C power will be installed
- Existing monitoring software will be replaced with Exactraq



Project 5 South Willard Reservoir

Communication will be established with the reservoir inlet valve and canal flow to utilize excess water. To accomplish this:

- A stilling well and ramp flume will be installed with a float pulley in the stilling well, and two more stilling wells will be installed for reservoir inlet (one inflow, one back flow), also with float pulleys
- An RTU for gate control and a meter for outflow will be installed
- Solar and batteries for D/C power will be installed
- Existing monitoring software will be replaced with Exactraq
- Cameras will be mounted to monitor the site



EVALUATION CRITERIA

E.1.1. Evaluation Criterion A – Planning Efforts Supporting the Project (35 points)

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. In conjunction with the Bureau of Reclamation, ORWUA's proposed Automation Master Plan identifies an inefficiency of communication between staff and canal riders, and canal systems. In times of emergency, immediate response is critical to obtaining control of overwhelmed canal systems. Direct communication between staff and canal systems during times of emergency will allow for a more efficient flow of water, thereby conserving water resources and reducing water losses. The proposed installation of SCADA technology into existing canal and reservoir systems will bridge this gap between staff and canal by installing flow meters tasked with communicating to valves the need for emergency shut-off. Following remote shut off, real time data collected will allow staff to accurately identify the problem at hand and make well-informed, data-based decisions to stabilize water flow and ultimately conserve valuable water resources for use by farmers and residents in an ever-growing community.

- » *Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measurements.*

The proposed implementation of SCADA technology has been determined to be of utmost importance in conserving both existing and potential water resources. Flow meters, camera systems, and remote telemetry units will ensure well-informed, data driven decisions when directly communicating with canal systems, in order to maintain control and reduce potential risk to systems and environment.

Priority reasons include:

- Flooding: snow melt normally occurring between the months of March and April has been exceptionally high this year, resulting in overloaded canals and severe flooding.
 - This year, snow melt and rain has caused significant flooding in many areas of Northern Utah, especially Box Elder County, and has proved disastrous for many residents. Because of this, Box Elder County has recently been named a national disaster area. Storm drains continue to run above capacity and are overflowing. If this continues to happen throughout irrigation season, canal carrying capacity will no longer be

sufficient to account for the increased amounts of water, resulting in a waste of desirable water resources.

- Climate variability: during wet years, in the spring and summer, stormwater runoff fills canals and overloads the systems. Data-driven decisions will help to determine how much water needs to be released into the system and how much should be held upstream.
 - In May, Northern Utah experiences light to severe precipitation 30% of those days, with the greatest accumulation occurring around May 13th. Real-time data acquisition will allow staff to measure rain levels and control the flow of water.
 - Though on average precipitation percentages decrease during June and July, some years reflect May's 30% or greater throughout all of summer. Though stormwater is always vital to maintaining efficient water storage/flow, the years when stormwater is in greater abundance will provide greater resources necessary to conserving water for years with little or no precipitation.

The implementation of SCADA technology on existing canal and reservoir systems is a priority in reducing current and potential flooding, and preparing for climate variability.

E.1.2. Evaluation Criteria B: Project Benefits (35 points)

- » *Describe the expected benefits and outcome of implementing the proposed project. What are the benefits to the applicant's water supply delivery system? If other benefits are expected explain those as well.*

The proposed SCADA project will have indefinite positive impacts on not only ORWUA canals and reservoirs, but also on the surrounding population, including farmers and residents who rely on efficient water supply and flow to provide agricultural and secondary water for vibrant fruit orchards, berries, hay, row crops, corn, lawns, and gardens.

Benefits of the proposed SCADA technology include:

- Remote access to systems: allows canal riders and staff to quickly dispatch any errors in canal and reservoir systems, thereby reducing potential damage caused to systems and environment by overwhelming amounts of water flow, especially during spring months, March-May
- Real-time data acquisition: permits well-informed, data-driven decisions between staff, canal/reservoir systems, and water managers throughout the region who rely on quick, efficient data for use in improving canal and reservoir system reliability

- Reduced risk and costs: less resources expended in cleaning and/or restoring affected areas.
- Remote measuring devices: conserves existing and potential water supply rather than allowing it to back up and flow into spillways where it cannot be recovered
- Reduction of drought risk: water in more abundant supply
- Reduced or prevented flooding: offers protection to the surrounding environment, including any natural habitats and wildlife
- Water Availability: conservation of existing/potential water and uninterrupted water flow to service areas will maintain the confidence of local sectors and economies who provide crops, and equally important to residents and local governments in maintaining vibrant landscapes and communities

The recent flooding in Box Elder County is evidence that the proposed automation plan will be a priority and benefit to systems, users, and surrounding environments. Improving canal and reservoir systems along the Weber and Ogden rivers will allow ORWUA the means to better anticipate and control the flow of water during emergency situations, and significantly reduce disastrous effects such as the flooding and water contamination currently happening in Box Elder County.

E.1.3. Evaluation Criterion C: Project Implementation (15 points)

- » *Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.*

The Bureau of Reclamation in conjunction with Pineview Water Systems has completed and approved the proposed Automation Master Plan. Upon award and completion of the WaterSMART contracts the environmental document will be completed. ORWUA will bid the construction portion of the project in February 2018, install the project March – September 2018, and. Final reporting and project close-out will be filed upon completion of installation. Please see the following estimated project schedule.

Estimated Project Schedule	
Milestone/Task	Estimated Completion Date
Sign WaterSMART contracts	September 2017
Environmental Document prepared and approved by Reclamation	October 2017 – March 2018
Project Bid/Award	February 2018
Installation of the Project	March – September 2018
Final reporting and project close-out	January/March 2019

- » *Describe any permits that will be required, along with the process for obtaining such permits.*

Building permits are required for the installation of SCADA technology and will be obtained by individual counties and cities involved within Weber-Box Elder and South Ogden Conservation districts. These counties and cities include: Box Elder County, Weber County, Perry City, Pleasant View, and North Ogden.

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

All engineering and design work outlined in the Automation Master Plan has been gathered and approved by the Bureau of Reclamation in direct support of the proposed project, which is a Reclamation project.

- » *Describe any new policies or administrative actions required to implement the project.*

No new policies are required to implement the proposed project. All policies or administrative actions are in direct compliance with Bureau of Reclamation and Ogden River Water Users Association policies and procedures.

E.1.4. Evaluation Criterion D: Nexus to Reclamation (15 points)

Describe the nexus between the proposed project and a Reclamation project or activity, including:

- » *How is the proposed project connected to a Reclamation project or activity?*

The Bureau of Reclamation in conjunction with Pineview Water Systems and the ORWUA has developed the proposed Automation Master Plan.

- » *Will the project help Reclamation meet trust responsibilities to any tribe(s)?*

N/A

- » *Does the applicant receive Reclamation project water?*

ORWUA receives water directly from Pineview Reservoir, a Reclamation facility.

- » *Is the project on Reclamation project lands or involving Reclamation facilities?*

The proposed Reclamation project is not located on a Reclamation facility, however this project will be implemented on canals located in Reclamation right of way. Canals within Reclamation rights of way include:

- » Ogden Brigham Canal
- » Ogden Canyon Pipeline
- » South Ogden Highline Canal

- » *Is the project in the same basin as a Reclamation project or activity?*

No. However, the proposed project receives water directly from Pineview Reservoir, a Bureau of Reclamation facility and involves Reclamation right of ways.

- » *Will the proposed work contribute water to a basin where a Reclamation project is located?*

Yes. The conservation of water that will come from better management and efficiency can be held up in the Pineview Reservoir which will contribute water to the Oden and Weber River basins.

Environmental and Cultural Resources

(1) Will the 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.

No impacts to the surrounding environment are expected with the proposed automation project. SCADA is a monitoring technology and will be installed as an upgrade to an already developed area.

(2) 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?

ORWUA is not aware of any impacts concerning threatened or endangered species in this area. A comprehensive investigation will be done as part of the required environmental process.

3) 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 project may have.

The construction will take place in existing canals and reservoirs. There are no known wetlands in the construction area. A comprehensive investigation will be done as part of the required environmental process.

(4) When was the water delivery system constructed?

There is no clear date for when the system was constructed because the “system” is comprised of a variety of individual irrigation water systems including wells, ditches, some pipe and canals. One privately-owned well was built in 1993, and the associated equipment is now obsolete. Some of the ditches that are used are estimated to have been built in the 1950s. As part of the completed environmental document the required historical documentation for the project will be completed.

(5) Will the 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.

New SCADA technology will be added to the existing canal and reservoir systems located within ORWUA service areas along the Weber and Ogden rivers. Manually operated systems will be replaced with remote telemetry units and meters allowing real-time access to flood gates and accurate data acquisition, in order to make well-informed, data-based decisions.

(6) 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.

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

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

ORWUA is not aware of any impacts to or locations of archeological sites. A comprehensive investigation will be done as part of the required environmental process.

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

No. In fact, by remotely controlling the flow of water at each canal and reservoir system, the proposed project will benefit all users within ORWUA service areas, especially low income residents. Demographics show that nearly 21% of Weber and Box Elder County residents live in poverty. The loss of valuable water resources due to delayed response times during emergencies has a disproportionately negative effect on low income residents.

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

No tribal lands are located within the project limits.

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

Best management practices will be employed to prevent the spread of noxious weeds in the area. In fact, by remotely controlling water flow, this project will help with the control of noxious weeds and invasive trees caused by flooding.

Required Permits or Approvals

Building permits are required for the installation of SCADA technology and will be obtained by individual counties and cities involved within Weber-Box Elder and South Ogden Conservation Districts. These counties and cities include: Box Elder County, Weber County, Perry City, Pleasant View, and North Ogden.

Official Resolution

The Official Resolution will be submitted by June 15, 2017.

Project Budget

FUNDING PLAN AND LETTERS OF COMMITMENT

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

Non-Federal project costs will be obtained in cash.

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).

ORWUA will use money from their own construction reserve account for their contribution.

Describe any costs incurred before the anticipated Project start date that you seek to include as project costs. For each cost, identify:

- » The Project expenditure, amount, and date of cost incurrence:

Purchased Equipment

- Rural Water Technology Alliance \$2,796 (12/29/2016)
- Campbell Scientific \$7,443 (12/28/2016 – 3/17/2017)
- DS Enterprises \$1,858 (3/14/2017)
- Bartock Controls \$19,098 (12/22/2016)
- VFC \$8,253 (12/09/2016)
- L-com Connectivity \$650 (3/14/2017)
- Rocky Mountain Valves & Automation, Inc. \$14,229 (9/12/2016)

Total Expenditure Amount: \$54,327.00

- » *Whether the expenditure is or will be in the form of in-kind services or donations*
Expenditure will be in the form of equipment purchased on 12/29/2016 – 03/17/2017.
- » *How the expenditure benefits the Project*
Equipment previously purchased by Pineview Water Systems for installation of SCADA technology at existing canal and reservoir systems will significantly reduce costs required by the proposed project.

Describe any funding requested or received from other Federal partners. Note: other sources of Federal funding may not be counted towards the cost share unless otherwise allowed by statute.

N/A

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

No other requests for financing have been made. Ogden River Water Users Association already has the funds for their cost-sharing portion of the project.

Summary of all funding sources. Denote in-kind contributions with an asterisk (*).

Funding Sources	Funding Amount
Non-Federal Entities	
Recipient Funding Pre-award Project (\$54,327) Cash (\$20,673)	\$75,000
<i>Non-Federal Subtotal</i>	\$75,000
Other Federal Entities	\$0.00
<i>Other Federal Subtotal</i>	\$0.00
<i>Requested Reclamation Funding:</i>	\$75,000
Total Project Funding	\$150,000

BUDGET PROPOSAL

Budget Item Description	Computation		Quantity Type	Total Cost
	\$/Unit	Quantity		
Salaries and Wages				
Fringe Benefits				
Equipment				
Supplies and Materials				
Contractual/Construction				
Solar Power	\$1,000	4	EA	\$4,000
DC power to existing meter	\$2,000	1	EA	\$2,000
Cameras	\$2,700	10	LS	\$27,000
Remote Telemetry Unit	\$1,500	8	EA	\$12,000
Radio Transmitter	\$1,600	6	EA	\$9,600
Cabinet	\$750	7	EA	\$5,250
Valve Actuator	\$7,000	3	EA	\$21,000
Software update to Exactraq	\$3,000	4	EA	\$12,000
10X10 Concrete Pad	\$750	7	EA	\$5,250
Measuring device for stilling well	\$1,500	1	EA	\$1,500
Ultrasonic Measuring Device	\$750	9	EA	\$6,750
Pressure Transducer in Surge Tank	\$1,500	1	EA	\$1,500
Tie in Barrel and Slide	\$1,075	2	LS	\$2,150
Float and Pulley for ramp flume/canal	\$1,500	3	EA	\$4,500
Stilling well installation	\$750	8	EA	\$6,000
Cellular Transmitter	\$1,000	3	EA	\$3,000
Gate Actuator	\$8,000	2	EA	\$16,000
Conduit for power & comm	\$1,500	3	LS	\$4,500
Programmable Logic Controller	\$1,500	2	EA	\$3,000
Environmental 2%				\$3,000
Total Direct Costs				\$150,000
Indirect Costs				\$0
Total Project Costs				\$150,000

BUDGET NARRATIVE

Salaries and Wages

N/A

Fringe Benefits

N/A

Travel

N/A

Equipment

N/A

Materials and Supplies

Material costs will be part of the contracted portion of the project.

Contractual

The contractual costs shown are estimates for each of the components to furnish and install all the equipment, including equipment already purchased by Pineview Water Systems.

ORWUA will bid the construction portion of the project to construction companies and their procurement policies require. Generally, the low bidder will be selected based on a determination of acceptable qualifications.

Environmental and Regulatory Compliance Costs

ORWUA will request that Reclamation prepare Environmental document at \$3,000. This is 2% of total project costs. The project does not take place in an environmentally sensitive area.

Other Expenses

N/A

Indirect Costs

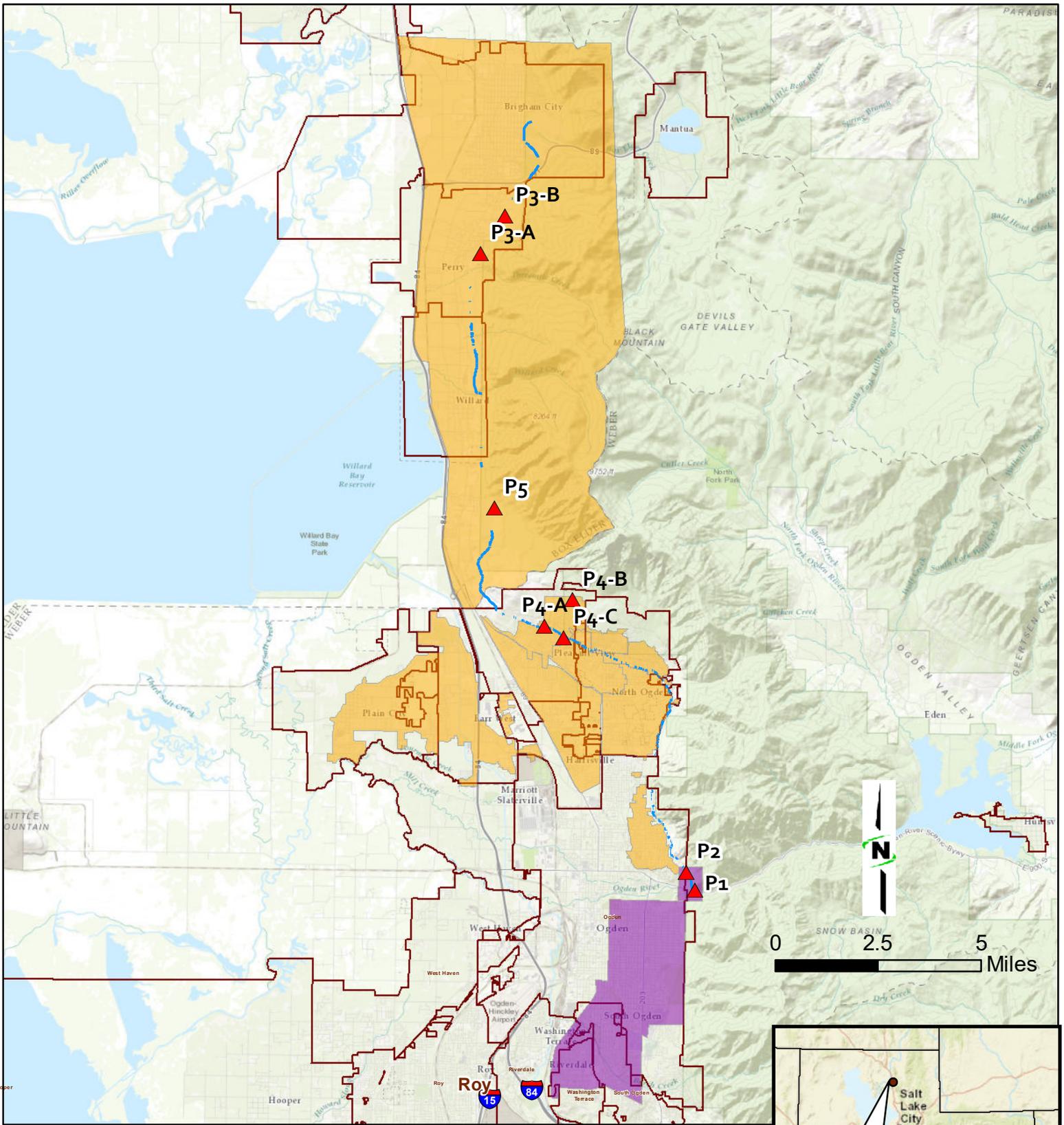
N/A

Total Costs

ORWUA Portion: \$75,000

Fed Portion: \$75,000

Total: \$150,000



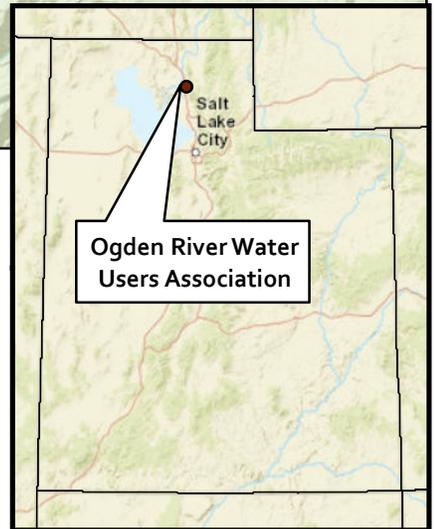
Legend

- ▲ Project Locations
- Canal
- Weber-Box Elder Conservation District Service Area
- South Ogden Conservation District Service Area
- City Boundaries

Ogden River Water Users Association

SCADA Project Overview

Attachment A-1



Tunnel 7 and Head of South Canal



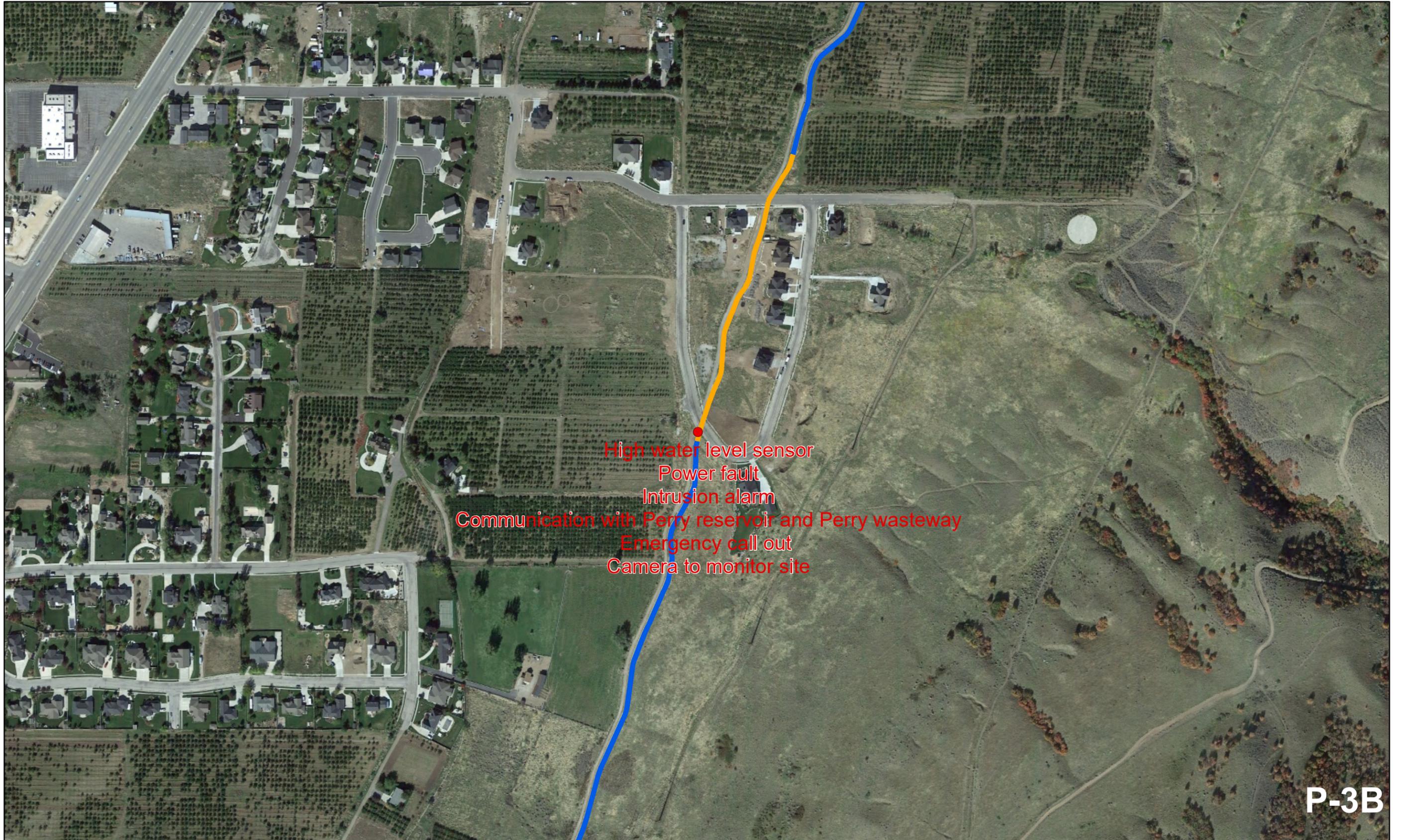
Head of North, Surge Tank



Perry Reservoir Pumphouse and Wasteway

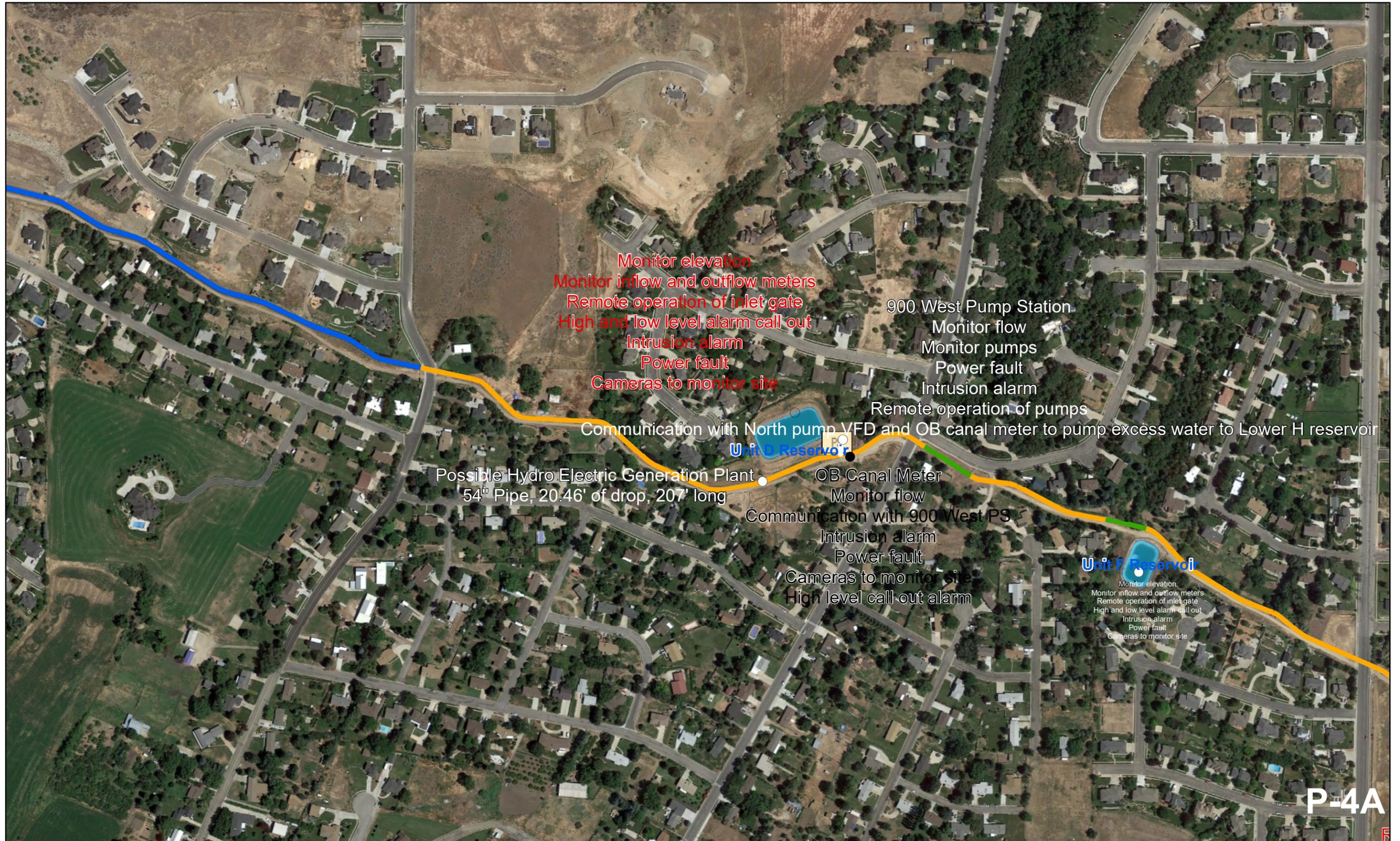


Maple Hills Trash Rack



High water level sensor
Power fault
Intrusion alarm
Communication with Perry reservoir and Perry wasteway
Emergency call out
Camera to monitor site

Unit "D" Reservoir, 900 West Pumphouse, Ogden Brigham Canal Meter



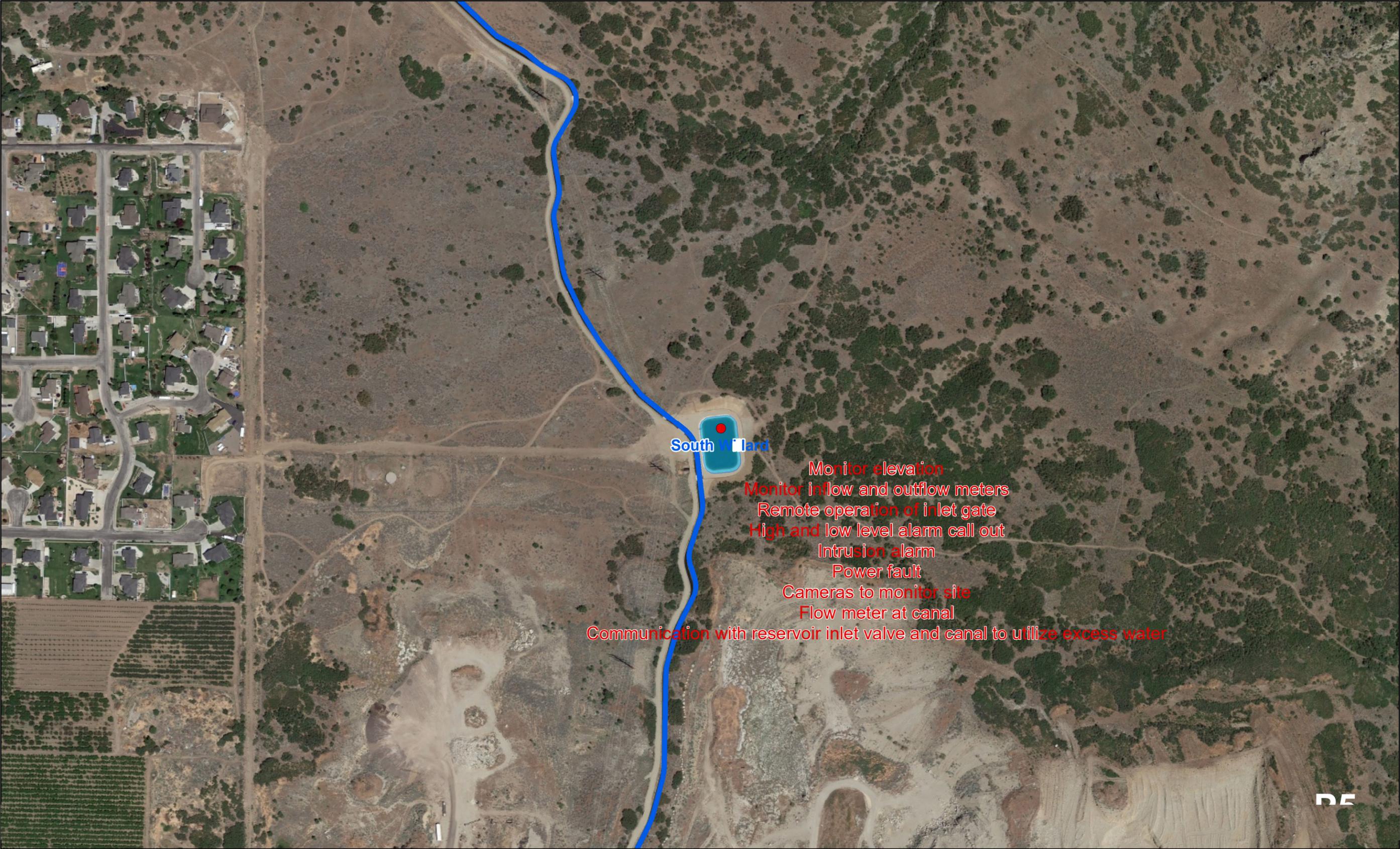
Lower H Reservoir and Pump Station



Unit "B" Reservoir and 500 West Wasteway



South Willard Reservoir



OFFICIAL RESOLUTION

RESOLUTION NO. 2017 - _____

Ogden River Water Users Association

WHEREAS, The **Ogden River Water Users Association Board** must maintain, provide for, and service the Water System,

WHEREAS, The **Board** sees the need to construct the **Supervisory Control and Data Acquisition (SCADA) Project** to improve water efficiency,

WHEREAS, The **Board** desires to obtain grant funding from the Bureau of Reclamation through the **WaterSMART: Small-Scale Water and Energy Efficiency Grant**.

NOW THEREFORE, BE IT RESOLVED that the **Board of Directors**, agrees and authorizes that:

1. The **WaterSMART: Small-Scale Water and Energy Efficiency Grant** application prepared by **J-U-B Engineers, Inc.** has been reviewed by the Board of Directors and supports the contents therein;
2. The **Ogden River Water Users Association** is capable of providing the amount of funding specified in the funding plan; and
3. If selected for a **WaterSMART: Small-Scale Water and Energy Efficiency Grant**, the **Board** will work with the Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

DATED: 4/27/2017

Benjamin D. Quick
Authorized Signature(s)

ATTEST:

Jamera Martenson