WaterSMART

Water and Energy Efficiency Grants for FY 2020

Funding Opportunity Announcement No. BOR-DO-20-F001

Funding Group II

Wellsville Pressurized Irrigation

Wellsville, Utah

Wellsville City Irrigation Company
Clint Kerr, President
P.O. Box 67
Wellsville, Utah 84339

October 3, 2019

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Executive Summary

The executive summary should include:

- *The date, applicant name, city, county, and state*
- *A one paragraph project summary that specifies the work proposed, including how funds will be used to accomplish specific project activities and briefly identifies how the proposed project contributes to accomplishing the goals of this FOA*
- *State the length of time and estimated completion date for the proposed project*
- *Whether or not the project is located on a Federal facility*

Date: October 3, 2019

Applicant: Wellsville City Irrigation Company
Wellsville, Cache County, Utah

Project Title: Wellsville Pressurized Irrigation

Project Summary:

Wellsville City Irrigation Company (WCIC) proposes to construct a pressurized irrigation (PI) system throughout Wellsville City to provide irrigation water to city residents for outdoor use. The project includes a small pond and pump station. The small pond will be supplied with water from the Wellsville Reservoir, Murray Springs, and Wellsville-Mendon Lower Canal. Water will then be pumped from the small pond into the PI system to be distributed to all residents of Wellsville City. Distribution pipe sizes will range from 2 inches to 18 inches in diameter. The project is expected to cost $5.8 million. By providing irrigation water to residents, who are currently using culinary water for indoor and outdoor use, culinary water demands will decrease, preserving high-quality groundwater for future indoor culinary use. Currently, the irrigation open ditch and canal system consists of open channels run through that is controlled by individual headgates and turnouts. The ditches are constantly filling and emptying which results in large amounts of operational waste and spills out of the ends of the ditches. With this project, WCIC will eliminate seepage and evaporation losses, as well as operational wastes and spills out of the end of the ditches currently experienced within their existing system.

Approximate Length: 36 Months

Completion Date: February 2023

Federal Facility: Wellsville City Irrigation company receives a portion of its water supply from Hyrum Dam that is delivered through the Wellsville-Mendon Canal. Both Hyrum Dam and Wellsville-Mendon Canal are owned by the Bureau of Reclamation.

Background Data

Applicant's Water Supply

As applicable, describe the source of water supply, the water rights involved, current water uses (e.g., agricultural, municipal, domestic, or industrial), the number of water users served, and the current and projected water demand. Also, identify potential shortfalls in water supply. If water is primarily used for irrigation, describe major crops and total acres served.

WCIC owns water rights to supply water for approximately 636 acres of land. Water rights are shown in Table 1 below. The main water sources include the Wellsville-Mendon Canal, Murray Springs (West Spring Stream), and Wellsville Reservoir (East Spring Stream). The current annual water demand is 2,950 acre-feet which is used primarily for irrigation of lawns and gardens (approximately 604 acres) with some shareholders irrigating crops (approximately 32 acres). Currently, Wellsville City has a population of approximately 3,800 people who are served by the WCIC. Wellsville City has 1100 shares in the WCIC which will allow all residents to be served if this project is constructed.

A change application may be necessary to modify the service area of the water rights, but this will not affect the total amount of acres irrigated.

Table 1: Wellsville City Irrigation Company Water Rights

Water Right	Source	Flow (cfs)	Type	Priority
25-1315	West Spring Stream	8.673	Decree	05/01/1857
25-1316	West Spring Stream	8.673	Decree	05/01/1857
25-1317	West Spring Stream	8.673	Decree	05/01/1857
25-1318	East Spring Stream	12.283	Decree	05/01/1857

Water Delivery System

Describe the applicant's water delivery system as appropriate. For agricultural systems, please include the miles of canals, miles of laterals, and existing irrigation improvements (e.g., type, miles, and acres). For municipal systems, please include the number of connections and/or number of water users served and any other relevant information describing the system.

WCIC's system consists of 21.7 miles of open ditches that service Wellsville City residents and surrounding farms. Wellsville City has a population of approximately 3,800 people, or about 1100 municipal connections. While not all these residents have water shares or are currently serviced by the WCIC, Wellsville City has 1100 shares in the WCIC which will allow all residents to be served if this project is constructed. The existing ditches flow into a network that distributes water to individual lots and farms in and around Wellsville City for both agricultural and residential irrigation. Water is then delivered as a flood irrigation stream to individual water users. Additional water losses occur when individual water users do not control their flows and flood neighbors, roads, and surrounding businesses.

Hydropower or Energy Efficiency

If the application includes hydropower or energy efficiency elements, describe existing energy sources and current energy uses.

Many of the residents of Wellsville City currently water their property using culinary water. Because this culinary water is pumped, the city spends an average of $ 12,000 dollars per month during the irrigation season in order to provide this water. In addition to the city pumping costs, some agricultural users pump their water from the Wellsville-Mendon Canal for on-farm use. With the construction of this project, the culinary pumping costs will be reduced by about 60% and the on-farm pumps eliminated with the construction of the secondary irrigation pump station.

Prior Work with Reclamation

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

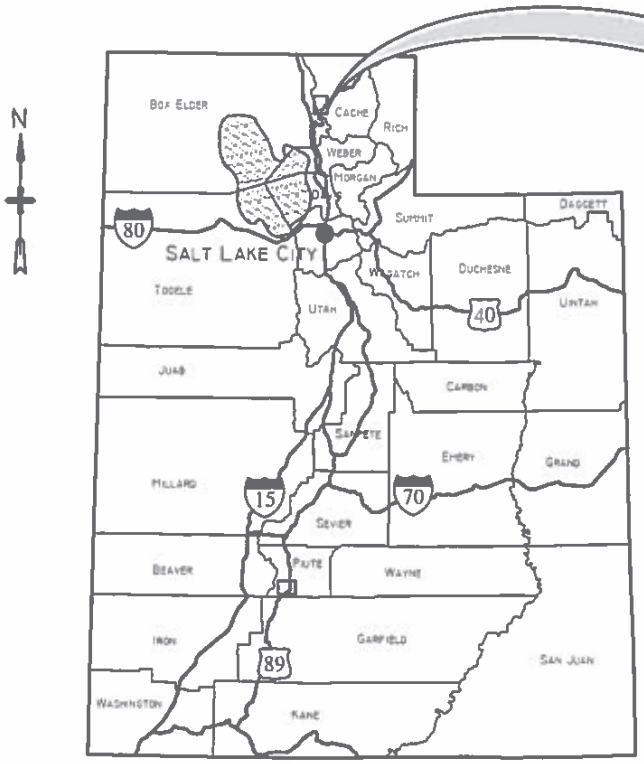
There have been no direct working relationships between WCIC and Reclamation concerning any specific reclamation project. However, the Wellsville-Mendon Canal that supplies part of WCIC's water comes from Hyrum Reservoir which is part of the Hyrum Project.

Project Location

Provide detailed information on the proposed project location or project area including a map showing the specific geographic location. For example, {project name} is located in {state and county} approximately {distance} miles {direction, e.g. northeast} of {nearest town}. The project latitude is {##°## 'N} and longitude is {###°## 'W}.

Wellsville Pressurized Irrigation is located primarily within the Wellsville City limits in Cache County, Utah, approximately 9 miles south of the City of Logan. Figure 1 illustrates the existing system location.

The project latitude is 41°38' North and longitude is 111°56' West.



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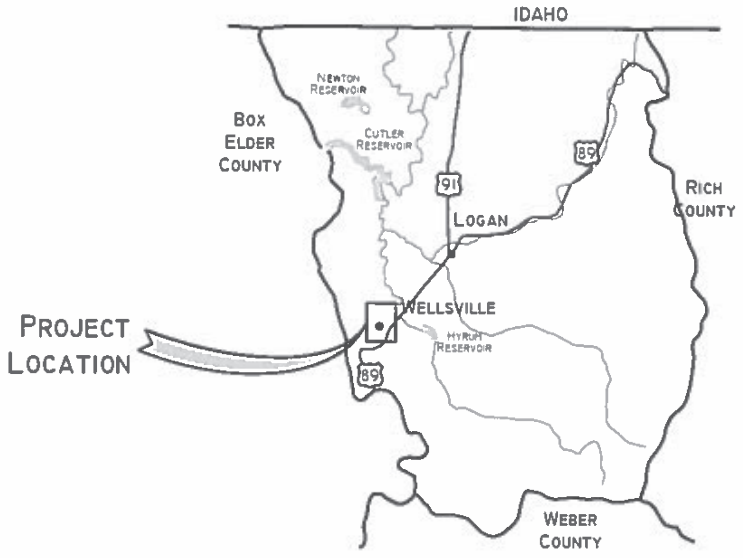


CACHE COUNTY

FRANSON CIVIL ENGINEERS	DATE: OCTOBER 1, 2019 SCALE: Figures Watersmart.dwg P:\UT\Northern\Wellsville PI Feasibility\Drawings	WELLSVILLE CITY WELLSVILLE CITY PRESSURIZED IRRIGATION PROJECT	FIGURE 1 LOCATION MAP

Technical Project Description

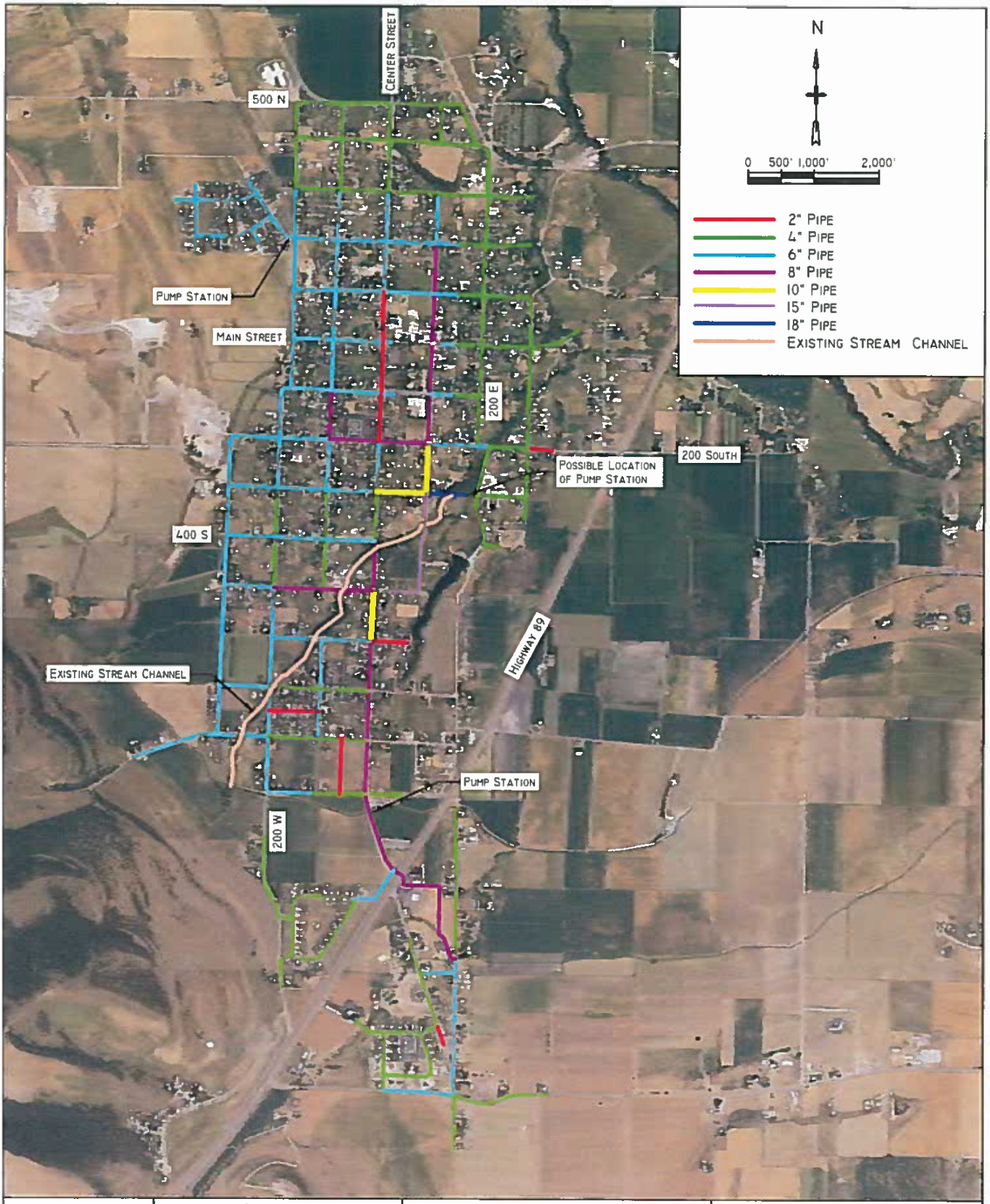
The technical project description should describe the work in detail, including specific activities that will be accomplished. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal. Please note, if the work for which you are requesting funding is a phase of a larger project, please only describe the work that is reflected in the budget and exclude description of other activities or components of the overall project.

The proposed project consists of a pipe network throughout Wellsville City that will replace the existing open ditch system and service all residents within the service area with PI water. The system would consist of a pumping station at the newly created small pond and two booster pump stations needed to maintain the required pressure to users located at elevations above the existing Wellsville-Mendon Canal. The pipe network is shown in Figure 2.

A small pond would need to be developed at a location downstream of the existing Wellsville Reservoir at or below the confluence with Murray Springs. This location has not been specifically sited but rather is speculative, based on the topography of multiple possible locations. The final location will be sited in order to minimize impacts on the streams and any potential wetlands or other sensitive habitat. The new reservoir will be supplied by overflow from Wellsville Reservoir and Murray Springs. If additional flow is needed, water will be diverted from the Wellsville-Mendon Lower Canal into the existing stream channel from Murray Springs.

The new small pond would consist of a concrete structure that would provide a regulating structure for the new reservoir as well as containing the pump station to supply the system. This pond would be small enough to fit inside an existing city easement, downstream of Wellsville Reservoir, avoiding the need to purchase additional land. A SCADA system would be installed at the reservoir and the canal in order to release additional flows if the water surface in the new reservoir were to drop below a specified elevation.

The proposed system will require two booster pump stations, one for the south end of the city above the Wellsville-Mendon Canal, and the other for the Red Slide Subdivision on the northwest side of Wellsville. The locations of the booster pumps are shown in Figure 2. These booster pump stations will be configured to supply existing development, while future development of the system will be the responsibility of the developer. However, the backbone of the system has been sized for buildout conditions.



FRANSON CIVIL ENGINEERS	DATE: October 1, 2019 SCALE: Figures Watersmart.dwg P:\AUT\Northern\Wellsville PI Feasibility\Drawings	Wellsville City Wellsville City Pressurized Irrigation Project	Figure 2 Proposed System

Evaluation Criteria

Evaluation Criterion A: Quantifiable Water Savings

Up to 30 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency by modernizing existing infrastructure. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in more significant water savings. All applicants should be sure to address the following:

Water Savings

Describe the amount of estimated water savings. *For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.*

The proposed project is anticipated to conserve approximately 1960 acre-ft of water per year from seepage, evaporation, and end of system operation spills

According to a report by Utah State University (USU) Extension (Hill, R. W. (2000). "How Well Does your Irrigation Canal Hold Water? Does it Need Lining?" All Archived Publications, Utah State University. Paper 148. http://digitalcommons.usu.edu/extension_histall/148), water losses in earthen irrigation canals range from 20 to 50 percent due to seepage.

A presentation by the NRCS ("Irrigation Water Conveyance." (2005). NRCS Irrigation Water Management Training, Fort Collins, CO. Presentation.) states that water losses range from 33 to 50 percent due to seepage, leakage, and improper management.

Because WCIC's ditches have a large wetted perimeter to flow rate ratio, they are much less efficient than larger canals. Soils in this area appear to have moderately high to high seepage rates as defined by the NRCS, ranging from 0.14 to 2.0 inches per hour for almost 68% of the service area. Based on this information, it is expected that water losses in the system will exceed the 30 to 40 percent annual losses experienced by most open ditch systems in Cache County.

For this analysis a conservative estimate of 33% was used to estimate the losses in the system. Enclosing the system will eliminate all losses due to seepage and evaporation, resulting in water savings equal to current water losses, or 33%. See Appendix C for detailed calculations. Seepage and evaporation losses were estimated by multiplying the total volume diverted, 2,950 acre-feet, by 33% in order to estimate the current water loss due to seepage, evaporation.

In addition to the water lost through seepage and evaporation, about 50% of the flows left in the system end up spilling into Murray Spring Stream (West Spring Stream) from operational wastes. This results in an additional loss of approximately 990 acre-feet each year through improper management. Operational wastes and end of system spills were estimated based on the water master reports that 50% of remaining water is spilled at the end.

Many of the residents of Wellsville use high-quality drinking water to irrigate. By comparing the summer usage with the winter usage, it was calculated that on average, city residents use 630 acre-feet of culinary water for irrigation each year. Converting all of Wellsville City to a PI system will eliminate the use of that culinary water and conserve 630 acre-feet of high-quality groundwater per year. This will be made possible through the use of the water conserved by eliminating seepage, evaporation, and operational wastes.

Table 2: Potential Water Conservation Amount

Feature	Water Savings (ac-ft)	Improved Management (ac-ft)
Wellsville City Irrigation Company	970	990

Current Water Losses

Describe current losses: Please explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?

Irrigation water in WCIC's existing open ditch system is currently lost to seepage and evaporation. Additional irrigation water loss is due to operational waste, resulting in excess system flows spilling into the Murray Springs stream. Culinary water will be conserved by converting residential outdoor irrigation from culinary water to irrigation water, since many residents are currently irrigating outdoor landscapes with culinary water in areas where access to irrigation water is not available.

Support/Documentation of Water Savings

Describe the support/documentation of estimated water savings: Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations. Note: projects that do not provide sufficient supporting detail/calculations may not receive credit under this section. Please be sure to consider the questions associated with your project type (listed below) when determining the estimated water savings, along with the necessary support needed for a full review of your proposal.

The seepage amounts were calculated by multiplying the total usage by 33%. The total spilled amount was calculated by multiplying the amount of flow that wasn't lost to seepage by 50%. The culinary water conserved was determined by taking the average increase in summer usage and multiplying by four months to get a total amount. See Appendix C for supporting calculations.

Project Types

Please address the following questions according to the type of infrastructure improvement you are proposing for funding. See Appendix A: Benefit Quantification and Performance Measure Guidance for additional guidance on quantifying water savings.

(1) ***Canal Lining/Piping:*** *Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage. Applicants proposing lining/piping projects should address the following:*

a. *How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.*

The water savings will be equal to the amount of water that is currently lost through seepage and evaporation from the open ditch system, the elimination of operational wastes and spillage, as well as water saved by creating connections to those homes that currently irrigate with culinary water. See Appendix C for calculations.

b. *How have average annual canal seepage losses been determined? Have ponding and/or inflow/outflow tests been conducted to determine seepage rates under varying conditions? If so, please provide detailed descriptions of testing methods and all results. If not, please provide an explanation of the method(s) used to calculate seepage losses. All estimates should be supported with multiple sets of data/measurements from representative sections of canals.*

According to the WCIC billing records, the ditch system diverts approximately 2,950 acre-ft per year. This information was compared with the estimated service area and was found to be reasonable. The WCIC does not currently have any other flow information or meters in their system. Detailed calculations are included in Appendix C.

c. *What are the expected post-project seepage/leakage losses and how were these estimates determined (e.g., can data specific to the type of material being used in the project be provided)?*

Seepage and evaporation losses will be eliminated by replacing the transmission system with PVC pipe. With good construction practices, leakage losses from pipe sections and joints will be near zero.

d. *What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?*

The transit loss reduction is approximately 44.7 acre-ft per mile each year. This was determined by dividing 970 acre-feet of conserved water by the 21.7 miles of transmission system that will be replaced with a pipe network.

e. *How will actual canal loss seepage reductions be verified?*

Meters will be installed downstream of the main pump at the small pond for the proposed system and on every connection. The measured flow from the proposed system will be compared with the measured/estimated data for the existing WCIC system.

f. *Include a detailed description of the materials being used.*

The existing ditch network will be replaced with a PVC pressurized pipe network. The pipes will range in size from 18 inches at the pump station to 2 inches throughout the distribution system, with most of the pipes being 6 inches. The 2-inch lines will be used in UDOT roads in order to minimize

the impact and also to reduce installation costs. Each home will be given a 1-inch connection with larger connections provided for agricultural users, parks, and large open spaces.

(2) ***Irrigation Flow Measurement:*** *Irrigation flow measurement improvements can provide water savings when improved measurement accuracy results in reduced spills and over-deliveries to irrigators. Applicants proposing irrigation flow measurement projects should address the following:*

a. *How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.*

The proposed project is anticipated to conserve approximately 970 acre-ft of water per year. The water savings were estimated by multiplying the total volume diverted, 2,950 acre-feet by 33% in order to estimate the water loss due to seepage, evaporation, and improper management. Detailed calculations are included in Appendix C.

b. *Have current operational losses been determined? If water savings are based on a reduction of spills, please provide support for the amount of water currently being lost to spills.*

According to the WCIC Water Master, approximately 50% of flows in the system are unused and spill downstream into Murray Spring Stream. Looking at the total water usage and dividing it in half (after subtracting the seepage loses), it is estimated that 990 acre-feet is lost to spills each year. With better management, the amount spilled could remain in Wellsville-Mendon Canal allowing it to be used by other shareholders on the canal system, increasing its beneficial uses.

c. *Are flows currently measured at proposed sites and if so what is the accuracy of existing devices? How has the existing measurement accuracy been established?*

There are currently no flow measuring devices on the system.

d. *Provide detailed descriptions of all proposed flow measurement devices, including accuracy and the basis for* the *accuracy.*

The proposed system will contain flow meters at the main pump and also at each connection on the system. These meters on the main system will be magnetic meters, similar to the Seametrics AG3000p, or equivalent. Additionally, the residential flow meters will likely be magnetic or ultrasonic meters with an accuracy of +/- 2 percent. The combination of these meters will allow the water master to verify the total water used versus the water delivered and identify excessive users who can then be billed accordingly or receive education to help reduce over irrigation and waste.

e. *Will annual farm delivery volumes be reduced by more efficient and timely deliveries? If so, how has this reduction been estimated?*

Most, if not all of the water users on WCIC's system use flood irrigation. Converting the system to PI will allow users to make on-farm improvements such as conversion to sprinkler systems. The NRCS indicates that flood irrigation has an irrigation efficiency of only 25 – 35% while sprinkler

irrigation is 65%-95% efficient (UT652.0605 State Supplement, NRCS Irrigation Guide, National Engineering Handbook).

The proposed project will improve irrigation efficiencies by a minimum of 30%. This will be accomplished by improved management resulting from the new PI system. Each user will be supplied with the water they need in order to irrigate efficiently, allowing the conserved water to remain in the Wellsville-Mendon Canal, allowing it to be used by other shareholders.

f. How will actual water savings be verified upon completion of the project?

WCIC currently has no measuring devices on their system. With the installation of the meter downstream of the pump, and meters at each connection on the system, the proposed project will give WCIC a precise measurement of the water being used in the system, specific to each user. This will allow for more accurate billing and with the flow meters installed on the system, WCIC will be able to compare their usage to their past billing records and verify the water savings.

Evaluation Criterion B: Water Supply Reliability

Up to 18 points may be awarded under this criterion. This criterion prioritizes projects that address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflicts in the region.

Please address how the project will increase water supply reliability. Proposals that will address more significant water supply shortfalls benefitting multiple sectors and multiple water users, will be prioritized. General water supply reliability benefits (e.g., proposals that will increase resiliency to drought) will also be considered. Please provide sufficient explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:

1. Will the project make water available to address a specific water reliability concern? Please address the following:

- *Explain and provide detail of the specific issue(s) in the area that is impacting water reliability, such as shortages due to drought, increased demand, or reduced deliveries. Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)?*

The WCIC currently experiences water shortages in the last third of the irrigation season during most years. Shortages result from moss in the ditches and canals, decreased flows from the springs, and very high seepage losses. These shortages can be more severe in drought years. By constructing this system, water can be left in Hyrum Reservoir until later in the year, thus mitigating the shortages.

Additionally, many residents of Wellsville City currently water their property with high-quality drinking water. This causes a high increase in demand on the system during the summer months, resulting in higher pumping costs for the city and requiring a larger infrastructure in order to meet that demand. With the use of the conserved water to provide pressurized irrigation to these residents, the peak demands can be reduced saving on energy costs by reducing pumping requirements, reducing groundwater demands currently, and extending the time before the city will need to drill new wells or build new water tanks in order to meet future growth and development.

- *Describe how the project will address the water reliability concern? In your response, please address where the conserved water will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversion or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

Wellsville City currently supplies culinary water to its residents from wells that pump groundwater. During the irrigation season, many residents water their property with the high-quality drinking water which has been pumped from the wells and then treated, at additional cost. The proposed PI system will alleviate this increased summer demand, thereby saving money in pumping costs and delaying the need for further infrastructure development necessary to meet increasing demand as Wellsville City continues to grow. The conserved culinary water will be left in the aquifer, making it available for future use.

By constructing a PI system, all water loss to seepage will be eliminated. The PI system will provide a more efficient use of the conserved water, requiring the diversion of water needed and only require diverting water from the Wellsville-Mendon Canal when other sources are insufficient to meet demands. This will allow for previously lost water to be conserved by remaining in the canal and Hyrum Reservoir for the beneficial use of other shareholders.

In addition to eliminating seepage losses, operational spills and management issues related to moss will be eliminated. Converting the ditches to a pressurized system will ensure the most efficient use of the available flows in the system. The flows currently wasted from spillage downstream will be left in the canal or Hyrum Reservoir for the beneficial use by other irrigators or to meet late season shortages. In addition, connecting city residents to the PI system will prevent continued issues due to misuse or uninformed users who do not control their irrigation flows and flood neighbors, streets, and surrounding businesses.

- *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.*

The mechanism proposed to put the conserved water to the intended use consists of a PI system that will provide secondary water to the residents of Wellsville City, thus eliminating current seepage loss and waste to spills. The proposed system will provide a more efficient method to use only what is needed, allowing the conserved water to stay in the canal for the benefit of other shareholders downstream. In addition to the water left in the canal, this PI system will reduce the demand on the culinary water system, allowing the groundwater to be left in the aquifer, available for future use.

- *Indicate the quantity of conserved water that will be used for the intended purpose.*

The quantity of conserved secondary water that will be used for the intended purpose is equal to the amount of savings of 1960 acre-ft per year. Additionally, a total of 630 acre-feet of groundwater will be conserved.

2. Will the project make water available to achieve multiple benefits or to benefit multiple water users? Consider the following:

- *Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?*

The proposed project will service both municipal and agricultural users. All users on the WCIC system will have a PI connection, allowing them to irrigate more efficiently. The PI system will also lower pumping costs for Wellsville City by providing secondary water to residents who currently irrigate with culinary water. This project will also benefit users on the Wellsville-Mendon Canal who will receive higher flows due to the more efficient use by WCIC.

- *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project.*

The Yellow-Billed Cuckoo, listed as a threatened species, is found in the Bear River Migratory Bird Refuge. The proposed project will provide additional water to the refuge, thereby improving the overall habitat of this threatened species as well as other non-threatened species.

- *Will the project benefit a larger initiative to address water reliability?*

The WCIC is part of a larger system that is supplied by Hyrum Reservoir and conveyed through the Wellsville Mendon Canal. The proposed project will have an impact on other entities associated with the larger Hyrum Project by decreasing water losses to the overall Wellsville-Mendon Canal System. Other companies who receive water from the Wellsville-Mendon Canal, as well as the Canal system itself, could potentially pipe the existing system in the future which would further add to the water savings on the Hyrum Project.

- *Will the project benefit Indian tribes?*

Not Applicable.

- *Will the project benefit rural or economically disadvantaged communities?*

Not applicable.

- *Describe how the project will help to achieve these multiple benefits in your response, please address where the conserved water will go and where it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

Many of the residents of Wellsville City currently use culinary water for irrigation purposes. The construction of the proposed PI system would decrease the demand on the culinary system resulting in the conservation of groundwater, thus saving money on pumping costs. As a result of the decreased demand, the city will be able to delay the development of additional infrastructure required as the city continues to grow.

Additionally, as the system is fully utilized, the conserved water won't be needed in order to meet current demands and will then be left as instream flows, increasing the amount of flow left in the Wellsville-Mendon Canal and Hyrum Reservoir, thus improving downstream ecosystems.

By constructing a PI system, operational spills and management issues related to moss will be eliminated. Converting the ditches to a pressurized system will ensure the most efficient use of the available flows in the system. The flows currently wasted from spillage downstream will be left in the canal for the beneficial use by irrigators downstream of Wellsville. In addition, connecting all city residents to the PI system will prevent continued issues due to misuse or uninformed users who do not control their irrigation flows and flood neighbors and streets.

3. Does the project promote and encourage collaboration among parties in a way that helps increase the reliability of the water supply?

The proposed project promotes collaboration between WCIC, South Cache Water Users, the Cache Water District, and Wellsville City. The project will benefit all entities by conserving water for irrigation and also by making it available for municipal connections, which will allow the city to conserve high-quality drinking water. Overall, this collaboration will contribute to city growth and an improved economy since they residents will be better able to rely on their water supplies. South Cache Water Users are also in support of the project since it will increase the water flows available to other users in the South Cache area. Additionally, this project helps the Cache Water District improve water use in Cache County and meets one of their primary goals.

- *Is there widespread support for the project?*

Wellsville City has given their support of the project, as well as the Cache Water District, South Cache Water Users, Wellsville-Mendon Canal, and the Utah Division of Water Resources.

- *What is the significance of the collaborations/support?*

With the irrigation company and the city working together, significant water savings can be achieved. WCIC is also part of a larger Wellsville-Mendon Canal system and Hyrum Project that is also in support of the project. These collaborations could lead to more water conservation projects in the future.

- *Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?*

This project has already led to additional conversations about piping the Wellsville-Mendon Canal and has encouraged residents and businesses to consider what they can do to conserve water. Discussions have also risen over the benefits that further water conservation can generate, including on-farm improvements downstream of Wellsville on the Wellsville-Mendon Canal, including improved water delivery to the end water users.

- *Will the project help to prevent a water-related crisis or conflict? Is there frequently tension of litigation over water in the basin?*

While litigation has not been considered, substantial tension on the Wellsville-Mendon Canal has occurred when moss and extensive water loss has made it difficult to deliver water to Mendon. By storing the saved water in the Hyrum Reservoir, these savings can be used to ensure late season delivery to all Hyrum Project water users.

Additionally, poorly managed irrigation flows by individual property owners floods numerous homes, businesses, and streets annually. While this has not led to litigation yet, it has caused severe tension. The PI system will eliminate this issue.

- *Describe the roles of any partners in the process. Please attach any relevant supporting documents.*

The City of Wellsville is the majority shareholder for WCIC. Their participation in the project is vital to the success of the proposed PI system. The City of Wellsville has written a letter of support that is include in Appendix A.

4. Will the project address water supply reliability in other ways not described above?

Not Applicable.

Evaluation Criterion C: Implementing Hydropower

Not Applicable.

Evaluation Criterion D: Complementing On-Farm Irrigation Improvements

*Up to 10 points may be awarded for projects that describe in detail how they will **complement on-farm irrigation improvements** eligible for NRCS financial or technical assistance.*

If the proposed projects will complement an on-farm improvement eligible for NRCS assistance, please address the following:

- *Describe any planned or ongoing projects by farmers/ranchers that receive water from the applicant to improve on-farm efficiencies.*
  - *Provide a detailed description of the on-farm efficiency improvements.*
  - *Have the farmers requested technical or financial assistance from NRCS for the on-farm efficiency projects, or do they plan to in the future?*
  - *If available, provide documentation that the on-farm projects are eligible for NRCS assistance, that such assistance has or will be requested, and the number or percentage of farms that plan to participate in available NRCS programs.*
  - *Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*

According to the WCIC Water Master, between 5% and 10% of shareholders on the current system use their water for agricultural applications. Those that are agricultural users currently flood irrigate. These farms are available for EQIP funding through the NRCS since they are continuously farmed. As the system pressurizes, these farmers will be encouraged to work with the NRCS to implement the on-farm improvements.

- *Describe how the proposed WaterSMART project would complement any ongoing or planned on-farm improvement.*
  - *Will the proposed WaterSMART project directly facilitate the on-farm improvement? If so, how? For example, installation of a pressurized pipe through WaterSMART can help support efficient on-farm irrigation practices, such as drip-irrigation.*

    OR
  - *Will the proposed WaterSMART project complement the on-farm project by maximizing efficiency in the area? If so, how?*

The proposed project will encourage the replacement of flood irrigation with sprinkler irrigation by providing all shareholders in the project area with pressurized water. This will eliminate the need for individual pump stations which is the primary concern of most of the farmers. With the improved efficiency, reduced labor, and improved agricultural yields, these farmers are more interested in making the changes to convert to sprinklers.

- *Describe the on-farm water conservation or water use efficiency benefits that are expected to result from any on-farm work.*
  - *Estimate the potential on-farm water savings that could result in acre-feet per year. Include support or backup documentation for any calculations or assumptions.*

The NRCS indicates that flood irrigation has an irrigation efficiency of only 25 – 35 percent, while sprinkler irrigation is 65 – 95 percent efficient, (UT652.0605 State Supplement, NRCS Irrigation Guide, National Engineering Handbook). This project makes it possible to improve on-farm irrigation efficiencies by a minimum of 30%. Agricultural users make up about 5% of the WCIC system. This equates to about 147.5 acre-feet per year that is used for agriculture. Applying a 30% increase in efficiency will offer a savings of 44.25 acre-feet of water per year.

Evaluation Criterion E: Department of the Interior Priorities

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior priorities. Please address those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the proposal.

1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt*
   a. *Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;*
   b. *Examine land use planning processes and land use designations that govern public use and access;*
   c. *Revise and streamline the environmental and regulatory review process while maintaining environmental standards.*
   d. *Review Department water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;*
   e. *Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;*

f. *Identify and implement initiatives to expand access to Department lands for hunting and fishing;*
g. *Shift the balance towards providing greater public access to public lands over restrictions to access.*

The proposed project will eliminate an increase in the summer demand on Wellsville City's culinary water system for outdoor irrigation by providing all city residents with a PI connection. This PI system will help to better manage the water resources that would otherwise be lost through seepage, evaporation, or spillage downstream.

2. *Utilizing our natural resources*
   a. *Ensure American Energy is available to meet our security and economic needs;*
   b. *Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications;*
   c. *Refocus timber programs to embrace the entire 'healthy forests' lifecycle;*
   d. *Manage competition for grazing resources.*

Not Applicable.

3. *Restoring trust with local communities*
   a. *Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;*
   b. *Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.*

The proposed project requires WCIC and Wellsville City to work together. By collaborating with these entities, Reclamation will be able to improve several local relationships in the Cache Water District area. Reclamation's involvement will demonstrate support for water conservation efforts while also stressing the importance of better managing water resources. In addition, this project will involve communication with local water authorities and community leaders, including Cache Water District, and South Cache Water Users. The collaborative network involved in this project will help to restore trust with local communities and encourage conservation efforts.

Additionally, the construction of a PI system will eliminate the problems associated with poorly managed irrigation flows by individual landowners, which can the result in the flooding of neighboring properties and streets. This is a source of contention between residents and the local community in Wellsville.

4. *Striking a regulatory balance*
   a. *Reduce the administrative and regulatory burden imposed on U.S. industry and the public;*
   b. *Ensure that Endangered Species Act decisions are based on strong science and thorough analysis.*

Not Applicable

5. *Modernizing our infrastructure*

a. Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;
b. Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;
c. Prioritize Department infrastructure needs to highlight:
    1. Construction of infrastructure;
    2. Cyclical maintenance;
    3. Deferred maintenance.

While a pressurized pipe system is not new technology, the proposed project will modernize the old, inefficient ditch system originally developed in the 1860s which will be a great benefit to the city, contributing to future conservation of water which will be necessary as the city continues to grow.

Evaluation Criterion F: Implementation and Results

Up to 6 points may be awarded for these subcriteria.

Subcriterion F.1 – Project Planning

Points may be awarded for proposals with planning efforts that provide support for the proposed project.

Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? *Please self-certify or provide copies of these plans where appropriate to verify that such a plan is in place.*

Provide the following information regarding project planning:

(1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan or other planning efforts done to determine the priority of this project in relation to other potential projects.

WCIC does not have an official Water Conservation Plan. However, they have just recently completed a feasibility plan to pressurize the system to eliminate seepage losses, eliminate operation wastes, and improve delivery to all City of Wellsville residents, and to provide water measurement at every turnout. Additionally, this project is in compliance with the Utah State Water Plan, with goals to reduce water demands on culinary systems by 25% by the year 2025. A Water Conservation Plan will be prepared by the irrigation company as it is required to obtaining funding from the State of Utah, Division of Water Resources.

(2) Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).

Not Applicable

Subcriterion F.2 – Performance Measures

Points may be awarded based on the description and development of performance measures to quantify actual project benefits upon completion of the project.

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved or better managed, energy generated or saved). For more information calculating performance measure, see Appendix A: Benefit Quantification and Performance Measure Guidance.

The proposed project includes installing a meter downstream of the pump supplying the system, as well as a meter at every residential/agricultural connection. These meters will provide an accurate measurement of how much water the system is using. The measured flow will then be compared with historical usage data in order to quantify the total saving created by the system. The city culinary usage will also be recorded and compared with past usage data which will provide a direct savings comparison as a result of the project.

Subcriterion F.3 - Readiness to Proceed

Points may be awarded based upon the extent to which the proposed project is capable of proceeding upon entering into a financial assistance agreement.

Describe the implementation plan of 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.

Once funding is secured, WCIC will move forward with the environmental process, design, and completing the construction. A preliminary project schedule is shown below.

Milestone/Task: Estimated Date(s)

- WaterSMART Grant Award – February 2020
- NEPA Compliance & Permitting Complete – August 2020
- Engineering Design Complete – November 2020
- Project Bidding & Award of Construction Contract – November 2020
- Project Construction March 2020 – January 2023
- O&M Manual & Record Drawings Prepared February 2023

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

A change application may be necessary in order to modify the service area of the water rights. A stream alternation permit will be necessary to install the pump station and diversion below Wellsville Reservoir. We will need to work with Utah State Division of Water Rights for the changes application as well as the stream alteration permit. Work in the right-of-way permits and encroachment permits will be required from Cache County, Wellsville City, and the Utah Department of Transportation (UDOT). All of these permits will be obtained during design. All reviews are less than 60 days and are included in the design and bidding periods.

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

Preliminary engineering design work has been completed in order to determine pipeline alignment, capacity, and material type. This work has included site visits and preliminary design criteria parameters. All completed design work indicates that this project is viable. Final engineering design will begin once the company receives a committal of funds from both Reclamation and the Utah DWR.

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

No new policies or administrative actions are required to implement this project. Shareholder approval, as indicated by the Official Resolution, provides the legal justification needed to move forward with the project.

- *Describe how the environmental compliance estimate was developed. Has the compliance cost been discussed with the local Reclamation office?*

A total of $125,000 is budgeted for environmental services. The budget amount for this estimate was based on recent similar projects, and a conversation with the local Reclamation office.

Evaluation Criterion G: Nexus to Reclamation Project Activities

Up to 4 points may be awarded if the proposed project is in a basin with connections to Reclamation project activities. No points will be awarded for proposals without connection to a Reclamation project or Reclamation activity.

- *Is the proposed project connected to Reclamation project activities? If so, how? Please consider the following:*
  - *Does the applicant receive Reclamation project water?*
  - *Is the project on Reclamation project lands or involving Reclamation facilities?*
  - *Is the project in the same basin as a Reclamation project or activity?*
  - *Will the proposed work contribute water to a basin where a Reclamation project is located?*

WCIC receives water through Wellsville-Mendon Canal, which is supplied by Hyrum Reservoir. Both the Wellsville-Mendon Canal and Hyrum Reservoir are part of Reclamation's Hyrum Project.

In addition to these projects, there are numerous other Reclamation projects within the county and the Bear River Basin, including but not limited to, the Benson Project, Newton Project, Middle Ditch Water Conservation and Renewable Energy Project, West Lewiston Pressurized Irrigation Project, Upper High Creek Canal Enclosure and Hydropower Development Project, Preston Bench Project, Preston-Whitney Interconnect Project, and Woodruff Pressurized Irrigation Project.

All the projects listed above divert water from tributaries that lead to the Bear River. The proposed project will aid the existing projects by protecting and enhancing allowing saved water to be held in Hyrum Reservoir and to be released downstream to the Bear River and the users along it.

- *Will the project benefit any tribe(s)?*

Not Applicable

Evaluation Criterion H: Additional Non-Federal Funding

Up to 4 points may be awarded to proposals that provide non-Federal funding in excess of 50 percent of the project costs. State the percentage of non-Federal funding provided using the following calculation:

Non-Federal Funding / *Total Project Cost*	=	$ 4,395,000 / $ 5,895,000	=	**75%**

Project Budget

Project costs for environmental and cultural compliance and engineering/design that were incurred or are anticipated to be incurred prior to award should be included in the proposed project budget.

If the proposed project is selected, the awarding Reclamation Grants Officer will review the proposed pre-award costs to determine if they are consistent with program objectives and are allowable in accordance with the authorizing legislation. Proposed pre-award costs must also be compliant with all applicable administrative and cost principles criteria established in 2 Code of Federal Regulations (CFR) Part 200, available at www.ecfr.gov, and all other requirements of this FOA. ***In no case will costs incurred prior to July 1, 2019 be considered for inclusion in the proposed project budget for Fiscal Year 2020 funding.***

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. Letters of commitment shall identify the following elements:

- *The amount of funding commitment*
- *The date the funds will be available to the applicant*
- *Any time constraints on the availability of funds*
- *Any other contingencies associated with the funding commitment*

Commitment letters from third party funding sources should be submitted with your application. If commitment letters are not available at the time of the application submission, please provide a

timeline for submission of all commitment letters. Cost-share funding from sources outside the applicant's organization (e.g., loans or State grants), should be secured and available to the applicant prior to award.

Reclamation will not make funds available for an award under this FOA until the recipient has secured non-Federal cost-share. Reclamation will execute a financial assistance agreement once non-Federal funding has been secured or Reclamation determines that there is sufficient evidence and likelihood that non-Federal funds will be available to the applicant subsequent to executing the agreement.

Please Identify the sources of the non-Federal cost share contribution for the project, including:

- *Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)*
- *Any costs that will be contributed by the applicant*
- *Any third party in-kind costs (i.e., goods and services provided by a third party)*
- *Any cash requested or received from other non-Federal entities*
- *Any pending funding request (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied*

WCIC will seek a loan from the Utah Division of Water Resources. The loan will be sought in order to cover costs in excess of the available funding. The Board of Water Resources will not approve the loan until the grant has been awarded. The letter of commitment will soon follow. However, the Division of Water Resources has provided a letter of support for this project.

In addition, please identify whether the budget proposal includes any project costs that have been or may be incurred prior to award. For each cost, describe:

- *The project expenditure and amount*
- *The date of cost incurrence*
- *How the expenditure benefits the project*

In order to determine feasibility, develop a preliminary design, and procure funding, costs have been incurred via an engineering firm. The cost from these efforts is $30,000 and was incurred from May 2019 through September 2019. Without this expense, no funding would be obtained for the project and project feasibility would be unknown. WCIC is not seeking to be reimbursed for these costs.

Please include the following chart to summarize all funding sources. Denote in-kind contributions with an asterisk (*).

Table 3: Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Utah Division of Water Resources	$4,395,000
2.	$0
3.	$0
Non-Federal Subtotal	**$4,395,000**
Other Federal Entities	
1.	$0
2.	$0
3.	$0
Other Federal Subtotal	**$0**
REQUESTED RECLAMATION FUNDING	**$1,500,000**

Budget Proposal

The total project cost (Total Project Cost), is the sum of all allowable items of costs, including all required cost sharing and voluntary committed cost sharing, including third-party contributions, that are necessary to complete the project.

Table 4: Total Project Cost Table

SOURCE	AMOUNT
Costs are reimbursed with the requested Federal Funding	**$1,500,000**
Costs to be paid by the applicant	**$4,395,000**
Value of third party contributions	**$0**
TOTAL PROJECT COST	**$5,895,000**

Table 5: Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Legal Services	$200/hr	100	Hours	$20,000
Environmental Services	$150/hr	333	Hours	$125,000
Engineering Services	See Appendix D			$307,000
Construction Management	See Appendix D			$307,000
Construction Contract	See Appendix E			$5,116,000
Reclamation Reporting	$100/hr	200	Hours	$20,000
TOTAL ESTIMATED PROJECT COSTS				**$5,895,000**

Budget Narrative

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation for, items included in the budget proposal. The types of information to describe in the narrative include, but are not limited to, those listed in the following subsections. Costs, including the valuation of third-party in-kind contributions, must comply with the applicable cost principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations (www.ecfr.gov).

WCIC board members and employees will not earn salary, wages, fringe benefits, or reimbursements from funding obtained to implement this project. All contributions by the secondary water company board members and employees will be volunteered or funded by the company's general fund and be in-kind contributions to the project. See appendix E for the budget narrative.

Contractual

Identify all work that will be accomplished by consultants or contractors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. For each proposed contract, identify the procurement method that will be used to select the consultant or contractor and the basis for selection.

All funding obtained for the project will be used to pay consultants and construction contractors and subcontractors. These include legal and administrative services, environmental services, engineering design, construction management, and construction services. Detailed tasks to be completed, rates, and materials for each task is outlined in the appendices as follows:

Appendix D – Engineering Design and Construction Management
Appendix E – Construction Services
Appendix F – Environmental Services

The costs shown in the appendices were prepared by a professional engineering firm. Costs for construction services were estimated using bid abstracts from similar projects. A narrative for the unit costs in the construction services cost estimate is included in the appendix. The estimates for engineering design, construction management, and environmental services have been broken down into various tasks and employee types to provide a more detailed estimate.

Environmental and Regulatory Compliance Costs

Prior to awarding financial assistance, Reclamation must first ensure compliance with Federal environmental and cultural resources laws and other regulations ("environmental compliance"). Every project funded under this program will have environmental compliance costs associated with activities undertaken by Reclamation and the recipient.

To estimate environmental compliance costs, please contact compliance staff at your local Reclamation Office for additional details regarding the type and costs of compliance that may be required for your project. Note, support for your compliance costs estimate will be considered during review of your application. Contact the Program Coordinator (see Section G. Agency Contacts) for Reclamation contact information regarding compliance costs and requirements.

Environmental compliance costs are considered project costs and must be included as a line item in the project budget and will be cost shared accordingly.

The amount of the line item should be based on the actual expected environmental compliance costs for the project, including Reclamation's cost to review environmental compliance documentation. Environmental compliance costs will vary based on project type, location, and potential impacts to the environment and cultural resources.

How environmental compliance activities will be performed (e.g., by Reclamation, the applicant, or a consultant) and how the environmental compliance funds will be spent, will be determined pursuant to subsequent agreement between Reclamation and the applicant. The amount of funding required for Reclamation to conduct any environmental compliance activities, including Reclamation's cost to review environmental compliance documentation, will be withheld from the Federal award amount and placed in an environmental compliance account to cover such costs. If any portion of the funds budgeted for environmental compliance is not required for compliance activities, such funds may be reallocated to the project, if appropriate.

Costs associated with environmental and regulatory compliance must be included in the budget. Compliance costs include costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include NEPA, ESA, NHPA, CWA, and other regulations depending on the project. Such costs may include, but are not limited to:

- *The cost incurred by Reclamation to determine the level of environmental compliance required for the project*
- *The cost incurred by Reclamation, the recipient, or a consultant to prepare any necessary environmental compliance documents or reports*

- *The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant*
- *The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures*

A total of $125,000 is budgeted for environmental services. It is anticipated that the NEPA compliance for this project will be at the level of a small Environmental Assessment. The budget amount for this estimate was based on recent similar projects and a conversation with the local Reclamation office. See Appendix F for environmental costs.

Other Expenses

Any other expenses not included in the above categories shall be listed in this category, along with a description of the item and why it is necessary. No profit or fee will be allowed.

Not Applicable

Total Costs

Indicate total amount of project costs, including the Federal and non-Federal cost-share amounts.

The total project cost is $5,895,000.

Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants should consider the following list of questions focusing on the NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. The application should include the answers to:

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.

Much of the project will be placed within the city right-of-way along the shoulder of roads. The alignment is not expected to disturb any animal habitat. Most of the work will be done in the winter and early spring months when the soil is wet. If any earth-disturbing work is done when the soil is dry, best management practices will be taken to ensure dust is minimized.

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?

There are three endangered species that are listed in Cache County which could possibly be affected by the project; the Yellow-billed Cuckoo, the Maguire primrose, and the Ute ladies-tresses. Before the project begins, a registered environmental firm will perform an environmental survey in order to ensure no species are within the project 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.

Currently it is not expected that there are any wetlands or surface water that may fall under the CWA inside the project boundaries. Before construction begins, a registered environmental firm will perform an environmental survey in order to ensure no protected wetlands are affected.

When was the water delivery system constructed?

The earliest and main water rights are from 1857. It is thought that the water delivery system was originally constructed around that year.

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.

The ditch system will be replaced with pipelines in a pressurized system. As such, all existing ditches and their structures will be abandoned. The headgates and ditches have been in place since the original construction of the canal. Some ditches have been lined with concrete and have had typical maintenance performed. The headgates have been replaced as needed over the years. It is anticipated that much of the existing ditch system, including headgates and other existing structures, will be left in place for stormwater management.

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

It is unknown if any structures are listed or eligible for listing on the National Register of Historic Places database or archeological sites. A complete cultural resources report will be prepared prior to any construction activities in the area, which will include consultation with the Utah State Historic Preservation Office (SHPO), a complete a Class I literature search to identify any archeological and historic architectural resources within the project area, and a Class III pedestrian inventory of the pipeline corridor, laterals, and staging areas. It is not anticipated that the project will impact any archeological sites or historic structures.

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

The project will not have a disproportionately high and adverse effect on low income or minority populations.

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

The project will not affect tribal lands.

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?

The project will not contribute to the spread of noxious weeds.

Required Permits or Approvals

Applicants must state in the application whether any permits or approvals are required and explain the plan for obtaining such permits or approvals.

A change application may be necessary in order to modify the service area of the water rights. An environmental clearance will be required before construction can begin. A stream alteration permit will also be required. We will work with the Utah Division of Water Rights to obtain these permits.

Letters of Support

Please include letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support/partnership letters as an appendix. (Note: this will not count against the application page limit.) Letters of support received after the application deadline for this FOA will not be considered in the evaluation of the proposed project.

Letters of Support are included in Appendix A.

Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or for State government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of a financial assistance award under this FOA, verifying:

- *The identity of the official with legal authority to enter into an agreement*
- *The board of directors, governing body, or appropriate official who has reviewed and supports the application submitted*

- *The capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the funding plan*
- *That the applicant will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement*

An official resolution meeting the requirements set forth above is mandatory. *If the applicant is unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted up to 30 days after the application deadline.*

The signed Official Resolution is shown in Appendix B.

Unique Entity Identifier and System for Award Management

All applicants (unless the applicant has an exception approved by Reclamation under 2 CFR §25.110[d]) are required to:

(i) Be registered in the System for Award Management (SAM) before submitting its application;

(ii) Provide a valid unique entity identifier in its application; and

(iii) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

The company has registered with SAM, under DUNS 097362391 Wellsville City Irrigation Company will maintain an active SAM registration as required.

Appendix A

Letters of Support

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
BRIAN C. STEED
Executive Director
Division of Water Resources
ERIC L. MILLIS
Division Director

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: WaterSMART: Water & Energy Efficiency Grants for FY 2019:
Wellsville Pressurized Irrigation Project.

Mr. Kerr:

The Utah Division of Water Resources understands that Wellsville City Irrigation Company is seeking federal funds to replace an existing open-ditch secondary system in Wellsville City with a fully pressurized irrigation system, through the Bureau of Reclamation's WaterSMART grant program.

As an agency, our mission is to plan, conserve, develop, and protect Utah's water resources. Replacing old and inefficient secondary irrigation delivery systems with pressurized pipelines and customer meters fits into this mission perfectly. The State of Utah has funds to help water providers construct these types of projects through low interest loans.

We therefore recommend that the Bureau of Reclamation helps to fund this project to help ensure its success. Please do not hesitate to call me at 801-538-7277 if you have any questions.

Respectfully,

Todd Stonely

Todd Stonely, P.E.
Project Funding Manager

TES:db

cc: Kade Beck (via email)

1594 West North Temple, Suite 310, PO Box 146201, Salt Lake City, UT 84114-6201
telephone (801) 538-7230 • facsimile (801) 538-7279 • TTY (801) 538-7458 • *www.water.utah.gov*

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As Mayor of Wellsville City, I want to offer support to the construction of the Wellsville Pressurized Irrigation Project being considered for Wellsville City, Utah. Although Wellsville City Irrigation Company and Wellsville City are separate entities, we each can support each other in providing the best possible service to the residents of Wellsville City.

As a city, we are encouraged by Wellsville City Irrigation Company's desire to improve upon the existing secondary water delivery system. These improvements will enhance water conservation, improve water delivery efficiencies and assist Wellsville City in reducing the demand on culinary water for irrigation use. This will provide water savings that will postpone the need to expand the culinary water system as the city continues to grow.

Our Council is excited about this opportunity and how it would benefit the community today and for future generations.

Sincerely,

Thomas Bailey
Mayor of Wellsville City

9/30/19
Date

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As Manager of Cache Water District, I want to offer support to the construction of the Wellsville Pressurized Irrigation Project being considered by the Wellsville City Irrigation Company. The Cache Water District is supportive of water conservation efforts throughout all of Cache County. This project will add considerable water conservation measures to the south end of Cache Valley, Utah.

Our board is excited about this project and how it will benefit the Wellsville City Irrigation Company, its shareholder and the community of Wellsville today and future generations.

Sincerely,

Nathan Daugs
Manager, Cache Water District

9-27-19
Date

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As President of South Cache Water Users, I want to offer support to the construction of the Wellsville Pressurized Irrigation Project being considered for Wellsville City, Utah. The improvements would add considerable water conservation measures to the South Cache Water Users Association.

Our board is excited about this opportunity and how it would benefit the South Cache Water Users and the community today and for future generations.

Sincerely,

Thomas Bailey
President, South Cache Water Users Association

9/30/19
Date

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville. Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As President of Wellsville-Mendon Canal Company, I want to offer support to the construction of the Wellsville Pressurized Irrigation Project being considered for Wellsville City, Utah. The improvements would add considerable water conservation measures to the Wellsville-Mendon Canal system.

Our board is excited about this opportunity and how it would benefit the Wellsville-Mendon Canal Company and the community today and for future generations.

Sincerely,

Quinn Murray
President, Wellsville-Mendon Canal Company

Sept 30, 2019
Date

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As a shareholder on the Wellsville City Irrigation Company, I am writing this letter to show my support in pursuing the construction of the Wellsville Pressurized Irrigation system and funding from the Bureau of Reclamation. The project will be beneficial to me personally and to our community.

Sincerely,

Laurie Christensen
Sign and Write Name

10-1-19
Date

Laurie Christensen

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As a shareholder on the Wellsville City Irrigation Company, I am writing this letter to show my support in pursuing the construction of the Wellsville Pressurized Irrigation system and funding from the Bureau of Reclamation. The project will be beneficial to me personally and to our community.

Sincerely,

Ronald Case — Sign and Write Name

Ronald Case

Aug 1, 2019 — Date

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As a shareholder on the Wellsville City Irrigation Company, I am writing this letter to show my support in pursuing the construction of the Wellsville Pressurized Irrigation system and funding from the Bureau of Reclamation. The project will be beneficial to me personally and to our community.

Sincerely,

Sign and Write Name

Martin Kent Larsen

10-1-2019

Date

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As a shareholder on the Wellsville City Irrigation Company, I am writing this letter to show my support in pursuing the construction of the Wellsville Pressurized Irrigation system and funding from the Bureau of Reclamation. The project will be beneficial to me personally and to our community.

Sincerely.

Clint L

Sign and Write Name

Aug 30, 19

Date

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As a shareholder on the Wellsville City Irrigation Company, I am writing this letter to show my support in pursuing the construction of the Wellsville Pressurized Irrigation system and funding from the Bureau of Reclamation. The project will be beneficial to me personally and to our community.

Sincerely,

Sign and Write Name
Dean Clark

Date
9/30/19

Mr. Clint Kerr
President
Wellsville City Irrigation Company
PO Box 67
Wellsville, Utah 84339

Re: Wellsville PI Project.

Dear Mr. Kerr:

As a shareholder on the Wellsville City Irrigation Company, I am writing this letter to show my support in pursuing the construction of the Wellsville Pressurized Irrigation system and funding from the Bureau of Reclamation. The project will be beneficial to me personally and to our community.

Sincerely,

Kirt Lindley
Sign and Write Name
KIRT LINDLEY

9-30-19
Date

Appendix B

Signed Official Resolution

OFFICIAL RESOLUTION
OF THE
Wellsville City Irrigation Company

RESOLUTION NO. 2019 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has announced the *WaterSMART Water and Energy Efficiency Grants* in order to prevent water supply crises and ease conflict in the western United States, and has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Wellsville City Irrigation Company has need for funding to complete Wellsville Pressurized Irrigation Project.

NOW, THEREFORE, BE IT RESOLVED that the Wellsville City Irrigation Company Board of Directors agrees and authorizes that

1. The Wellsville City Irrigation Company Board of Directors has reviewed and supports the application submitted;

2. The applicant is capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and

3. If selected for a WaterSMART Grant, the applicant will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

DATED: 9/30/2019

Clint Kerr
President, Wellsville City Irrigation Company

ATTEST:

Lance Houser
Senior Engineer, Franson Civil Engineers

Appendix C

Water Savings Calculations

WELLSVILLE CITY IRRIGATION COMPANY

WELLSVILLE PRESSURIZED IRRIGATION PROJECT

Water Savings Calculations

**Calculations were made in Excel and were not rounded. The values shown here reflect the Excel values.*

Loss through seepage and evaporation in unlined ditches[1] = 33%

Wellsville City Irrigation Company bills for a total of 2,950 acre-feet/year

Total Usage = 2,950 acre-feet

**According to the Wellsville City Irrigation Company Water Master.*

Total Annual Volume lost to seepage/evaporation = 2,950 * 0.33 = **973.5 acre-feet**

Total Annual Volume Spilled = 2,950 (total flow) -970 (flow lost to seepage) = 1,980 acre-feet; 1,980 acre-feet/2 = 990 acre-feet (flow lost to spill)

**Because the ditch will be enclosed in a pipeline and no water will spill, all losses will be eliminated.*

Total Annual Water Savings = Total Annual Water Loss = 990 + 970 = **1,960 acre-feet**

Wellsville City Summer Irrigation Culinary Water Use: 630 acre-feet/year

2017 Winter average (Oct-May): 31,922,500 gal/month; 2017 Summer average (June-Sept): 75,843,250 gal/month

Summer Irrigation Average = 75,843,250 – 31,922,500 = 43,920,750 gal

43,920,750 gal * 4 months = 175,683,000 gal/year / 325,851 acre-feet = 539.2 acre-feet/year

2018 Winter average (Oct-May): 30,382,000 gal; 2018 Summer average (June-Sept): 89,688,250

Summer Irrigation Average = 89,688,250 – 30,382,000 = 59,306,250 gal

59,306,250 gal * 4 months = 23,722,500 gal/year / 325,851 acre-feet = 728.02 acre-feet/year

Summer Usage Average: (539.2 + 728.02)/2 = 633.6 acre-feet/year

Wellsville City Summer Irrigation Agricultural Use: 5% of the system

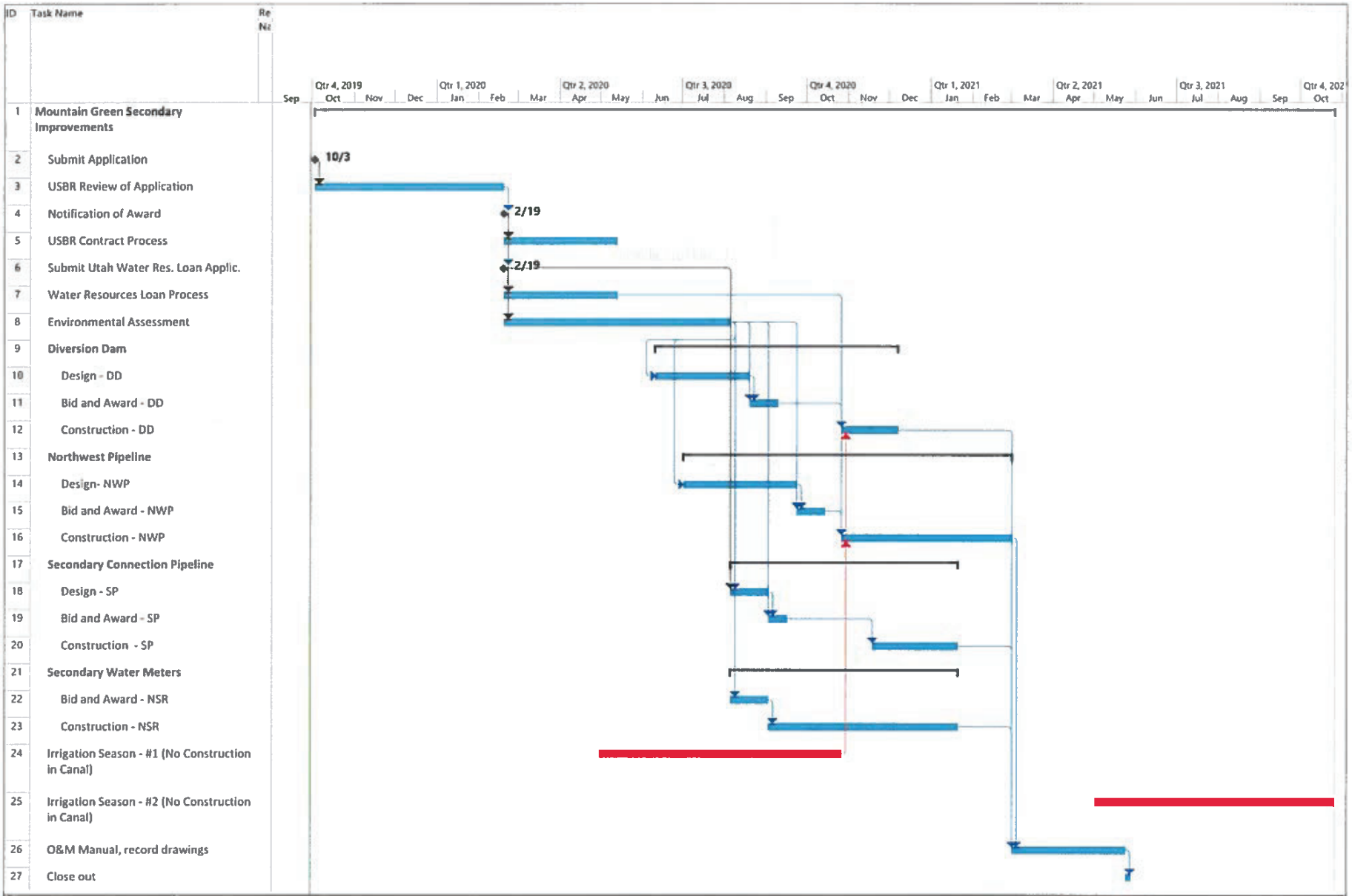
5% of Total System Use = 2,950 * 0.05 = 147.5 acre-feet

20% increase in efficiency or 20% water savings = 147.5 * 0.8 = 118 acre-feet

Total Ag Savings = 147.5-118= **29.5 acre feet**

[1]*Hill, R. W. (2000). "How Well Does your Irrigation Canal Hold Water? Does it Need Lining?" All Archived Publications, Utah State University. Paper 148. http://digitalcommons.usu.edu/extension_histall/148*

"Irrigation Water Conveyance." (2005). NRCS Irrigation Water Management Training, Fort Collins, CO. Presentation.


ID
Task Name
Qtr 4, 2019
Qtr 1, 2020
Qtr 2, 2020
Qtr 3, 2020
Qtr 4, 2020
Qtr 1, 2021
Qtr 2, 2021
Qtr 3, 2021
Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct
1 Mountain Green Secondary Improvements
2 Submit Application
3 USBR Review of Application
4 Notification of Award
5 USBR Contract Process
6 Submit Utah Water Res. Loan Applic.
7 Water Resources Loan Process
8 Environmental Assessment
9 Diversion Dam
10 Design - DD
11 Bid and Award - DD
12 Construction - DD
13 Northwest Pipeline
14 Design- NWP
15 Bid and Award - NWP
16 Construction - NWP
17 Secondary Connection Pipeline
18 Design - SP
19 Bid and Award - SP
20 Construction - SP
21 Secondary Water Meters
22 Bid and Award - NSR
23 Construction - NSR
24 Irrigation Season - #1 (No Construction in Canal)
25 Irrigation Season - #2 (No Construction in Canal)
26 O&M Manual, record drawings
27 Close out
10/3
2/19
2/19
Project: 10-schedule
Date: Mon 9/30/19
Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress