D.2.2.2. Title Page

PCCRC E CANAL REGULATING RESERVOIR

BUREAU OF RECLAMATION
WaterSMART GRANT APPLICATION
WATER and ENERGY EFFICIENCY GRANTS FY2018
Funding Opportunity Announcement No. BOR-DO-18-F006

Applicant:

Pondera County Canal & Reservoir Company

Applicant Contact: Vern Stokes

PO Box 245

501 Pondera Avenue

Valier, MT 59486

Project Location: Pondera County, Montana

Congressional Districts of Applicant: Montana At-Large

Congressional Districts of Project Area: Montana At-Large

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D.2.2.4 TECHNICAL PROPOSAL AND EVALUATION CRITERIA

D.2.2.4.1 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 proposed project is located on a Federal facility

Date: April 30, 2018

Applicant Name: Pondera County Canal and Reservoir Company (PCCRC)

City, County and State: Valier, Pondera County, Montana

Project Summary: The PCCRC is requesting funding for the construction of the E Canal Regulating Reservoir Project. The proposed project will include the construction of a mid-line embankment dam along the E Canal that will create a small regulating reservoir (~49.2 acre-feet of storage) that will serve 33 users and 4,045 downstream acres of prime agricultural land within the PCCRC's District 4. The project will allow the PCCRC to minimize severe seepage along this length of the E Canal and will provide mid-line storage that will conserve water and regulate flows to provide more consistent water delivery for use on downstream acres. The project area is located in the West ½ of Section 8, Township 29 North, Range 2 West, P.M.M; which is not located on a federal facility. The project would be constructed over eighteen months that will include completing regulatory requirements, survey, design, and construction for the entire project. The completed project will result in the storage of 49.2 ac-ft of water, conservation of approximately 6 cfs lost to seepage during the irrigation season, increased irrigation efficiency, and more consistent water delivery for downstream acres.

Length of Time and Estimated Completion Date: It is anticipated that the project will take approximately 18 months and will be completed by June 2020.

Is the Project Located on a Federal Facility? No, the project is not located on a Federal facility.

D.2.2.4.2 BACKGROUND DATA

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.

In addition, 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.

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

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).

Source of Water Supply

The source of water supply includes storage water rights from Lake Francis, which has a total storage capacity of approximately 130,000 acre-feet. Lake Francis receives much of its storage water from Birch Creek and Dupuyer Creek. Lake Francis also receives stored water from Swift Dam, which is a Bureau of Reclamation facility located in the upper reaches of Birch Creek. Stored water is released from the East Dam of Lake Frances into the L-Canal which delivers that supply water downstream to the S-Canal and then the E Canal where the proposed regulating reservoir is located.

Water Rights Involved

The PCCRC has senior water rights in the Birch Creek and Dupuyer Creek drainages. According to the Department of Natural Resources' Water Right Query System, the PCCRC has over 100 active water rights. Approximately 190,000 acre-feet of water is diverted into the PCCRC system through these water rights. Through discussions with the DNRC regional office in Havre, the proposed regulating reservoir will require a change application to add storage and account for water salvage (ET and seepage losses currently will be exchanged for a proposed evaporation loss). The DNRC will require a Form 606 SWA salvage water addendum and a Form 606 PSA Place of Storage Addendum. The process will require historic use water records that will focus on the Lake Francis storage rights with a specific look at the E Canal use. A pre-application meeting was held with the DNRC Havre Field Office on April 26, 2018 to discuss the proposed change application. An email from the DNRC regional office in Havre is attached to this application. As of the date of this application, the PCCRC is actively working on the change application and intends to submit the application later this year.

Current Water Uses

The current water use for this area is agricultural use for irrigated cropland. There are approximately 4,045 irrigated acres served downstream of the project area as follows:

Grass hay:	593 acres
Alfalfa:	518 acres
Wheat:	540 acres
Canola:	110 acres
Barley:	2,153 acres
Misc:	94 acres
Grass:	37 acres

Total: 4,045 acres

Number of Users Served

Water within the PCCRC system is primarily used to irrigate prime agricultural lands for 350 water users. The PCCRC's main reservoir, Lake Frances, also serves as the municipal water supply for the Town of Brady, MT (population of 140 per 2010 Census) and City of Conrad, MT (population of 2,570 per 2010 Census). The proposed E Canal Regulating Reservoir will serve 33 downstream users and a total of 4,045 total irrigated acres.

Current and Projected Water Demand

There will be no change in projected water demand (compared to current demands) as a result of the proposed project. PCCRC's District 4 services roughly 16,000 acres of irrigated land annually. Transfers of irrigation shares from one district to another are not common. As such, water demand in the project area has remained fairly constant over the life of the irrigation project. In 2017, approximately 13,000 acre-feet of water was delivered to District 4 from Lake Frances.

Potential Shortfalls in Water Supply

As with any year in Montana, the potential for drought conditions during the irrigation season is highly possible. Much of the land serviced by PCCRC irrigation is located in a geographic desert. In addition to drought, another shortfall in water supply includes water losses that occur within canals and laterals due to seepage. Current flow measurements by PCCRC staff show that up to 6 cfs is being lost to seepage within the proposed project area. Over a 100-day irrigation season, this amounts to a water loss of approximately 388 million gallons (1,191 acre-feet) per year. In most years, this seepage loss leads to shortfalls in the water supply to the 4,045 downstream acres served from this location.

Major Crops and Total Acres Served

In any given year, the PCCRC provides irrigation water to up to 85,000 acres and 350 shareholders. The proposed regulating reservoir project would serve 4,045 acres within District 4. The primary crops grown within the PCCRC are alfalfa hay, barley, spring wheat, winter wheat, and canola.

Water Delivery System

The PCCRC utilizes structures, controls, and canals to transport water from Lake Frances to the proposed project area. The PCCRC conveyance system includes over 500 miles of open main laterals/canals with numerous control structures to regulate flows to various locations throughout the Project. The L Canal conveys water through approximately 14.8 miles to the S Canal. The S Canal conveys water approximately 8.7 miles to the E Canal. The E Canal conveys water approximately 0.9 mile to the location of the proposed regulating reservoir and then conveys water another 8.9 miles to the end of the E Canal. The E Canal splits from the S Canal approximately 16.2 miles due east of Valier and ends approximately 16.8 miles southeast of Valier where it eventually returns any remaining flow into the Dry Fork of the Marias River.

Past Working Relationship with Bureau of Reclamation

Although the PCCRC is neither a Reserved Works nor a Transferred Works facility, they have worked with the Bureau of Reclamation (Reclamation) since Reclamation rebuilt Swift Dam following the 1964 flood disaster. The PCCRC owns and operates Swift Dam, but Reclamation provides remote stage-storage monitoring of Swift Dam and Lake Frances and technical assistance on an as-needed basis.

The PCCRC has taken a proactive approach to addressing problems and implementing improvements within their irrigation system. Within the past 10 years, the following planning, design, and construction projects have been undertaken with the cooperation of multiple agencies in an effort to conserve water and benefit Montana's renewable resources:

- Lake Frances East Dam Rehabilitation Project (~$3,000,000)
- Dry Fork Diversion Project (~$200,000)
- S Wasteway Project (~$200,000)
- AN Wasteway Project (~$200,000)
- C-Canal Rehabilitation Project (~$200,000)
- KB2 Canal Rehabilitation Project (~$200,000)
- Lake Frances North Dike Feasibility Study and Survey (~$80,000)

D.2.2.4.3 Project Location

Provide specific information on the proposed project location or project area including a map showing the 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}. For larger project areas, please provide location information in one of the following formats:

1. Shapefile (.shp)
2. KMZ/KML (.kmz or .kml) aka Google Earth File, not an exported GoogleEarth map
3. AutoCAD (.dwg)
4. PDF map (.pdf)

The Pondera County Canal and Reservoir Company is located in Pondera County near the towns of Valier and Conrad, Montana. The PCCRC headquarters is located at 501 Pondera Avenue, Valier, MT 59486. The proposed project is located within District 4 in the West ½ of Section 8, Township 29 North, Range 2 West, P.M.M. The latitude and longitude of the E Canal Regulating Reservoir Project is 48.285214°N and 111.903710°W, respectively. Exhibit 1 shows the proposed project location with respect to Lake Frances and the Town of Valier, Montana.

D.2.2.4.4 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.

The proposed project will include the construction of an embankment dam across the E Canal in order to create a regulating reservoir that will provide short-term water storage

to facilitate the more efficient irrigation of 4,045 downstream acres. The regulating reservoir is necessary in order to mitigate significant seepage and provide short-term storage to facilitate more consistent water delivery and to reduce water delivery times to the downstream acres. The project will consist of general excavation, site grading, construction of a concrete reservoir outlet works, placement of fill/embankment material, and revegetation of the site. The project will be constructed over eighteen months and includes: completing regulatory requirements, survey, design, construction of the reservoir outlet works and embankment dam; and project management and closeout items such as grant reporting, site inspection, and development of as-built drawings. A schematic drawing of the proposed E Canal Regulating Reservoir is provided on Exhibit 1.

Problems and Needs

Currently, the project area consists of an open swale of land that the E Canal has migrated into over time, completely bypassing the original E Canal route. Due to erosion and topography, the PCCRC was forced to allow the canal to migrate into the low-lying swale, rather than continue along the east side of the drainage in the location of the original canal. The E Canal enters the drainage in the NE/4 of Section 8 downslope of an existing stock reservoir and traverses through the drainage for approximately ¼ mile, then leaves the drainage in the SE/4 of Section 8 to continue within the original E Canal route. Several boreholes were drilled at the proposed project site that revealed a ten-foot thick layer of alluvium soil immediately below the ground surface within the ephemeral drainage that is highly permeable and thus susceptible to seepage. This alluvial material lies directly on bedrock. The boreholes also indicated that the alluvium was completely saturated. When excess water overtops the small, E Canal ditch that was formed in the drainage by E Canal flows and fans out into the swale, the PCCRC loses up to 6 cfs to seepage (388 million gallons per year). Noticeable seepage losses throughout the project area can be directly attributed to the well-draining soils. The soils present in the project area consist primarily of Kevin-Hillon clay loams and Scobey-Kevin clay loams. These soils have high hydraulic conductivities that allow water to easily escape through the swale bottom and banks.

Additionally, PCCRC personnel have indicated that they have difficulties in delivering water from the E Canal during the peak irrigation season due to water losses, which in some instances does not provide enough water to downstream users of the E Canal. Water, when requested by downstream users, can take as long as 36 hours to reach the project location plus additional time to reach each individual user. This creates problems for crop growth especially during periods of peak demand. A mid-line water storage facility such as the proposed E Canal Regulating Reservoir would provide the PCCRC with the appropriate management capabilities to provide water to 4,045 downstream acres and significantly reduce water delivery times. The regulating reservoir would be able to provide approximately 49.2 acre-feet of storage at a midway point along the District 4 delivery system to make up short-term water delivery to water users until water from Lake Frances can resupply the proposed reservoir. Boreholes indicate the presence of bedrock at 10 feet deep throughout the proposed embankment site, therefore providing a limiting layer that can serve as a cutoff to the existing alluvial material to mitigate seepage and facilitate storage at this location.

Specific Activities that will be Accomplished

Water Rights: For legal continuity during the ongoing water rights adjudication process, the PCCRC contracts all of its water rights permitting through WGM Group (WGM). WGM will prepare the necessary water rights forms and supplemental information for submittal to the DNRC.

Design/Permitting/Construction Oversight: The PCCRC will contract with a licensed Professional Engineer to complete the design of the E Canal Regulating Reservoir Project. The Engineer will be responsible for the design of the proposed project, which will include, but is not limited to, geotechnical analysis, environmental considerations, hydrology and hydraulics, structural analysis, permitting, and construction administration duties. The Engineer will work with regulatory agencies to complete environmental compliance. The Engineer will provide a final plan set and specifications for the proposed project to facilitate construction. The Engineer will also provide advisory services during construction of the project to assure proper installation.

Construction: The PCCRC has an experienced earthwork construction crew that will perform the work. The PCCRC has experienced equipment operators and laborers that perform all of the PCCRC's construction tasks. Recent improvements completed by the PCCRC include improvements to the Lake Frances East Dam, various check structure and wasteway rehabilitation projects, canal to pipeline conversions, road construction and other various construction and maintenance projects.

Expected Outcomes

If the proposed E Canal Regulating Reservoir Project were implemented, the PCCRC would greatly improve their overall management of the District 4 delivery system through water conservation, short-term water storage, decreased time of travel for water delivery, and the elimination of wasted water within the E Canal. The proposed project would provide approximately 49.2 acre-feet of water storage, eliminate up to 6 cfs (388 million gallons per year) of water lost to seepage, decrease water delivery times, and improve irrigation efficiency.

D.2.2.4.5 Evaluation Criteria

E.1.1 Evaluation Criterion A—Quantifiable Water Savings (30 points)

*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.*

The proposed project will result in significant water conservation, increased water storage in the middle of the PCCRC system, improved management, and increased conveyance efficiency. The E Canal Regulating Reservoir will create 49.2 acre-feet of storage at a mid-line facility that will improve delivery efficiency, drought preparedness, and management of District 4. The proposed project will also result in water savings of 6 cfs (up to 388 million gallons per year) that is normally lost to seepage within the project area. Additional project benefits will include increased crop production (estimated at up

to 10%), which will lead to increased crop revenue (valued at up to $1,096,127.25) and positive regional economic impacts.

Describe the Amount of 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.

Please include a specific quantifiable water savings estimate; do not include a range of potential water savings.

The E Canal loses up to 6 cfs (388 million gallons per year) of water to seepage within the proposed project area due to well-draining soils and poor channel conveyance. The proposed project would eliminate seepage within the project area by tying the proposed embankment dam into bedrock that would provide an impermeable layer for a water storage facility. The PCCRC takes daily water measurements in this portion of the canal both upstream and downstream of the proposed location that validate the water savings stated above. These water measurements are provided in Appendix A.

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)?

Currently, the project area consists of an open swale of land that the E Canal has migrated into over a period of time, completely bypassing the original E Canal route. Due to erosion and topography, the PCCRC was forced to allow the canal to migrate into the low-lying swale, rather than continue along the east side of the drainage in the location of the original canal. The E Canal enters the drainage in the NE/4 of Section 8 below an existing stock reservoir and traverses through the drainage for approximately 0.28 mile, then leaves the drainage in the SE/4 of Section 8 to continue within the original E Canal route. Several boreholes were drilled at the proposed project site that revealed a ten-foot thick layer of alluvium soil immediately below the ground surface within the ephemeral drainage that is highly permeable and thus susceptible to seepage. This alluvial material lies directly on bedrock. The boreholes also show that the alluvium was completely saturated. When excess water overtops the small ditch that was formed in the drainage by E Canal flows, it spreads out over the bottom of the swale and seeps into the underlying alluvium. The water continues to migrate in the downgradient direction underneath the surface and bypasses under the area where the E Canal exits the drainage. Without a cutoff where the E Canal exits the drainage, the water lost into the underlying alluvium continues downstream within the ephemeral drainage and is not picked up where the E Canal exits the drainage. Noticeable seepage losses throughout the project area can be directly attributed to the well-draining alluvial soils. The soils present in the project area consist primarily of Kevin-Hillon clay loams and Scobey-Kevin clay loams. These soils have high hydraulic conductivities that allow water to easily percolate down through the swale bottom and banks.

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. *In addition, please note that the use of visual observations alone to calculate water savings, without additional documentation/data, are not sufficient to receive credit under this section. Further, the water savings must be the result of reducing or eliminating a current, ongoing loss, not the result of an expected future loss.*

The PCCRC keeps records of their measurements both above and below the project area for water deliveries.

(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 PCCRC takes daily flow measurements both above and below the project area. The daily flow measurements are provided in Appendix A.

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.

   The seepage losses in this section of the E Canal are determined by measurements taken at the head of the E-Canal (approximately 0.8 mile upstream from the proposed project location) and just downstream of the proposed regulating reservoir. The ditch rider for this portion of the system takes daily readings at the Parshall Flume at the head of the E-Canal and at a sharp-crested weir that is approximately 0.5 mile downstream from the project location. The area soils that the E-Canal traverses through in this area are mostly clay materials, which are not conducive to seepage or losses from the canal. There are several withdrawal points between the Parshall Flume and the downstream weir, but these withdrawals are via pumps into pipelines with flowmeters. Therefore, the losses are accounted for by measuring the Parshall Flume and subtracting the withdrawals and the measurement at the downstream weir. Based on the daily flow measurements and visual observations of flow within the E-Canal, it is apparent that the losses that are being measured are occurring within the project area. In addition, losses within this portion of the E Canal were not prevalent until the canal migrated into the adjacent drainage where flows are susceptible to seepage into the underlying alluvium.

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)?

The proposed project is expected to nearly eliminate the seepage losses found within the existing 0.28 mile section of the E Canal that traverses the existing ephemeral drainage. This expected post-project seepage loss abatement was determined through actual sampling of nearby borrow sources for the proposed embankment. The adjacent material proposed for the embankment and cutoff trench was a plastic, clay material that will be ideal for building the new embankment.

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 portion of the E Canal that loses 6 cfs is located within the normally dry ephemeral drainage. This length of the E Canal is approximately 1,480 feet. Thus, the loss per mile is calculated at 21.41 cfs per mile, or approximately 42.40 acre-feet per mile per day in the vicinity of the proposed project. Since the project only encompasses 0.28 mile, the overall loss is approximately 1,830 acre-feet for an entire irrigation season (May 1 through October 1 of each year, or 154 days).

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

The canal loss seepage reductions will be verified the same way that the loss calculations are determined now, through daily flow measurements taken by PCCRC personnel.

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

The materials being used will include a semi-impermeable clay cutoff trench and embankment that will stop the underflow of water through the underlying alluvium so that it can be stored and used downstream in the E Canal. The materials were verified by Civil Engineers from WWC Engineering. The proposed borrow material is classified as a CL material, with a very low hydraulic conductivity.

E.1.2 Evaluation Criterion B—Water Supply Reliability (18 points)

*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:

The PCCRC has estimated that it takes 36-40 hours for water to travel from Lake Frances to the proposed project area. This makes it difficult for the PCCRC to manage the 4,045 downstream acres from this location, leads to unnecessary water waste, and results in poor conveyance and on-farm efficiencies. The proposed project would provide the PCCRC with a mid-line storage facility capable of storing 49.2 acre-feet of water. Implementation of this project would allow the PCCRC to be able to deliver a continuous supply of water to downstream users and would significantly reduce water travel time.

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

  The PCCRC attends and actively participates in training seminars, courses, and conferences such as Montana Water Resources Association (MWRA), Montana Association of Dams and Canal Systems (MADCS), the US BOR Montana Area Office's Dam Operator Trainings, and watershed symposiums throughout Montana where they collaborate and share information. One of the primary topics as of late is the implementation of mid-line storage projects to facilitate faster and more consistent water delivery. The PCCRC is committed to sharing the success and implementation of this project with other districts and water user associations throughout the region to assist them in their planning and water delivery efforts.

  - Is there widespread support for the project?

    The PCCRC Board, the Pondera Conservation District and the NRCS have all shown support for this project.

  - What is the significance of the collaboration/support?

    The Pondera Conservation District works with not only other water users in the area but also shares their success stories with the other conservation districts throughout the State through the Montana Association of Conservation Districts. This information will be shared with the other conservation districts who in turn will share this information with nearly all of the remaining irrigation districts and water user associations throughout the State of Montana.

    The NRCS is watching this project closely to determine the actual benefits of mid-line storage for irrigation delivery. The NRCS is a national organization that provides training and knowledge sharing throughout the US, and this information would be shared with the national program and neighboring states that could benefit a broad audience of water users.

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

The implementation of this project and the sharing of its benefits through the Montana Association of Dams and Canal Systems (MADCS), Montana Water Resources Association, the Montana Association of Conservation Districts, and the NRCS provides a large audience to share this information with in order for them to learn from the project and evaluate mid-line storage projects for a number of irrigation districts and water users associations throughout the western US.

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

The proposed project will create a mid-line storage facility capable of storing 49.2 acre-feet of water that will be used as a buffer during drought conditions. Typically, the 4,045 acres served by this project have difficulty receiving water during the peak irrigation season or during drought conditions due to water loss and the distance from the PCCRC's main water supply, Lake Frances. The proposed project would provide a reliable source of water (49.2 acre-feet of water) midway through the PCCRC delivery system that would be used to consistently deliver water to downstream users. The PCCRC has estimated that it takes 36-40 hours for water to travel from Lake Frances to the proposed project area. This makes it difficult for the PCCRC to manage the 4,045 downstream acres from this location, leads to unnecessary water waste, and results in poor conveyance and on-farm efficiencies. The proposed project would provide the PCCRC with a mid-line storage facility capable of storing 49.2 acre-feet of water. Implementation of the mid-line storage reservoir would allow the PCCRC to deliver a continuous supply of water to downstream users, and would nearly eliminate water travel time to the downstream acres served by the E Canal. The losses in this section of the E Canal further complicate water deliveries, making it difficult to supply the required amount of water to the 4,045 acres downstream of the project. The proposed mid-line storage reservoir solves both water loss and water delivery issues for this portion of the irrigation area.

  - Describe where the conserved water will go/how it will be used. Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)? Will it be left in the river system?

The conserved water from this project will be delivered downstream to the 4,045 acres that are served below the proposed project. The water will be used for irrigation on crops such as wheat, barley, canola, alfalfa and grass hay. The PCCRC has a finite amount of water that can be delivered from Lake Frances, Birch Creek, Dupuyer Creek and Swift Reservoir. Unfortunately, these amounts are typically measured at the point of diversion, and not at the

point of delivery. The proposed project will conserve as much as 6 cfs throughout the irrigation season, which will supply water to both downstream and upstream users through water savings that can be used to provide more water on crops to produce a higher yield throughout the system.

- Describe how the project will address the water reliability concern?

The proposed project will address water reliability by providing in-line storage of water closer to the point of delivery. As previously stated, the PCCRC has timed water deliveries to take approximately 36-40 hours to reach this location from Lake Frances. If a user makes a call that is downstream of the project area, it will take up to 36-40 hours + the amount of additional time to travel downstream to reach its final destination. During periods of peak demand and high heat, this can result in stress on the downstream crops, as they can be without water for 24 hours. In addition, this area is often water short due to the heavy losses (6 cfs) that occur within the project area. The proposed project mitigates the seepage losses and provide 49.2 acre-feet of storage that can be used to satisfy the required deliveries within just a few hours rather than a full day. The proposed mid-line reservoir can then be refilled by water from Lake Frances.

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

The proposed mid-line reservoir will mitigate heavy seepage losses and provide short-term water storage to provide more timely and consistent water deliveries to the downstream system. During periods of drought or periods of high heat index during later summer months, crops are at a critical growth period that are heavily influenced by the frequency and/or amount of water that they receive. The delay or lack of available water during these critical growth periods can heavily influence crop yields. The proposed mid-line reservoir would mitigate this issue and provide more timely and consistent water delivery.

The water within the Birch Creek and Dupuyer Creek watersheds that serve the PCCRC are in high demand. There have been a number of litigation suits over water use within the basin due to the lack of available water within the basin. Case in point, the PCCRC has multiple water litigation cases active at current due to the lack of availability of water within the basin.

However, as the proposed project would involve a simple transfer of stored water from Lake Frances to the proposed E Canal Regulating Reservoir, this work is not anticipated to affect water related crises or conflicts.

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

The proposed mid-line storage reservoir will provide a mechanism to mitigate the 6 cfs seepage loss and provide a means to retain water in the E Canal for delivery to downstream users and subsequent use on the downstream 4,045 acres.

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

  There are no partners in this process other than the PCCRC and Reclamation.

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

  The entire 6 cfs of water (100%) that is saved through the implementation of this project will be used both upstream and downstream of the project location on irrigated acreage within the PCCRC boundary.

- Will the project benefit Indian tribes?

  The proposed project will neither benefit, nor negatively impact, Indian Tribes.

- Will the project benefit rural or economically disadvantaged communities?

  The proposed project will provide benefits to several local sectors including the local and regional economies, agriculture, and the environment. The E Canal Regulating Reservoir Project will improve agricultural production by approximately 10% on 4,045 acres served by the E Canal through water conservation, improved management, and increased efficiencies. During construction, the proposed project will have a positive economic impact on the local community through local implement dealers, commercial trucking, local stores, etc. Once complete, users of the system will be able to increase crop production by approximately 10% due to increased water availability that will lead to increased revenue. The primary crops grown within the PCCRC are hay, barley, wheat, and canola. The proposed project will lead to a 10% increase in production of these crops, therefore sustaining the agricultural economy in the area, providing food (barley and wheat) for the citizens of the State of Montana, and providing forage crops (hay) to feed livestock in the region, which in turn provides meat to the citizens of Montana. An economic analysis of the downstream acres impacted by this project resulted in an increased annual agricultural revenue because of the 10% increase in crop production.

- 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.

  NA

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

The proposed project will allow the PCCRC to save hours for the management of water to be spent on water supply reliability in other areas. In addition, lightning strikes often shut down pumps that supply water to center pivots throughout the system, resulting in significant losses of water that are in the Canal system that pass by the shut down pumps and are wasted. However, implementation of the proposed regulating reservoir will allow the PCCRC to capture this wasted water and store it for release to be used consumptively within the system.

The proposed project is expected to have positive impacts to the overall PCCRC system, but will have more specific positive impacts to 4,045 acres of District 4 of the PCCRC. As a result of the proposed project, District 4 users will have a reliable source of irrigation water, improved efficiency, improved drought preparedness, increased crop production and crop revenue, as well as improved management of the PCCRC system. The proposed project will have a positive impact on the regional economy through increased agricultural revenues that will have a trickle-down effect throughout the region.

E.1.3 Evaluation Criterion C—Implementing Hydropower (18 points)

*Up to **18 points** may be awarded for this criterion. This criterion prioritizes projects that will install new hydropower capacity in order to utilize our natural resources to ensure energy is available to meet our security and economic needs.*

If the proposed project *includes construction or installation of a hydropower system,* please address the following:

N/A

E.1.4 Evaluation Criterion D—Complementing On-Farm Irrigation Improvements (10 points)

*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.*

Note: Scoring under this criterion is based on an overall assessment of the extent to which the WaterSMART Grant project will complement ongoing or future on-farm improvements. Applicants should describe any proposal made to NRCS, or any plans to seek assistance from NRCS in the future, and how an NRCS-assisted activity would complement the WaterSMART Grant project. Financial assistance through the Environmental Quality Incentives Program (EQIP) is the most commonly used program by which NRCS helps producers implement improvements to irrigation systems, but NRCS does have additional technical or financial assistance programs that may be available. Applicants may receive maximum points under this criterion by providing the information described in the bullet points below. **Applicants are *not* required to have assurances of NRCS assistance by the application deadline to be awarded the**

maximum number of points under this sub-criterion. Reclamation may contact applicants during the review process to gather additional information about pending applications for NRCS assistance if necessary.

Please note: on-farm improvements themselves are *not* eligible activities for funding under this FOA. This criterion is intended to focus on how the WaterSMART Grant project will complement ongoing or future on-farm improvements. NRCS will have a separate application process for the on-farm components of selected projects that may be undertaken in the future, separate of the WaterSMART Grant project.

If the proposed project 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.

      The PCCRC project provides water to approximately 85,000 acres for irrigation to over 350 shareholders. Many of the farmers/ranchers within the project have applied for and have received EQIP funding for pivots and other on-farm conservation improvements. The PCCRC currently has one farmer who is working with the local NRCS to put in a center pivot through the EQIP program. However, the current project is not served by the E Canal.

    - Have the farmers requested technical or financial assistance from NRCS for the on-farm efficiency projects, or do they plan to in the future?

      The farmers typically request technical and financial assistance from the NRCS for their on-farm efficiency projects. The local NRCS either performs the technical assistance with in-house staff or utilizes Technical Service Providers.

    - 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.

      After speaking with Stacy Eneboe (April 24, 2018), the local NRCS District Conservationist, past projects involving the construction of regulating reservoirs have increased opportunities for farmers and have resulted in farmers requesting assistance from the NRCS to implement on-farm conservation and efficiency projects. Prior to implementation of past projects that she has experience with, the local farmers who were served downstream of the regulating reservoir had not previously applied for EQIP

funding or technical assistance to complete on-farm efficiency projects. However, once the regulating reservoir was completed, many of the downstream farmers applied for and obtained NRCS funding and technical assistance for the installation of center pivots. Ms. Eneboe attributed this to the additional water and water delivery consistency that the new regulating reservoir provided. Thus, Ms. Eneboe was excited about the proposed project and expects that several of the existing landowners downstream of the proposed reservoir will approach the local NRCS once the project is completed.

- Applicants should provide letters of intent from farmers/ ranchers in the affected project areas.

  None available at this time.

- 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.

    The proposed project will prevent water shortages through the mitigation of 6 cfs of seepage and will provide a more consistent and timely water delivery. Based on discussions with Stacy Eneboe, NRCS District Conservationist in Conrad, the proposed regulating reservoir provides an optimal situation for farmers who want to put in efficient on-farm irrigation practices such as center pivots.

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

    The proposed regulating reservoir will maximize efficiency in this area by providing seepage mitigation to conserve 6 cfs as well as provide short-term water storage to increase water delivery efficiency through significantly reduced delivery times.

- Describe the on-farm water conservation or water use efficiency benefits that would result from the on-farm component of this project.

  - 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.

Based on information provided by the local NRCS, the construction of a regulating reservoir would provide more opportunities for landowners to incorporate on-farm water conservation and/or water use efficiency projects

E.1.5 Evaluation Criterion E—Department of the Interior Priorities (10 Points)

*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;

      The proposed regulating reservoir will be designed using engineering science to provide a nearly impermeable cutoff to the existing alluvial material to prevent the seepage and migration of water. The regulating reservoir concept was originally derived from reviewing the existing water records and delivery times to the end of the E Canal system. The records showed a significant delay (approximately 36 hours) between call times and water delivery. This investigation led to looking at available sites for a regulating reservoir on the E Canal. Upon review of the E Canal and a review of the water records, the water records showed a significant loss within the ephemeral drainage portion of the E Canal where it had migrated into the drainage. This analysis led to siting of the E Canal Regulating Reservoir within the drainage to both reduce water delivery times and mitigate the significant seepage, resulting in a scientific analysis that utilizes best practices to manage water resources (regulating reservoir) and adapt to changes in the environment (migration of the E Canal into the ephemeral drainage).

   b. Examine land use planning processes and land use designations that govern public use and access;

      NA

   c. Revise and streamline the environmental and regulatory review process while maintaining environmental standards.

      NA

   d. Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;

NA

e. Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;

NA

f. Identify and implement initiatives to expand access to DOI lands for hunting and fishing;

NA

g. Shift the balance towards providing greater public access to public lands over restrictions to access.

NA

2. *Utilizing our natural resources*

a. Ensure American Energy is available to meet our security and economic needs;

NA

b. Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications;

NA

c. Refocus timber programs to embrace the entire 'healthy forests' lifecycle;

NA

d. Manage competition for grazing resources.

NA

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;

The PCCRC owns Lake Frances, which provides water to the Town of Valier and the City of Conrad. PCCRC continues to work with these local communities to ensure a good relationship and consistent water supply to meet their needs.

b. Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.

NA

4. *Striking a regulatory balance*

a. Reduce the administrative and regulatory burden imposed on U.S. industry and the public;

NA

b. Ensure that Endangered Species Act decisions are based on strong science and thorough analysis.

The PCCRC has evaluated the impact of this project on the Endangered Species Act to ensure that no harm will come to Endangered Species within the area.

5. *Modernizing our infrastructure*

a. Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;

The proposed project is a prime example of a public/private partnership. Half of the funding for the project will be provided by Reclamation, and half of the funding will be provided by the PCCRC in the form of in-kind services and PCCRC reserve funding. The project will modernize the existing system by providing a regulating reservoir to increase delivery times, mitigate seepage, and provide short-term storage to mitigate losses during periods of non-use (ex., water call made but not taken, or lightning strikes that shut down pumps for center pivots).

b. Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;

NA

c. Prioritize DOI infrastructure needs to highlight:

—. Construction of infrastructure;

—. Cyclical maintenance;

—. Deferred maintenance.

The PCCRC will be providing the personnel and equipment for construction of the proposed regulating reservoir. The construction of the reservoir will decrease cyclical maintenance required of the PCCRC to manage this downstream system. Currently the PCCRC spends more time than is necessary making sure that water demands are being met, that the water is making it to its destination, and that water deliveries from Lake Frances are being managed closely. The proposed regulating reservoir will allow some flexibility in the system in order to provide short-term water demand with a quick turnaround, and to capture water in the system when lightning strikes or other non-use occurs, limiting waste from the system.

E.1.6 Evaluation Criterion F—Implementation and Results (6 points)

*Up to **6 points** may be awarded for these sub criteria.*

To successfully implement the proposed project, the following tasks will be necessary:

- Task 1 – WaterSMART Grant Award**.** It is anticipated that the grant awards will be released in June 2018.
- Task 2 – Site Survey. The PCCRC will contract with a licensed Land Surveyor to complete all necessary surveying at the project site. Surveying will be completed at the end of the irrigation season from October 2018-November 2018.
- Task 3 – Design. The PCCRC will contract with a licensed Professional Engineer to develop the final embankment dam design and assist with construction management. Design will be completed from November 2018-April 2019.
- Task 4 – Environmental/Regulatory Compliance. The PCCRC, with assistance from the Engineer, will obtain the required permits and ensure that the project meets all regulatory requirements. This task will run concurrently with Tasks 2 and 3, from December 2018-May 2019.
- Task 5 – Embankment Dam Construction. The PCCRC will over-excavate the alluvial material underlying the proposed embankment area, install a non-permeable clay cutoff trench, construct the reservoir outlet works, and construct the embankment dam in accordance with the plans and specifications, under the guidance of the Engineer. The dam will be constructed from October 2019-April 2020.
- Task 6 – Construction Closeout. The PCCRC will work with the Engineer to assure that all issues with the installation have been addressed. The Engineer and Surveyor will also develop a set of as-built plans to document any changes made in the field. Construction closeout will occur in May 2020.
- Task 7 – Grant Closeout. The PCCRC will work with the Engineer to assure that proper documentation including invoices, reports, etc. have been submitted, and the grant will be closed. Grant closeout will be completed in June 2020.
- Task 8 – Project Completion. The estimated project completion is June 2020.

E.1.6.1 Sub criterion 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.

The PCCRC has recently completed a Water Conservation Plan (WCP) (2018 Update), an excerpt of which is included in Appendix B. The PCCRC also conducts a System Optimization Review each year that provides them with a planning process for projects to improve the overall efficiency, conservation efforts, and water delivery of the PCCRC system.

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.

The PCCRC has taken a proactive approach to addressing problems and implementing improvements that are consistent with their ongoing water management, conservation and drought resilience planning. The PCCRC conducts a System Optimization Review (SOR) each year that provides them with a planning process for projects such as the E Canal Regulating Reservoir Project. On an annual basis and as part of their SOR, the PCCRC district operators all take inventory of potential projects for the following year. The district operators are tasked with providing a long-range planning list of projects for the next five-year period. Once compiled, the district operators have an annual meeting with the PCCRC Manager, Vern Stokes, and the PCCRC Board to develop a priority list and make a plan to implement projects based on need, management efficiency, consistency with the PCCRC WCP and drought resilience plan, and budgetary considerations. Within the past 5 to 10 years, several planning, design, and construction projects were identified through the SOR process. The undertaken projects are consistent with the PCCRC's water management and drought resilience plan and have greatly improved the PCCRC's system. In 2012, the District 4 operators, Darren Pruttis and Zach Leys, identified the E Canal as a priority for rehabilitation due to seepage losses, inefficient water delivery and problems with drought resilience in the area. At last year's annual operator's meeting, the PCCRC finalized the proposed embankment dam project as a high priority because of its amenability with the PCCRC water management and drought resilience plan. As discussed below, the proposed project will meet all of the goals of the PCCRC's water management and drought resilience plan: conserve water, improve management, increase irrigation efficiency, maintain infrastructure, provide drought resilience through in-line storage, and improve on-farm efficiencies. The planning efforts made by the PCCRC such as the SOR and their water management and drought resilience plan reflect the desire to conserve water and improve management within their delivery system. The PCCRC's planning effort is a living process that is constantly evolving for the betterment of the PCCRC system and its users.

(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).

The PCCRC has identified several projects throughout their system that have been earmarked to be completed in the next five years. The proposed E Canal Regulating Reservoir Project has been classified as the highest priority due to the severe water losses, potential benefits, relatively low-cost-of-implementation, and difficulties stemming from current water management issues. Before selecting a project, the PCCRC conducts a thorough review of the project to ensure that it is in line with the existing PCCRC water conservation and drought resiliency plan. The PCCRC's primary goals when selecting a project are to conserve water, improve management, increase irrigation efficiency, maintain infrastructure, provide drought resilience, and improve on-farm efficiencies. The proposed project will:

- Conserve 6 cfs (388 million gallons per year) of water normally lost to seepage, leading to increased efficiency and ensuring water delivery to downstream users,
- Improve management of the PCCRC system by substantially decreasing the time it takes to deliver water to downstream users (the project will eliminate 36 hours of water delivery time),
- Improve management and drought resiliency of the PCCRC system by providing mid-line storage for 49.2 acre-feet that can be used to more efficiently deliver water and will improve drought preparedness.

E.1.6.1 Sub criterion 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.*

Note: All Water and Energy Efficiency Grant applicants are required to propose a "performance measure" (a method of quantifying the actual benefits of their project once it is completed). A provision will be included in all assistance agreements with Water and Energy Efficiency Grant recipients describing the performance measure, and requiring the recipient to quantify the actual project benefits in their final report to Reclamation upon completion of the project. If information regarding project benefits is not available immediately upon completion of the project, the financial assistance agreement may be modified to remain open until such information is available and until a Final Report is submitted. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of Water and Energy Efficiency Grants.

The performance measures used to quantify the water savings for the proposed regulating reservoir will be the existing measurement stations and District Operator efficiency benchmarks that are used by PCCRC's management to monitor daily flow measurements in the E Canal. The water savings in this section of the E Canal will be verified by measurements taken at the head of the E-Canal (approximately 0.8 mile upstream from the proposed project location) and just downstream of the proposed

regulating reservoir. The ditch rider for this portion of the system takes daily readings at the Parshall Flume at the head of the E-Canal and at a sharp-crested weir that is approximately 0.5 mile downstream from the project location. Once the proposed regulating reservoir is completed, the seepage losses will be mitigated and the water savings will be verified through the existing measurement stations.

E.1.7 Evaluation Criterion G—Nexus to Reclamation Project Activities (4 points)

*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?

  Although the PCCRC is neither a Reserved Works nor a Transferred Works facility, they have worked with the Bureau of Reclamation (Reclamation) since Reclamation rebuilt Swift Dam following the 1964 flood disaster. The PCCRC owns and operates Swift Dam, but Reclamation provides remote stage-storage monitoring and technical assistance on an as-needed basis. Reclamation has Hydromet stations at both Lake Frances and Swift Reservoir; both are a part of the PCCRC system.

- Please consider the following:
  - Does the applicant receive Reclamation project water?

    The PCCRC does not receive Reclamation project water.

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

    The project is not located Reclamation lands, nor does it involve Reclamation facilities.

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

    Yes, the project is located within the Marias River watershed, where Reclamation operates the Tiber Dam.

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

    NA

- Will the project benefit any tribe(s)?

  The proposed project will not help Reclamation meet trust responsibilities to any tribes.

E.1.8 Evaluation Criterion H—Additional Non-Federal Funding (4 points)

*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

$180,281.35/$350,281.35 = **51.5%**

D.2.2.5 PROJECT BUDGET

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.

A commitment letter from the PCCRC is provided in Appendix C.

The PCCRC staff has the capability and extensive experience to perform all construction activities that will be required for the proposed project. The current PCCRC staff includes one construction foreman and seven (7) heavy equipment operators and laborers in addition to irrigation ditch riders and administrative staff. One external contract for services will be required for the proposed project. PCCRC will need to solicit for an engineering consultant to assist with environmental compliance, design, grant administration, and conduct construction administration for all aspects of the project. The non-Federal share of project costs will be provided by the PCCRC with in-kind services through construction of the project.

- **The amount of funding commitment**

  Along with the $170,000.00 requested in this grant application, the PCCRC will contribute $180,281.35 in in-kind services and cash reserves. The PCCRC will not seek any additional non-Federal funding.

- **The date the funds will be available to the applicant**

The PCCRC has committed $180,281.35 of in-kind services and cash reserves at the time of this application's writing. These funds are available immediately.

- **Any time constraints on the availability of funds**

  There are no time constraints on the availability of funds.

- **Any other contingencies associated with the funding commitment**

  There are no other contingencies associated with the funding commitment.

- **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).**

  Monetary contributions will come from the PCCRC's reserve fund. In-kind services will be performed with current PCCRC staff and equipment and/or equipment rental.

- **Describe any donations or costs incurred before the anticipated Project start date that you seek to include as project costs. For each cost, identify:**
  - The project expenditure and amount
    N/A
  - The date of cost incurrence
    N/A
  - How the expenditure benefits the Project
    N/A
  - Provide the identity and amount of funding to be provided by funding partners.
    N/A

  No costs incurred before the anticipated Project start date will be included.

- **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.**

  There are no other sources of federal funding for the proposed project.

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

  There are no pending funding requests for the proposed project. The PCCRC has committed the appropriate cash and in-kind services to complete the project.

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

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Applicant cash (PCCRC)	$22,378.00
2. Applicant cash, in-kind construction, and administrative services	$157,903.35
Non-Federal Subtotal	**$180,281.35**
Other Federal Entities	
1. None	$0.00
Other Federal Subtotal	**$0.00**
REQUESTED RECLAMATION FUNDING	**$170,000.00**
TOTAL PROJECT FUNDING	**$350,281.35**

BUDGET PROPOSAL

The budget proposal should include detailed information on the categories listed below and must clearly identify ***all*** Project costs, including those that will be contributed as non-Federal cost share. Unit costs must be provided for all budget items including the cost of work to be provided by contractors. The budget proposal should also include any in-kind contributions or donations of goods and services that will be provided to complete the project. It is strongly advised that applicants use the budget proposal format shown below on Table 2 or a similar format that provides this information. If selected for award, successful applicants must submit detailed supporting documentation for all budgeted costs.

The total project cost was determined from material cost estimates, PCCRC equipment rates, PCCRC personnel rates, anticipated rental costs, and time durations for the project based on estimates from PCCRC management and staff.

Table 2. Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	Total Cost
	$/Unit	Quantity		
Salaries and Wages				
Manager – Vern Stokes	$39.67	121	Hours	$4800.07
HR – Myrna Wright	$22.00	4	Hours	$88.00
Foreman – Donnie Briden	$26.20	478	Hours	$12,523.60
Operator 3 – Stan Wangseng	$19.02	327	Hours	$6,219.54
Operator 2 – Zach Leys	$21.73	283	Hours	$6,149.59
Truck Driver – Jody Fowler	$19.02	708	Hours	$13,466.16
Laborer 3 – Jeremy Farnstrom	$19.02	463	Hours	$8,806.26
Laborer 2 – Joey Pruttis	$19.02	226	Hours	$4,298.52
Fringe Benefits				
Manager – Vern Stokes	$13.51	121	Hours	$1,634.71
HR – Myrna Wright	$6.90	4	Hours	$27.60
Foreman – Donnie Briden	$7.69	478	Hours	$3,675.82
Operator 3 – Stan Wangseng	$0.00	327	Hours	$0.00
Operator 2 – Zach Leys	$10.13	283	Hours	$2,866.79
Truck Driver – Jody Fowler	$11.30	708	Hours	$8,000.40
Laborer 3 – Jeremy Farnstrom	$9.62	463	Hours	$4,454.06

Laborer 2 – Joey Pruttis	$9.62	226	Hours	$2,174.12
Travel				
NA – Included in Equipment Rates Below	-	-	-	$ -
Equipment				
Compactor (Rental, To Be Determined)	$26.00	244	Hours	$6,344.00
2013 220 DL Volvo Excavator	$34.20	200	Hours	$6,840.00
2005 John Deer 200 DLC Excavator	$34.20	196	Hours	$6,073.00
2002 CAT D6M Dozer	$93.74	273	Hours	$25,591.00
John Deere 624 J Loader	$43.85	99	Hours	$4,341.20
1994 Kenworth T800 w/ Trail King Trailer	$35.55	14	Hours	$497.70
1993 Peterbuilt w/ Side Dump Trailer	$38.46	434	Hours	$16,691.64
1996 Kenworth Dump Truck	$67.70	4	Hours	$270.80
1990 GMC 2&1/2 ton Water Truck	$33.35	24	Hours	$800.40
Pumps for Dewatering	$8.00	1,008	Hours	$8,064.00
Wacker-NeusonTamper	$17.65	28	Hours	$494.20
Pickup	$20.80	100	Hours	$2,080.00
Supplies and Materials				
Precast Concrete Outlet Structure	$45,000.00	1	Lump Sum	$45,000.00
2” minus Roadway Gravel (Purchase)	$4.70	340	Cubic Yard	$1,598.00
Native Seed Mix	$4.00	250	Pound	$1,000.00
Fertilizer	$2.00	200	Pound	$400.00
Contractual/Construction				
Engineer – Principal Engineer	$140.00	40	Hours	$5,600.00
Engineer – Project Manager	$110.00	120	Hours	$13,200.00
Engineer – Project Engineer	$100.00	160	Hours	$16,000.00
Engineer – Surveyor	$100.00	120	Hours	$12,000.00
Engineer – Engineering Project Liaison	$110.00	80	Hours	$8,800.00
Engineer – Administrative	$54.00	70	Hours	$3,780.00
Water Rights Change Application	$50,000.00	1	Lump Sum	$50,000.00
Open-Cut Mining Permit	$15,000.00	1	Lump Sum	$15,000.00
Other				
Other	-	-	-	$ -
TOTAL DIRECT COSTS				**$265,281.35**
Indirect Costs				
De Minimis Rate (<10%)	$20,000.00	1	Lump Sum	$20,000.00
TOTAL ESTIMATED PROJECT COSTS				**$330,281.35**

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. If in-kind contributions or donations of goods and services are included in the budget proposal, the narrative should identify the source(s) and describe how the value of the goods and services was determined. 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 in-kind contributions and donations, must comply with the applicable cost

principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations (www.ecfr.gov).

The proposed project will be completed through the use of PCCRC personnel and equipment. The PCCRC owns most of the construction equipment that is necessary to complete the project, and the PCCRC personnel are trained and experienced at using this equipment. The PCCRC has their own construction crews to be able to maintain their existing infrastructure and keep costs low, providing a benefit to their shareholders. Therefore, the PCCRC will be providing their cost share for the project with in-kind contributions. The value of the in-kind services provided by PCCRC have been split into personnel and equipment. The rates for personnel are provided in Table 2. The in-kind rate used is comprised of the wage rate for each employee in addition to fringe benefits. The equipment rates for PCCRC equipment have been determined through PCCRC's costs on each piece of equipment and cross-checked with the USACE rates as recommended in this solicitation. A list of the PCCRC equipment, age and other information is provided in Table 2. The personnel and material hours estimates were compile by PCCRC based on experience with similar projects. Material prices for the project are based on actual quotes and/or rates for materials. Rental rates are based on quotes from local suppliers.

Salaries and Wages

Indicate the program manager and other key personnel by name and title. Other personnel should be indicated by title alone. For all positions, indicate salaries and wages, estimated hours or percent of time, and rate of compensation. The labor rates must identify the direct labor rate separate from the fringe rate or fringe cost for each category. All labor estimates must be allocated to specific tasks as outlined in the applicant's technical project description. Labor rates and proposed hours shall be displayed for each task. The budget proposal and narrative should include estimated hours for compliance with reporting requirements, including final project and evaluation. Please see *Section F.3.2. Program Performance Reports* for information on types and frequency of reports required.

Generally, salaries of administrative and/or clerical personnel will be included as a portion of the stated indirect costs. If these salaries can be adequately documented as direct costs, they should be included in this section; however, a justification should be included in the budget narrative.

The PCCRC staff that will be used for the proposed project are shown above in Table 2. The direct labor costs have been separated out from the fringe benefits for each employee in the table. The labor estimates have been allocated to each task as shown in Table 2. Each employee has been assigned a task based on their experience and competence. The budget proposal includes hours for compliance with reporting requirements, including final project and evaluation (see Table 2 under contracted services, Engineer – Administrative, 70 hours for this task). A portion of the PCCRC employees are salaried employees, and the hourly rates have been calculated for these employees based on 2017 salary and direct compensation benefits. PCCRC labor rates and salaries are included in Table 2.

- Vern Stokes, PCCRC Manager: Vern has over 30 years of construction experience and project management for the PCCRC. Vern will be in charge of the overall project and will coordinate daily work.
- Myrna Wright, HR & Asst Manager: Myrna will provide payroll services and will process invoices and pay requests for the project.
- Donnie Briden, Foreman: Donnie has over 25 years of experience in the construction industry, specifically for PCCRC construction projects. Donnie will lead the activities on the ground and will be responsible for overseeing the construction. Donnie is also an experienced operator and will be one of the primary operators involved throughout the entire construction process. Donnie will provide foreman and operator duties throughout the construction project.
- Stan Wangseng, Operator 3: Stan is an experienced operator that will provide operation of the excavators, dozer and loader equipment for clearing and grubbing, trench excavation and construction surface shaping, clay cut-off construction, embankment construction, riprap placement, gravel placement, and miscellaneous construction and closeout activities.
- Zack Leys, Operator 2: Zack is an experienced operator that will provide operation of the excavators, dozer and loader equipment for clearing and grubbing, trench excavation and construction surface shaping, clay cut-off construction, embankment construction, riprap placement, gravel placement, and miscellaneous construction and closeout activities.
- Jody Fowler, Truck Driver: Jody is an experienced truck driver that will be responsible for mobilizing equipment to the site, hauling of material to and from the project site, and miscellaneous hauling activities.
- Jeremy Farnstrom, Laborer 3: Jeremy is an experienced laborer who will provide grade control, assistance in setting the concrete outlet structure, seeding and fertilizer spreading, wacker compaction around the outlet structure, and miscellaneous labor duties throughout construction.
- Joey Pruttis, Laborer 2: Joey is an experienced laborer who will provide grade control, assistance in setting the concrete outlet structure, seeding and fertilizer spreading, wacker compaction around the outlet structure, and miscellaneous labor duties throughout construction.

Budget hours to complete the work for each PCCRC employee are shown above in Table 2.

Fringe Benefits

Identify the rates/amounts, what costs are included in this category, and the basis of the rate computations. Indicate whether these rates are used for application purposes only or whether they are fixed or provisional rates for billing purposes. Federally approved rate agreements are acceptable for compliance with this item.

The fringe benefit rates for each PCCRC employee have been calculated and provided by PCCRC. These rates were calculated by PCCRC payroll personnel based on the year

2017 compensation and are considered provisional rates for billing purposes. The fringe benefits include accident and health benefits, life insurance, retirement, Medicare, unemployment and workers compensation, de minimus benefits, and other benefits as defined in IRS Publication 15-B.

Travel

Include purpose of trip, destination, number of persons traveling, length of stay, and all travel costs including airfare (basis for rate used), per diem, lodging, and miscellaneous travel expenses. For local travel, include mileage and rate of compensation.

Travel costs are not included in the proposed budget because they are included in the hourly equipment rates. PCCRC personnel are required to check in and start their day at the PCCRC office and will use PCCRC vehicles and equipment to travel to the job site and perform the work.

Equipment

If equipment will be purchased, itemize all equipment valued at or greater than $5,000. For each item, identify why it is needed for the completion of the Project and how the equipment was priced. *Note: if the value is less than $5,000, the item should be included under materials and supplies.*

If equipment is being rented, specify the number of hours and the hourly rate. Local rental rates are only accepted for equipment actually being rented or leased.

If the applicant intends to use their own equipment for the purposes of the project, the proposed usage rates should fall within the equipment usage rates outlined by the United States Army Corps of Engineers (USACE) within their Construction Equipment Ownership and Operating Expense Schedule (EP 1110-1-8) at www.publications.usace.army.mil/USACE-Publications/Engineer-Pamphlets/u43545q/313131302D312D38.

Note: If the equipment will be furnished and installed under a construction contract, the equipment should be included in the construction contract cost estimate.

PCCRC intends to use their own equipment with the exception of a sheepsfoot roller that will be rented. The rental rate obtained from the local equipment dealer for the proposed sheepsfoot roller is shown in Table 2 as provided to PCCRC. The equipment rates for PCCRC owned equipment are shown above in Table 2. The PCCRC equipment will be used for the project as follows:

- Sheepsfoot Roller (Rented): Will perform compaction of the clay trench and embankment materials to 95% standard proctor.
- 2013 220 DL Volvo Excavator: Will provide clearing and grubbing activities, excavation of the existing alluvial materials at the proposed embankment site (trench excavation), will provide excavation and loading of borrow materials from the east bank of the reservoir for haul and placement at the proposed

embankment site, riprap placement, concrete outlet structure placement, and will provide miscellaneous load/unload and excavation at the project site.

- 2005 John Deere 200 DLC Excavator: Will provide clearing and grubbing activities, excavation of the existing alluvial materials at the proposed embankment site (trench excavation), will provide excavation and loading of borrow materials from the east bank of the reservoir for haul and placement at the proposed embankment site, riprap placement, and will provide miscellaneous load/unload and excavation at the project site. Two excavators will be required at various times throughout the construction to facilitate the work.
- 2002 CAT D6M Dozer: Will provide clearing and grubbing activities, spread of trench and borrow material for the embankment to place in lifts for compaction, slope grading of the embankment and borrow site, and other miscellaneous grading activities throughout construction.
- John Deere 624J Loader: Will provide loading and unloading of trucked materials, spreading of materials, and general material handling throughout the construction process.
- 1994 Kenworth T800 w/Trail King Trailer: Will provide haul of equipment to and from the project site.
- 1993 Peterbuilt w/Side Dump Trailer: Will provide haul of materials to and from the project site, will provide haul of clay trench materials and embankment borrow materials to the embankment site, will provide haul of gravel materials and riprap to the project site, and provide various materials hauling activities required for the construction.
- 1996 Kenworth Dump Truck: Will provide haul of materials to and from the project site, will provide haul of clay trench materials and embankment borrow materials to the embankment site, will provide haul of gravel materials and riprap to the project site, and various materials hauling activities required for the construction.
- 1990 GMC 2&1/2 Ton Water Truck: Will provide water for material mixing at the borrow site, will provide water for material mixing at the embankment site to achieve optimal water content for compaction and will provide general water control for dust suppression throughout the construction process.
- Pumps for Dewatering: The PCCRC will dig two sumps at the project site and place pumps at each location for dewatering through the construction of the clay cut-off trench.
- Wacker-Neuson Tamper: The tamper will be used to facilitate compaction around the proposed new concrete outlet structure as equipment cannot get close enough to facilitate compaction of this structure.
- Pickup: Used for general site activities, materials, trips to obtain parts and materials, and transport of personnel to the job site.

Materials and Supplies

Itemize supplies by major category, unit price, quantity, and purpose, such as whether the items are needed for office use, research, or construction. Identify how these costs were estimated (i.e., quotes, past experience, engineering estimates, or other methodology). *Note: If the materials/supplies will be furnished and installed under a contract, the equipment should be identified as a contractual cost in the budget proposal*

The existing site currently contains adequate structural fill material for the proposed dam embankment on the east side of the proposed reservoir. Therefore, only purchased material costs are included in the proposed budget. All material and supply costs are accounted for in the unit prices provided in Table 5.2 (Budget Proposal). The material costs were determined as follows:

- Precast Concrete Outlet Structure: Determined from estimate provided by Forterra Concrete Products in Helena, MT.
- 2" Minus Roadway Gravel: Determined from local supplier quote as obtained by PCCRC personnel.
- Native seed mix and Fertilizer: Obtained from Murdoch's Farm and Ranch Supply in Helena, MT.

Contractual

Identify all work that will be accomplished by subrecipients, 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. Identify how the budgeted costs for sub-recipients, consultants, or contractors were determined to be fair and reasonable. *Note: If a sub-recipient, consultant, or contractor is proposed and approved at the time of award, no other approvals will be required. Any changes or additions will require a request for approval.*

The PCCRC will contract with a licensed Professional Engineer to complete the design of the E Canal Regulating Reservoir Project. The Engineer will be responsible for the design of the proposed project, which will include, but is not limited to, geotechnical analysis, environmental considerations, hydrology and hydraulics, structural analysis, permitting, and construction administration duties. The Engineer will work with regulatory agencies to complete environmental compliance. The Engineer will provide a final plan set and specifications for the proposed project to facilitate construction. The Engineer will also provide advisory services during construction of the project to assure proper installation. A breakdown of the consultant's time, rates, supplies, and materials is included in the Contractual/Construction Section. Construction will be performed by the PCCRC as in-kind services; therefore, a contract with a construction company is not required. The Engineer's services amount to a total cost of $59,380, which is well within the industry standard for A&E Services for design, permitting and construction administration (<20% of construction cost).

Environmental and Regulatory Compliance Costs

Applicants must include a line item in their budget to cover environmental compliance costs. "Environmental compliance costs" refer to costs incurred by Reclamation and the

recipient in complying with environmental regulations applicable to an award under this FOA, including costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include National Environmental Policy Act (NEPA), Endangered Species Act (ESA), National Historic Preservation Act (NHPA), Clean Water Act (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 or permits, or in implementing any required mitigation measures

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. 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.

The environmental and regulatory compliance costs were included within Table 2 in the Contracted/Construction section. These costs include:

- Preparation and completion of a water rights application: PCCRC has a water rights team consisting of an attorney and a specialized water rights consultant that handles all of their water rights work. PCCRC has been working on a number of water rights issues as of late due to the State of Montana's adjudication process, and thus has a firm handle on the costs associated with the required water rights change application for this project.
- Preparation and completion of an open-cut mining permit application: This cost was prepared by WWC Engineering, based on experience with similar applications.
- The remaining environmental and regulatory compliance costs are included within the Engineer estimates provided in Table 2. These include the preparation of a Storm Water Pollution Prevention Plan, Consultation with the US Army Corps of Engineers, Consultation with the local Conservation District, consultation with the Montana Department of Environmental Quality, and consultation with the

Montana Department of Natural Resources and Conservation for Sage Grouse habitat (none anticipated, but consultation required).

Other

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.

No other costs will be incurred for the proposed project.

Indirect Costs

Applicants with a federally approved indirect cost rate agreement may include indirect costs as part of the project budget. Show the agreed upon rate, cost base, and proposed amount for allowable indirect costs. It is not acceptable to simply incorporate indirect rates within other direct cost line items.

If the applicant has never received a Federal negotiated indirect cost rate, the budget may include a *de minimis* rate of up to 10 percent of modified total direct costs. For further information on modified total direct costs, refer to 2 CFR §200.68 available at www.ecfr.gov.

If the applicant does not have a federally approved indirect cost rate agreement and is proposing a rate greater than the *de minimis* 10 percent rate, include the computational basis for the indirect expense pool and corresponding allocation base for each rate. Information on "Preparing and Submitting Indirect Cost Proposals" is available from Interior, the National Business Center, and Indirect Cost Services, at www.doi.gov/ibc/services/finance/indirect-cost-services. If selected, the applicant will be required to obtain a negotiated Federal indirect cost rate agreement.

PCCRC does not have a federally approved indirect cost; therefore, a de minimis rate of less than10 percent is assumed for this project.

Total Cost

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

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

Total non-Federal cost share (funded by PCCRC):	$180,281.35
Total Federal cost share (Reclamation WaterSMART):	$170,000.00
Total amount of the project costs:	**$350,281.35**

Pondera County Canal & Reservoir Company

An Organization of Users on the Valier Project
PO Box 245, Valier, MT 59486
Phone: (406) 279-3315 E-mail: pccrc@3rivers.net

May 3, 2018

To Whom It May Concern

The Pondera County Canal & Reservoir Company (PCCRC) wishes to confirm our commitment of in-kind funding for the E Canal Regulating Reservoir Project should our application to the U.S. Bureau of Reclamation's WaterSMART Grant Program be successful.

PCCRC acknowledges our commitment to fund the amount of $180,281.35 to the project in the form of cash, labor, equipment, and management provided to complete the project. PCCRC agrees that upon the successful award of the WaterSMART grant we will make available the pledged resources in the form of cash, labor, equipment, and management necessary to fulfill our funding obligation as soon as it is feasible for the project to begin.

Neither the Management nor the Board of Directors of PCCRC foresee any contingencies or conditions that may interfere with our fulfillment of our contribution obligations under the terms outlined.

Sincerely,

Gary Arnst, President
Pondera County Canal & Reservoir Company

D.2.2.6 ENVIRONMENTAL & CULTURAL RESOURCES COMPLIANCE

The following questions will address the impacts to environmental and cultural resources from the E Canal Regulating Reservoir Project to allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with this application. The responses focus on the NEPA, ESA, and NHPA requirements.

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

  Impacts will be those associated with general excavation and site grading, concrete construction, and placement of fill material. The proposed project is expected to have minimal impacts and in some cases, may even have a positive impact on the environment or cultural resources. The work will be limited to the boundary of the project area. Care will be taken to minimize impacts and limit the construction footprint wherever possible. During construction, dust may be generated but is expected to be minimal and temporary. Dust control measures will be implemented during construction. The proposed project could potentially have a beneficial impact on animal habitat. The regulating reservoir could provide habitat for waterfowl and other animals in the area.

- 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?

  Results from the Montana Natural Heritage Program (MTNHP) indicate that there are no known threatened or endangered species within the proposed 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.

  A search of the National Wetland Inventory revealed three wetlands in the project area. The USFWS considers the E Canal in the project vicinity a wetland with the following wetland types: freshwater emergent, riverine, and freshwater pond. Because PCCRC irrigation water delivered down the E-Canal is the only consistent source of water, these wetlands are considered by the PCCRC to be caused unintentionally as a byproduct of irrigation. The proposed project will include all necessary permits and environmental actions in order to be fully compliant with all rules, regulations, and laws. Based upon the available information, no Waters of the United States are believed to be negatively impacted by the proposed project.

- When was the water delivery system constructed?

  The PCCRC began construction of its facilities in the late 1890's and the existing E-Canal works were incorporated around 1909.

- 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 proposed project will modify the E Canal in order to create a reservoir that will be capable of storing 49.2 acre-feet of water. The proposed project will affect approximately 1,450 feet of the E Canal channel. The E Canal was constructed in 1909. Past projects on the E Canal include general rehabilitation projects such as cleaning and reshaping the E Canal prism or general maintenance projects that have been completed as recently as last year.

- 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.

  The district does not have any buildings, structures or features eligible for listing.

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

  The PCCRC is not aware of any archeological sites in the proposed project area. If any archeological sites are discovered during construction, work will be halted and the appropriate environmental process will be followed.

- Will the proposed project 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 proposed project will not have a disproportionately high and adverse effect on low income or minority populations. The proposed project will not limit access to or ceremonial use of Indian sacred sites, or result in other impacts on 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?

  Care will be taken to prevent the continued existence or spread of noxious weeds or non-native invasive species. During revegetation, only approved native seed mixtures will be used. The PCCRC's weed management program will be used to control weed and non-native species once the project is complete.

D.2.2.7 REQUIRED PERMITS OR APPROVALS

For each of the permits listed below, the PCCRC will work with each permitting agency to determine whether a formal permit is needed for the construction of the proposed project. If needed, the following permits may be obtained with assistance from the engineer during the design process:

310 Permit – The Montana Association of Conservation Districts (MACD) requires a permit for any activity that physically alters or modifies the bed or banks of a perennially flowing stream. Consultation will be performed, but the activities proposed herein are likely exempt from this rule.

404 Permit – The Army Corps of Engineers (ACOE) requires a permit for any activity that will result in the discharge or placement of dredged or fill material into waters of the United States, including wetlands. Consultation will be performed, but the activities proposed herein are likely exempt as stated in CRF 323.4(a)3.

318 Authorization – The Short-Term Water Quality Standard for Turbidity requires a permit for any construction activities that will cause temporary violations of state surface water quality standards for turbidity.

Storm Water Discharge General Permit – State Storm Water Rules require a storm water discharge permit for any construction project over one acre in total disturbance that discharges into State waters.

Montana Sage Grouse Habitat Conservation Program - The program's role is to implement Montana's Sage Grouse Conservation Strategy including the conservation, restoration, and mitigation of changes to sage grouse habitat as a result of development.

Water Rights – Through discussions with the DNRC regional office in Havre, the proposed regulating reservoir will require a change application to add storage and account for water salvage (ET and seepage losses currently will be exchanged for a proposed evaporation loss). The DNRC will require a Form 606 SWA salvage water addendum and a Form 606 PSA Place of Storage Addendum. The process will require historic use water records that will focus on the Lake Frances storage rights with a specific look at the E Canal use. A pre-application meeting was held with the DNRC Havre Field Office on April 26, 2018 to discuss the proposed change application. An email from the DNRC regional office in Havre is attached to this application. As of the date of this application, the PCCRC is actively working on the change application and intends to submit the application later this month.

Montana DEQ Open-Cut Mining Permit – Through discussions with the open-cut mining program, a pre-application was requested to determine the need for an open-cut mining permit through the Montana Department of Environment Quality. The pre-application was officially requested on April 27, 2018 and a pre-application site meeting was held on May 8, 2018. The DEQ will be sending a response on the requirements of the proposed permit.

D.2.2.8 LETTERS OF SUPPORT

Letters of support for the project are included in Appendix D.

APPENDIX D

LETTERS OF SUPPORT

Stockman Bank

420 South Main PO Box 727 • Conrad, Montana 59425-0727
406.278.8200 FAX 406.278.8239

April 27, 2018

To Whom It May Concern:

This is a letter in support of the grant application being submitted by the Pondera County Canal and Reservoir Company. Their plan is to mitigate the seepage loss for 6 cfs for water conservation and provide short-term storage to provide more timely and consistent water delivery.

The irrigation water supplied by Pondera County Canal and Reservoir is vital to the agricultural sector of our local economy. This proposed project will greatly help with the efficiencies and water conservation aspect of this valued resource.

As a major provider of agriculture credit in the area, Stockman Bank strongly supports this project.

Please give favorable consideration to the PCC&RC grant proposal. If they can implement this plan, they will save water.

Thank you.

Sincerely,

Dan Majerus
President - Conrad
278-8205
dmajerus@stockmanbank.com

USDA
United States Department of Agriculture

Natural Resources
Conservation Service

Montana State Office

10 East Babcock
Street, Room 443
Bozeman
Montana, 59715

Voice 406.587.6811
Fax 855.510.7028

April 26, 2018

Darren Olson
Grants Management Specialist
Bureau of Reclamation
Water Smart Grant for Water and Energy Efficiency
dolson@usbr.gov

Dear Mr. Olson:

The Conrad Natural Resources Conservation Service (NRCS) works with the Pondera County Canal and Reservoir Company (PCCRC) and their shareholders to improve irrigation water delivery and management with the purpose of improving on-farm irrigation efficiencies, thus reducing evaporation and seepage losses.

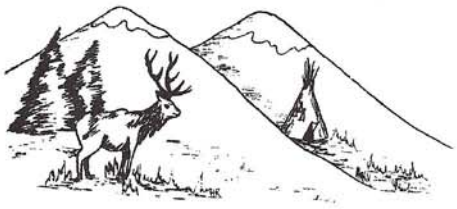
Inventory and data collection by the PCCRC show the E Canal seeps up to 6 cfs of water. Once the water enters the drainage, irrigators can no longer utilize the water for irrigation purposes. Conserving water and improving irrigation efficiencies is a natural resource concern focus for the Conrad NRCS field office.

Respectfully,

Lori Ziehr

LORI ZIEHR
Acting State Conservationist

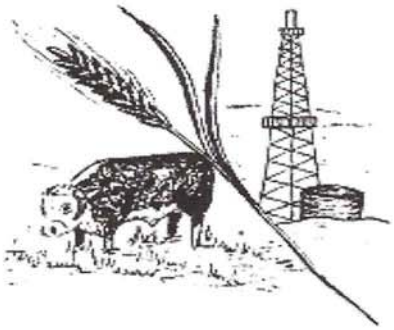
cc:
Cari Ostberg, Assistant State Conservationist for Field Operations, NRCS, Great Falls, Montana
Stacy Denny Eneboe, Supervisory District Conservationist, NRCS, Conrad, Montana



PONDERA COUNTY

20 4TH AVENUE S.W.

CONRAD, MONTANA 59425



April 29, 2018

Vern Stokes
Pondera Canal & Reservoir Company
PO Box 245
501 Pondera Ave
Valier, Mt 59486

The Pondera County Commissioners strongly support the grant application of the Pondera County Canal & Reservoir Company (PCC&RC) for the E Canal reservoir for water regulation and water loss control.

The PCC&RC supplies water to the agricultural base of Pondera County. There are approximately 72,000 acres irrigated on this project every year. The small reservoir proposed on the E Canal for water regulation would not only drastically reduce water seepage and help with controlling saline seep in the area, but would also provide a more reliable water source for the 4000 acres irrigated below this area. The saving of water in this area will also provide more water later in the season helping maintain wild life habitat and recreational opportunities in the Valier area. The addition of the small reservoir along the E Canal will also help improve water supplies for the City of Conrad and Brady which depend on this water for all uses.

Pondera County is an agricultural county that depends heavily on irrigation for the production of livestock, hay, wheat, barley, and pulse crops.

Sincerely,
PONDERA COUNTY COMMISSIONERS

Janice Hoppes

Janice Hoppes, Chair

Thomas A. Kuka

Thomas A. Kuka, Member (and PCC&RC share holder)

Dale J. Seifert

Dale J. Seifert, Member (and PCC&RC share holder)

Letter of Support for the E-Canal Regulatory Reservoir

I am Paul L. Kronebusch, president, owner and manager of D. Kronebusch & Son, Inc., on whose land the PCCRC E-Regulatory Reservoir will be built. I am a stockholder in the water company and can irrigate over 1100 acres. I'm very familiar with this area and the E-canal. I have 5 irrigation pumps on this canal.

This reservoir will drastically cut down seepage the canal loses when water is flowing through this area. The regulatory reservoir will certainly save water when farmers are moving water around between systems in different areas or ditches. It takes about 3 days to get water here from the lake. If one or two days lapse between uses, it's impractical to shut the water off at the lake. We will be able to save water from run-off and save water when electrical storms shut all pumps down. There might also be a possibility of lessening erosion damage from spring snow run-off. We have local ducks and geese that I'm sure will take advantage of another small lake. I am not aware of the drainage design, but all my reservoirs have perch in them from Lake Frances.

I have also been a supervisor for over 40 years with the Pondera County Conservation District. We have supported many projects over the years for PCCRC, because we have seen the organized operations, the conservation of water, and the controlling of erosion.

I am in total support of this project,

Sincerely,

Paul L. Kronebusch, 04/26/2018

Conservation District Supervisor

D.2.2.9 OFFICIAL RESOLUTION

An official resolution is provided in Appendix E.

APPENDIX E

RESOLUTIONS

RESOLUTION # 2018-04

RESOLUTION COMMITTING FUNDS, IN-KIND LABOR, PROJECT MANAGEMENT & EQUIPMENT SERVICES

for

E-Canal Regulating Reservoir

WHEREAS, The Pondera County Canal & Reservoir Company (PCCRC) has the legal authority to enter into an agreement, and intends to submit a Water Efficiency Grant to the United States Bureau of Reclamation's (USBR) WaterSMART Program in 2018;

WHEREAS, The Pondera County Canal & Reservoir Company, located in Valier, Montana commits to assisting in the implementation of, the construction of, operation of, and performing of future maintenance for the proposed E-Canal Regulating Reservoir per the stipulations of the foregoing grant application (if successful and awarded);

WHEREAS, the PCCRC contributions of cash and in-kind management, labor, and equipment services for the preferred alternatives of the aforementioned grant application have been estimated at up to 51% of the total project costs per the budgeting calculation forms included in the WaterSMART Grant Application;

NOW, THEREFORE, BE IT RESOLVED, by the PCCRC Board of Directors that the PCCRC supports the application and hereby commits to supply the in-kind labor, management, equipment, and/or cash matches as stipulated in the Funding Plan of the WaterSMART Grant Application submittal for the E-Canal Regulating Reservoir Project. The PCCRC has budgeted for the planned capital and resource expenditures, and will work with the USBR to meet the established deadlines of a cooperative/grant agreement.

Passed and approved this 10th day of April, 2018.

BOARD OF DIRECTORS
PONDERA COUNTY CANAL & RESERVOIR COMPANY

Signed: _____ 4/10/2018
Cory Crawford, Vice President — Date

Signed: _____ 4/10/18
Jerry Johns, Secretary/Treasurer — Date

Witnessed: _____ 4.10.18
Myrna Wright — Date

APPENDIX A

WATER MEASUREMENTS

May 31

2017 [redacted] Season

District: 4S Ditchrider: [redacted] Page: 1 of 1

Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
X	1	Shirley Sanders		E T08	.25	5-27	0700	5-29	0700		
X	2	Randy Young		F2 T07	1.00	5-27	0800	5-30	0800		
X	3	Tom Brown		S1 P1	2.00	5-26	1200	6-11	1200		
X	4	Jan Brown		S P2	2.70	5-26	1600	5-29	2100		
X	5	Butch Johns	South Ries	E P7	1.60	5-30	0900	6-09	1900		
X	6	Grubb Gravity	Parks P.L. Pivot	P PL	1.70	5-26	2100	6-1	1000		
X	7	Grubb M	Grubb PL NW	G PL	2.20	5-29	0800	6-8	1200		
X	8	Curt Ries		M1 SSR	1.10	5-29	1800	5-30	1800		
X	9	Jones	4-J	Flat Gulch	1.70	5-28	1800	6-3	1800		
X	10	Bulk / Jones	South Ries	E-4 P1	1.1	5-28	1800	6-1	2100		
X	11	Bulk / Jones	North Ries	E P8	1.70	5-29	1200	5-31	1700	6-2	2100
X	12	Bulk / Jones	Ledger Pivot	E P5	1.50	5-29	0700	5-31	15:45		
X	13	Butch	Stone Barn	G P7	2.0	5-30	2100	6-09	15:00		
L&L	14	Butch	Moore WL	E P3	1.95	5-31	0900	6-09	1900		
X	15	Jerry J.	West 1	G P2	1.90	5-30	1400	6-1	2000		
X	16	Jerry J	South Pivot	G P3	1.90	5-30	1300	6-10	1000		

E-1 T05

2017 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
X	17	Grubb	Home Pivot	S P15	1.80	6-2	1000	6-08	1800		
X	18	Orcutt		G P5	2.00	6-7	1100	6-12	2300		
X	19	Orcutt		S P9	2.10	5-31	0800	6-8	0800		
X	20	Pearson	Big Pivot	S P12	4.6	5-27	1800	6-05	1700		
X	21	Pearson	Pivot WL / Steve And A.+	F2 P1	3.4	6-2	1000	6-08	1800	6-09	1000
X	22	Grubb		G PL NE	2.20	6-1	0800	6-09	1400		
X	23	Grubb		G PL SE	2.20	6-1	0800	6-09	1400		
X	24	Grubb	N. Klum Pivot	P PL	2.20	6-1	0800	6-8	1200		
X	25	J. Johns	Yard	G2 T01	.25	5-30	1000	6-3	1200		
X	26	Curt Ries		E T04	.25	5-29	1630	6-1	2100		
X	27	Jeff Hubets	West Dewzen	S P7	1.50	6-08	0800	6-09	0800		
X	28	Jason Johns	4 WL	G P4	3.0	6-2	1000	6-13	1200		
X	29	Butch	Balkenbush	F3 P4	1.90	5-31	2100	6-12	1200		
X	30	Butch	New Res	E T016A	2.20	6-2	2100	6-15	0800		
X	31	Zane		F1 P2	2.00	6-1	1600	6-11	0900		
X	32	Zane		S P4	2.20	5-31	0600	6-9	0600		

2011 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
	33	Zane		S P4A	.75	5-31	0600	6-05	0600		
	34	Dusty		E P8	1.70	5-31	1100	6-2	2100		
	35	Balkenbush	Arena	F3 P5	.70	6-1	0800	6-2	0800		
	36	Grubb G	Parker WL 90	P PL	2.00	6-1	1000	6-09	1800		
	37	Myhre	Pivot	S7 P2	1.40	6-2	1830	6-8	1200		
	38	Myhre		S7 T05	3.20	6-3	0800	6-7	1200		
	39	Grubb	South Jay	F2 P3	2.10	6-2	1200	6-7	1200		
	40	Grubb	Swanson N	SPL P1	2.00	6-2	0800	6-7	1200		
	41	Johns J	East from West	G P4A	1.90	6-1	2000	6-5	0900		
	42	Butch	Big Pivot	E P9	2.6	6-2	0600	6-7	1300		
	43	Butch	House	F6 P1	2.0	6-08	0800	6-12	1200		
	44	Jeff Habets	Huyghe WL	S7 T06	2.25	6-3	1200	6-7	1200		
	45	Ken Hallman	Home Pivot	F2 P2	1.75	6-3	1400	6-6	1800		
	46	B Rice	Tin Shack	E T01 P2	.75	6-5	0800	6-9	0800		
	47	Dan Pearson	Big Fields	S P13	4.6	6-5	1700	6-14	1700		
	48	Jerry Johns	West Pivot	G P2	1.90	6-3	1200	6-05	1200		

2011 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
	49	Brim G	2 WL	S7 P6	1.5	6-5	0800	6-7	0800		
	50	Brim G	3 WL	S7 P4	1.5	6-5	0800	6-11	0800		
	48	Jerry Johns	From west to west 2	G2 P1	1.90	6-5	1200	6-15	1200		
	52	Balkenbusch		F3 P5	.70	6-5	0800	6-6	0800		
	53	Tom Brown	Big Pivot	S P2	2.70	6-7	0800	6-11	1500		
	54	G Grubb	Felix Pivot	S PPL	1.70	6-9	1800	6-13	0800		
	55	Brad Hoffman		S3 T01	.25	6-6	2000	6-9	2000		
	56	Pearson	Aitken WL	F2 P1	.60	6-2	1000	6-9	1000		
	57	Pearson	Storbakk	F2 P1	3.4	6-2	1000	6-9	1000		
	58	Grubb		S1 P1	2.0	6-7	0800	6-8	0800		
	59	Pearson	Green Pump	S P10	2.80	6-11	0900	6-14	1700		
	60	Butch	2 WL	E T016 A	1.30	6-15	0800	6-24	0800		
	61	Jerry J	4 WL Shirleys	E P4	2.6	6-09	1000	6-19	0600		
	62	Jerry J	North Pivots	E T07	1.90	6-09	1200	6-14	0900		
	63	Jerry J	Bill Pasture	F P3	3.00	6-12	1600	6-24	0700		
	64	Tom Brown	Res	S T03	1.0	6-11	1500	6-14	1800		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
X	65	J Pearson		S3 TO 3	3.4	6-12	1200	6-15	0800		
X	66	Orcutt	Yard	F 3 P2	.25	5-31	0900	7-06	1930		
X	67	Butch	Yard	F 6 P2	.25	6-13	0800	6-15	0800		
X	68	Butch	2 WL	F6 P3	1.50	6-15	1200	6-22	0900		
X	69	Orcutt G		S1 P3A	.25	6-12	0800	7-07	1200		
X	70	S Becker		S1 TO 7A	.50	6-12	1700	6-15	1700		
X	71	J Johns	4 WL	G P4	3.00	6-19	1200	6-24	1900		
X	72	B Johns	Moore WL	G TO 4	1.95	6-20	1300	6-26	0700		
X	73	Grubb		GPL NE	2.00	6-19	0800	6-29	0900		
X	74	Ross J		S TO 7P1	2.00	6-20	0900	7-2	0800		
X	75	J Johns	N Inlet	E TO 10	1.80	6-20	2000	6-29	1900		
X	76	B Johns	3/4 WL Thurs to Steve Bird	GP 6	2.25	6-22	1200	7-3	0800		
X	77	J Pearson		S3 TO 3	3.4	6-20	1200	7-2	1000		
X	78	Butch	Sam Inlet	E P7	1.80	6-21	1900	6-25	1600		
X	79	Pearson	Pivot	F2 P1	3.4	6-21	1800	6-25	1800		
X	80	Pearson	HL	F2 P1	.60	6-21	1200	6-25	1800		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
X	81	Pearson	Big Pivot	S P 12	4.6	6-21	1200	6-26	1200		
X	82	Pearson	Big WL	SP P13	3.5	6-21	1200	6-28	0700		
X	83	Tom Brown	2 WL	S P1	2.10	6-21	1300	6-28	0600		
X	84	Mark Grubb	Kluth Home Pivot	SP 14	2.00	6-21	2400	6-28	1200		
X	85	Mark Grubb		SGPLNW	2.00	6-21	2400	6-27	0900		
X	86	Pearson	Green Pump	S P10	2.8	6-21	1200	7-1	0700		
X	87	P Krawchasch	4 WL 9	SP 3	2.40	6-22	0800	7-1	1900		
X	88	K Holman		F2P2	1.75	6-22	1800	6-25	1800		
X	89	J Johns	WL E W'	E TO 7A	1.30	6-24	0700	6-30	0700		
X	90	Butch	House Pivot	F6 P1	2.00	6-22	0900	6-29	1200		
X	91	Ross Johnson		S TO 7P2	2.00	6-20	0900	7-02	0900		
X	92	G&Rubb	700 gpm WL	PPL #9	1.60	6-23	0800	6-[illegible]	1900		
X	93	B Rios	2 WL Lowe.	E P6	1.40	6-26	0800	7-07	2100		
X	94	B Rios	2 WL Red	TO 11 P1	1.70	6-26	0800	7-06	2000		
X	95	B Rios	2 WL TW	TO 11 P2	1.40	6-26	0800	7-10	0800		
X	97	B Rios	3 WL Res	TO 11 P3A	2.25	6-26	0800	7-06	1700		

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Two Checks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
V	96	D Ries	New Pivot	E T01 P3	1.90	6-28	0800	707	1200		
X	98	C Johnson	3' Blowoff	F Blow	3.00	6-23	0700	7-4	1200		
V	99	Ron Thde		S3 T01A	.25	6-28	1600	7-01	1200		
V	100	Greg Orcutt	Home	S1 P2	2.00	6-24	1200	6-30	1000		
V	101	Greg Orcutt	Elliot	S7 P1	1.80	6-24	1200	6-30	1000		
V	102	M&E Grubb	Home Pivot	S P15	2.00	6-25	0900	6-28	0900		
V	103	Butch	Big Ries	E P9	2.6	6-25	1600	7-05	2000		
V	104	Jerry Jones	West 7	G P2	1.90	6-24	0700	6-25	0700		
V	105	Buster		G T03	1.70	6-26	1000	7-02	0800		
V	106	Buster		E P10	2.20	6-26	2100	7-03	0800		
V	107	B Garnett		S7 P6	1.50	6-25	0700	7-04	0800		
V	108	B Garnett	Pivot S7E	S7 E P1	2.00	6-25	0700	706	0800		
X	109	Orcutt M		F 3 P1	.90	6-25	0800	7-06	1930		
X	110	M Orcutt		F 3 P3	1.50	6-27	0900	7-2	0800		
V	111	Paul K	East	F P1	1.70	6-25	1900	6-27	0800		
X	112	Paul K	West	E T02 P1	1.70	6-25	1900	6-28	0800		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
V	113	M Orcutt	Mt b Horse	S P11	2.10	6-27	0800	7-2	1900		
X	114	M Grubb	North Klath	P P L	2.20	6-26	0800	7-4	1800		
X	115	M Grubb	North Jay	F3 P1	2.10	6-26	1300	7-2	0900		
X	116	D. Jones	North Ries	E P 8	1.50	6-29	0900	7-2	0930		
X	118	D. Jones	Ledger Pivot	E P5 W½	1.5	6-29	1000	7-2	2130		
X	117	Butch Jones	Coulee	E Coulee	2.0	6-27	0800	7-10	1000		
X	119	Dan Pearson	Hagelin	S P 8	1.3	6-27	0700	7-3	0700		
X	120	P Kaarbason	700 gpm	S3 T04	1.45	6-26	0900	6-30	0900		
V	121	E Ratzburg		F P2	5.60	6-28	1000	7-21	1700		
X	122	G Grubb	Park Hwy	P P L	1.70	6-27	0900	7-06	1800		
X	123	M Grubb		G P L SE	2.20	6-27	0900	7-03	2000		
X	124	M Grubb		G P L SW	2.20	6-27	0900	7-03	2000		
V	125	Zane D		F1 P2	2.00	6-29	0800	7-10	1200		
X	126	Paul Krambeck	N/L	S3 T04A	.50	6-29	0800	6-29	0800		
X	127	Jeff Nabeta	East Denver	S P6	1.90	6-28	0900	7-13	1830		
X	128	Roland Lee		S3 T02	1.15	6-30	0800	7-06	1900		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
X	129	Mark Owens	W. Home Pivot	SP9	2.10	6-28	1600	7-14	0800		
X	130	David Myhre	4 WL	S7 T05	3.2	6-30	0800	7-15	0800		
X	131	Paul Kane	[illegible]	E P1	1.7	6-28	1600	6-30	0800		
X	132	Jerry Johns	East 80 N I	G P4A	1.90	6-29	1100	7-10	1130		
X	133	Jerry Johns	" "	G P2	1.90	6-30	1200	7-07	1400		
X	134	Mark Crosby	20 acres	PPL P2	.70	6-28	1900	7-15	1200		
X	135	David myhre		EPS S9R	1.50	6-28	1700	7-03	1030		
X	136	Ken Hohlman	WL	E 2 P5	1.75	6-30	1400	7-06	0800		
X	137	Butch	Res Pivot	E T016	2.00	6-30	0800	7-12	0800		
X	138	Paul K	North Pivot	E P1	2.20	6-30	0800	7-12	930		
X	139	Colby J	Road side Blow off 12"	Blow off	2.00	6-30	1200	7-09	1000		
X	140	Ken Rice		E T013	.70	7-1	1000	7-04	2200		
X	141	Zane Dekruyf		S P4	2.50	7-1	1900	7-10	1200		
X	142	Myhre		S7 P2	1.40	6-30	1200	7-13	1200		
X	143	Jerry Johns	North Pivot	E T07	1.60	6-29	0700	7-13	0700		
X	144	Jerry Johns	South Pivot	G P3	1.90	6-29	2200	7-02	2000		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
V	145	Butch	Steve Bucy	G P1	2.00	7-2	1200	7-12	0800		
V	146	Paul Krawchuck	WL & HL	E T02 P2	1.10	7-1	1700	7-5	1200		
V	147	Paul Krawchuck	2 WL/Pasture	E T04	1.50	7-2	1200	7-11	0700		
V	148	Randy Yandt		F2 T03	4.20	7-3	2000	7-16	2000		
V	149	Jim Mohrman		E T015	1.70	7-4	1400	7-19	2100		
V	150	Brian Gabrecht		S7 P6	1.50	7-1	1900	7-08	1900		
V	151	Zane	SP4A	SP4A	.75	7-1	1900	7-10	1200		
V	152	Paul Krawchuck	Pivot/West	E P02 P1	1.70	7-1	1900	7-08	1200		
V	153	Tom Brown	Big	S P2	2.90	7-2	0700	7-18	0700		
V	154	Tom Brown	S	S1 P7	2.00	7-3	0700	7-26	0800		
V	155	Crosby	Sam Jay	F3 P3	2.10	7-2	0900	7-11	1300		
V	156	John Bolk		E8 N½	1.70	7-2	0930	7-07	1730	128 hrs	
V	157	Ken Hohman	Pivot	E2 P2	1.75	7-6	0800	7-15	1000		
V	158	Butch	Bakenhaus	F3 P4	1.90	7-4	0800	7-14	1000		
V	159	J. Pearson		S3 T03	2.4	7-2	1000	7-06	1000		
V	160	Jerry Jones		G2 P7	1.90	7-3	2000	7-14	2100		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	161	Gwbb	Shawsen	SPLP1	2.00	6-28	1200	7-3	0800		
✓	162	Pearson		SP15	2.00	7-3	0700	7-4	1800		
✓	163	C Johnson		F Bow	5.00	7-4	1200	7-19	0900		
✓	164	Mark G		GPLSE	2.70	7-4	1100	7-15	1200		
✓	165	Mark G		GPLSW	2.20	7-4	1900	7-15	1200		
✓	166	G. Gwbb	700 WL	PPLP3	1.60	7-06	1800	7-17	1940		
✓	167	M Gwbb	1000 gpm WL	PPL	2.20	7-4	1800	7-11	0900		
✓	168	Jerry Johns	Cattail Pivot	F1 Cat	1.40	7-5	0700	7-12	1500		
✓	169	Paul K		F P1	1.70	7-5	1800	7-11	0700		
✓	170	Greg Arndt	Elliot	S1 P1	1.80	7-7	1200	7-14	0800		
✓	171	Greg Arndt	Home	S1 P2	1.80	7-7	1200	7-14	0800		
✓	172	John Baker		E4 P1	1.10	7-06	0800	7-14	0800		16 ac
✓	174	Buster		G to 3	1.70	7-08	2000	7-14	0800		
✓	173	Buster		E P10	2.00	7-6	1900	7-10	2130		
✓	175	Butch	Mare WL	E P3	1.95	7-6	0800	7-18	0800		
✓	176	4J	Flat Lake	S P16	1.70	7-5	1800	7-11	1800		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	177	Ross Johnson		ST07P1	2.00	7-07	0800	7-19	0800		
✓	178	Ross Johnson		ST07P2	2.00	7-07	0800	7-19	0800		
✓	179	Paul K	Pivot & WL 1800 gpm	E P3	2.45	7-06	0800	7-10	0800		
✓	180	Mark G		GP NW	2.00	7-06	2100	7-07	1900		
✓	182	Paul K	700 gpm	S3 P04	1.45	7-07	0800	7-09	1800		
✓	181	Mark G		SP14	2.00	7-05	2100	7-06	2100		
✓	183	Jerry Johns	west to Sara	GP3	1.90	7-07	1400	7-14	2100		
✓	184	Dan Pearson		S P12	4.60	7-08	1630	7-13	1900		
✓	185	Dan Pearson		F2 P1	3.40	7-04	1000	7-13	1900		
✓	186	G Gwbb	Park Hwy Pivot	Park	1.70	7-07	1900	7-14	1900		
✓	187	Shirley Sandy		ET08	.25	7-08	0800	7-09	1500		
✓	188	John Balk.		EP5 E ½	1.50	7-04	0800	707	0630		
✓	189	Dusty Jones		EP8 S ½	1.70	6-28	0700	705	1100		
✓	190	Butch Johns	House Pivot	F6 P1	2.00	7-04	1500	7-14	1000		
✓	191	Butch Johns	Big Rics	EP9	2.60	7-04	1000	7-18	1000		
✓	192	Cuet Rics		E4P1 SSR	1.10	7-08	0800	7-10	0800		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	193	Jeff Habets	West Denver	SP7	1.50	7-09	1900	7-26	0845		
✓	194	Mark Orcutt	WL by house	9 P11	2.10	7-10	1700	7-16	1000		
✓	195	Mark Orcutt	North WL	F3 P1	.90	7-11	1100	7-22	0700		
✓	196	Mark Orcutt	South WL	F3 P3	1.50	7-11	1100	7-17	1000		
✓	197	Duane W		ETO 12	.50	7-11	0800	7-15	0800		
✓	198	Jerry Johns	East D-Trailer	ETO 10	1.80	7-10	11:30	7-18	1000		
✓	199	John Silvernail		S7 to 9	.50	7-10	0900	7-13	0800		
✓	200	B. Reis		ETO 11 P2	.70	7-10	0800	7-17	2200		
✓	201	Crubb	Swanson	S 3PL P1	2.00	7-11	1300	7-15	1000		
X ✓	202	Crubb	North Johns	F1 P1	2.10	7-11	1300	7-24	1000		
✓	203	Crubb	North Kuiken	Parks	2.20	7-11	0900	7-15	1200		
✓	204	Dan Pearson		Swan PL	.50	7-11	0900	7-21	0900		
✓	205	Paul K.	Pasture	ETO 4A	1.50	7-11	0700	7-17	1900		
✓	206	Paul K	Pasture	S7 to	2.20	7-11	000	7-17	1900		
✓	207	Paul K	4 WL	SP3	2.40	7-12	1200	7-17	1900		
✓	208	Ron Thole	Res	S3TO 1A	.25	7-08	1330	7-14	0800		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	209	Ron Thole	Flood	S3TO 2	.25	7-08	1330	7-14	0800		
✓	210	Nick the Dick		S7 P5	.25	7-12	0600	7-12	1400		
✓	211	Jerry Johns		ETO 7A	1.50	7-13	0700	7-19	0700		
✓	212	Habets E	WL	SP6A	1.50?	7-13	1830	7-26	0845		
✓	213	Habets E	Huyghe WL	9 7 TO 6	2.25	7-15	0800	7-26	2000		
✓	214	Johns Jerry		6-2 TO	.25	7-14	2100	7-16	0800		
✓	215	David Myhre		EP5 SSR	1.50	7-18	0700	7-19	19.30	36.50	
✓	216	Dusty Jones		EP5 W ½	1.50	7-19	0800	7-22	0930	73.30	116
✓	217	John Ballenbach		EP5 E ½	1.50	7-19	1200	7:22	22.30	82.30	
✓	218	Orcutt		S1 P3A	.25	7-14	0800	7-22	1900		
✓	219	Butch	Home	F6P7	2.00	7-18	0700	7-22	1000		
✓	220	John Ballenbach		EP8N ½	1.70	7-18	0700	7-25	1400		
✓	221	Tom Brown		SP2	2.70	7-18	0700	7-22	0700		
✓	222	Colby Johnson		F Blow	3.00	7-18	0900	8-05	0900		
✓	223	Paul K		S3	1.45	7-19	1730	7-23	0800		
✓	224	Paul K		ETO 3	2.45	7-19	1100	7-22	1100		

2017 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
V	225	Buster		EP10	2.20	7-18	1900	7-26	1900		
V	226	Buster		GTO 3	1.70	7-19	0800	7-26	0800		
V	227	Kranebusch	Nolan	EP1	2.20	7-20	1000	7-25	0930		
V	228	Kranebusch		FP1	1.70	7-20	1000	7-27	1000		
V	229	Nick L		S7P5	.25	7-18	0700	7-18	2000		
V	230	Don Pepper		SP10	4.60	7-18	2000	7-21	0800		
V	231	David Myhre	Pivot	S7 P2	1.40	7-21	0800	7-27	1800		
V	232	David Myhre	3 WL	S7 T05	2.40	7-21	2000	7-26	0800		
V	233	Brian Gravett	2 WL	S7 P6	1.50	7-20	1900	7-27	1200		
V	234	Hohman	Pivot	F2 P2	1.5	7-22	0600	7-27	1200		
V	235	Randy Young	Res	F2	1.00	7-22	0600	8-14	1200		
V	236	John Bellenbush		F3 P5	.70	7-22	0800	7-26	0800		
V	237	Ross Simon		S7D7 P1	2.00	7-25	0700	7-31	0700		
V	238	Ross Simon		S7D7P2	2.00	7-25	0700	7-31	0700		
V	239	O Rutt G		S1 P2	2.00	7-24	1900	7-27	1000		
V	240	O Rutt G		S7 P1	1.80	7-26	0800	7-31	2100		

2017 [redacted] Season

District: 4S Ditchrider: [signature] Page: 16 of 16

Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
V	241	Tom Brown		STO 3	1.70	7-26	0800	7-27	0800		
V	242	P Kranebusch		ETU2P1	1.70	7-25	1030	7-31	2100		
V	243	Mark Grubb		F1P3	2.10	7-24	1200	7-31	1000		
V	244	Anderson		ETO14	2.00	7-22	2100	7-31	2300		
V	245	Hubers	West	SP7	1.80	7-26	0845	7-30	1200		
V	246	Silvernail		S7 T0	.50	7-26	0800	7-29	0800		
V	247	M Grubb		GPL NE	2.00	7-28	1100	7-29	1100		
V	248	Tom Brown		SP7	2.10	7-27	0800	7-31	1800		
V	249	B. Rios		ETO11P2	.75	7-27	0800	8-02	0800		
V	250	Brian Gravett		S7 P1	2.00	7-30	2000	8-04	0800		
V	251	Paul Kranebusch		S7 T04	2.00	7-31	2000	8-09	0800		
V	252	4-5		S P16	1.70	7-30	1200	8-04	1200		
V	253	Jerry Johns		G-P4A	1.90	7-31	1800	8-22	1000		
V	254	Paul Kranebusch		EP1	2.20	7-31	2100	8-02	0930		
V	255	John Bellenbush		S4 P1	1.10	7-24	0800	8-02	0900		
V	256	Weiergraber		E4 T01	1.00	8-02	0900	8-05	0900		

2017 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	258	Mark Orwick		S P9	2.10	8-02	0900	8-22	1000		
✓	259	Paul Kenebrew		S7 T2	2.00	8-02	1000	8-07	0700		
✓	260	Ritzberg		F P2	5.60	8-03	1200	8-07	1930		
✓	261	Paul Kenebrew		F P1	1.70	8-02	1000	8-09	1000		
✓	261	Noreen		E T014	2.00	8-02	0700	8-22	0800		
✓	262	Jerry Johns		G P3	1.90	8-06	1300	8-15	0800		
✓	263	Mark Grubb		S GP2 SE	2.00	8-06	2000	8-24	11.45	-15	days
✓	264	Paul K		E P1	2.20	8-04	1230	8-06	2130		
✓	265	Paul K		E T02 P1	1.70	8-06	2130	8-09	1000		
✓	266	Greg Orwick	Lynd	S1 P3A	.25	7-27	1000	9-07	1200		
✓	267	Mark Orwick	Lynd	F3 P2	.25	7-22	6700	9-07	1200		
✓	268	Gerald Miller		S7 T08	2.00	8-08	0800	8-10	1200		
✓	270	Dave Hughes		S7 T08	2.00	8-10	1200	8-12	0800		
✓	269	Jeff Hamels	West Denver	S P7	1.50	8-09	1000	8-15	0900		
✓	271	G Miller		S7 T08	3.00	8-12	0800	8-26	0830		
✓	272	B. Garrett	4 WL	S7 P6	3.00	8-15	0800	8-20	0800		

2017 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	273	Butch Sims		E T016	2.00	8-18	0800	8-22	0800		
✓	294	B. Garrett		S7 P6	.75	8-20	0800	8-21	0800		
✓	275	Mark G		P Klumb	2.20	8-22	1800	8-29	1930		
✓	276	Nick L		S7 P	.25	8-16	0700	8-16	2200		
✓	277	G Grubb	Parks	S Parks	1.70	8-25	1300	9-1	1200		
✓	278	M Grubb		S NE	2.00	8-25	1145	8-29	1930		
✓	282	P Kenebrew		S7 P7	.80	8-29	1900	9-09	0800		
✓	283	P Kenebrew		S7 T03	2.50	8-29	1900	9-09	0800		
✓	281	LJ		S P16	1.70	8-30	0900	9-01	0800		
✓	279	Paul K.		S7 P7	.80	6-22	0800	7-02	0800		
✓	280	Paul K		S7 T03	2.50	6-22	0800	7-02	0800		
✓	284	N Lemerk		S7 P5	.25	8-30	1200	8-30	2100		
✓	285	John Bakenbeck		F3 P5	.70	9-05	1800	906	1800		
✓	286	John Silver		S7 T09	.50	8-24	.080	8-27	0800		
✓	287	Mark Orwick		S P9	2.10	9-05	1600	9-09	1000		
✓	288	Mark Orwick		G P5	2.00	9-06	1200	9-12	1200		

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	289	Dan Pearson	Big Rms	SP12	4.6	9-06	1200	9-14	1600		
✓	290	Brian G	Pivot	S7 & P1	2.00	9-06	1400	9-15	0900		
✓	291	Brian G	Two wheels	S7 P6	1.50	9-06	1900	9-15	0900		
✓	292	Butch Johns	Balk Pivot	F3 P4	1.90	9-06	0800	9-13	1000		
✓	293	John Silven		S3 T03A	.50	9-08	0800	9-10	1800		
✓	294	Jim Pearson		S3 T03	1.50	9-08	0800	9-17	0800		
✓	295	Dan Pearson	Trees yard Swan side	S T01 SWAN	.50	9-05	1200	9-26	0800		
✓	296	Butch		E T016	2.00	9-07	1200	9-13	0800		
✓	297	Butch	Big Rics	E P9	2.60	9-13	0800	9-15	1615		
✓	298	Paul K		S3 T05	.50	9-10	1800	9-17	0800		
✓	299	Dan Pearson		F2 P1	3.40	9-14	1600	9-18	1900		
✓	300	Dan Pearson		F2 P1N2	.60	9-14	1600	9-18	1900		
✓	303	John Balkenbusch	N. Rics	E P8	1.70	9-15	0900	9-17	1200		
✓	304	John Balkenbusch	S. Rics	E4 P1	1.10	9-16	0800	9-18	1200		
✓	305	John Balkenbusch	Teagan	E P5	1.50	9-5	0900	9-17	1200		
✓	301	Butch Johns		F6 P1	2.00	9-13	1200	9-19	1200		

B. Rics Tues 9-12 Pivot 4 days

2017 [redacted] Season

District: 45 Ditchrider: [redacted] Page: 20 of 20

Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	302	B Rics		E T011 P3	1.90	9-11	0900	9-16	0800		
✓	306	Ross Johnson		S T0	2.00	9-18	1600	9-15	1600		
✓	307	Butch Johns	South Rics	E	1.80	9-15	1615	9-22	1200		
✓	308	Weissman		E4	1.00	9-18	1200	9-21	0800		
✓	309	Garrett Grubb	Parks Pivot	S Parks	1.70	9-20	0800	9-26	1800		
✓	310	Mark Grubb		GRL NE	2.20	9-20	1000	9-26	0800		
✓	311	Mark Grubb		S Swan P1	2.00	9-20	1000	9-26	0800		
✓	312	David Myhre		S7 P4	1.40	9-21	0800	9-27	0545		
✓	313	Fowler Y	Res	F2 T07	1.00	9-22	0800	10-02	1200		
✓	314	Albert D	Res	F2 T06A	1.00	9-22	1000	10-02	1400		
✓	315	Paul K		S7 T01	2.00	9-21	0800	9-25	1800		
✓	316	Paul K		S7 T04	2.08	9-21	1200	9-28	0800		
✓	317	Colby J		F Blow	4.00	9-24	1700	10-03	1800		
✓	318	Paul K		S7 T02	2.00	9-25	1800	9-28	0800		
✓	319	Greg Arndt		S7 P1	1.80	9-26	1000	10-02	1000		
✓	320	Greg Arndt		S1 P2	2.40	9-26	1200	10-02	0800		

2017 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	321	Jerry Johns	North Pivot	ETO 1	1.90	9-26	0900	10-01	1800		
✓	322	Jerry Johns	Cattail Pivot 2	F1 Cattail	1.40	9-26	1700	10-01	1200		
✓	323	Jerry Johns	South	GP3	1.90	9-26	0900	10-02	1800		
✓	324	Jerry Johns	East	GP4A	1.90	9-26	0900	10-02	1800		
✓	325	Susan G		ETO 2	.25	9-21	0800	9-24	0800		
✓	326	Ron Thiele		S3 TO 2	.25	9-15	1010	9-21	1200		
✓	327	Mark Dubb	N. Klutch	Sparks	2.20	9-26	0800	1001	0800		
✓	328	Ernie Ratz		FP2	5.60	9-27	1000	10-02	1200		
✓	329	Paul K		ETO 4	1.50	9-28	1000	10-03	1100		
✓	330	Jerry Johns	N Inter	ETO 10	1.80	9-28	1700	10-02	1700		
✓	331	Jerry Johns	West 2	G2 P1	1.90	9-28	0800	1003	1600		
✓	332	Jerry Johns	West 1	GP2	1.90	9-28	0800	1003	1800		
✓	333	Paul K		FP1	1.70	10-9	1200	10-03	1200		
✓	334	Paul K		FP1	2.20	1001	1200	10-03	1000		
✓	335	Pat Becker	Myhre SYP.not	E	1.40	9-21	0800	9-27	0545		
✓	336	G. Oberth		S1 P3A	.25	7-14	0800	7-24	1000		

2017 [redacted] Season

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Two Chcks	Order No.	Owner	Tenant	Canal/ Turnout	Flow Rate	Start Date	Start Time	Stop Date	Stop Time	Crop	Acres
✓	337	G. Oberth	Yard	S1 P3A	.25	7-27	10-00	9-26	0800		
✓	338	M Oberth	Yard	F3 P2	.25	9-13	1200	9-19	1200		
✓	339	Butch Johns	Yard	F6 P2	.25	9-26	0800	10-02	1200		
✓	340	Curt Ries	Pivot	E4 P1 SSR	1.10	9-16	0800	9-18	1200		
✓	341	Curt Ries	Yard	E4 SSR	.50	10-7	1100	10-9	0900		
✓	342	J Huberts	west	S P7	1.50	10-6	0800	10-7	0800		
✓	343	J Huberts	East	SP6	1.90	10-6	0800	10-7	0800		
✓	344	E. Ratz		F P2	4.00	10-6	1200	10-7	1000		
✓	345	Jerry Johns		G TO 1	1.00	10-7	0800	10-10	1000		
✓	346	Buster		G TO 3A	1.70	10-8	1000	10-10	1000		
✓	348	DAN PEARSON		SWAN	.50	10-8	1200	10-12	0700		
✓	347	MORREN		E4 TO 4	.50	10-8	1000	10-10	1000		
✓	349	MORREN		G TO 4	.75	9-26	1400	10-02	1800		
✓	352	Butch Johns		F6 P2	.25	10-06	1200	10-11	1100		

jt

2017 4 "S"

DATE	May	June	July	Aug	Sept	Oct	total
1	Siphon - 303	Siphon 2860	Siphon - 3865	Siphon - 1213	Siphon -1270	Siphon-	4749'
2	Weir - 116	weir 1298	Weir - 1914	Weir - 592	Weir - 706	Weir -123	260'
3	S1 - 14	S1 - 62'	S1 - 94	S1 - 23	S1 - 63	S1-4'	128'
4	S3 - 0	S3 - 65'	S3 - 38	S3 - 0	S3- 25	S3- 0'	559'
5	S7 - 0	S7 - 100'	S7 - 231	S7 - 105	S7- 111	S7- 5'	1884'
6	E - 53	E - 627	E - 749	E - 207	E - 210	E - 38'	33'
7	E4 - 5	E4 - 2	E4 - 14	E4 - 5	E4 - 6	E4- 1'	1234'
8	F - 15	F - 283	F - 640	F - 97	F - 149	F - 50	140'
9	F1 - 0	F1 - 57	F1 - 77	F1 - 0	F4 - 11	F1 - 0	238'
10	F2 - 6	F2 - 68	F2 - 110	F2 - 14	F2 - 36	F2 - 4	128'
11	F3 - 0	F3 - 43	F3 - 58	F3 - 8	F3 - 19	F3 - 0	50'
12	F6 - 0	F6 - 9	F6 - 20	F6 - 4	F6 - 16	F6 - 1	458'
13	G - 5	G - 181	G - 178	G - 58	G - 68	G - 23	33'
14	G2 - 0	G2 - 1	G2 - 24	G2 - 0	G2 - 8	G2 - 0	205'
15	F Blow off - 0	F Blow off - 25'	F Blow off - 61	F Blow off - 15	P Blow off - 32	F Blow off - 12	
16							
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31							

May 2017

(2)

DATE	S weir	S weir Staff	S7	S7 Staff	E	E Staff
1						
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22						
23						
24						
25	4.5 11.5					
26	.49 13.1 .49	2.18 / 2.06			.32 3.28 / 3.28	.52 / .62
27	.43 10.9	2.08 / "			.32 3.28 /	.58 / "
28	.43 10.8 .56/16'	2.18 / 2.28		1.5 / 1.8	.32 3.28 / .52 13.2	.58 / "
29	.57 16' / .73 24	2.30 / "		2.5 / .40	.58 8.23 / .87 22	.58 / .74
30	.81 28' / "	2.26			.96 18' / "	.62
31	.81 28' / 1.07 42'			1.60 /	.96 18' /	
	1.12 1.19					

(3)

DATE	F	F Stuff	F2	E4		
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25						
26	2' "		2'			
27	2' "		2'	1' / "		
28	2' "		2' / 1'	1' / "		
29	2' 3'					
30	3 x					
31	4'	1.66 /				

(5)

June 2017

DATE	Sweik Staff	S7	S7 Staff	E	E Staff	F
1	2.48		1.80 / 2.00	1.18 26' /	1.04	6' / 6'
2	2.48	5' / "	2.00 / 2.01	1.18 26' / "	1.10 23 "	11' /
3	2.48	5' 9'	2.02	1.18 26' /	1.10 23	11' / 13'
4		9'		1.18 28' /	23	13' /
5		9'		1.18 26'	23	13
6		9'		26'		11
7		9'		25' ->		11
8		2		23		11
9		2 (93)		19		8
10		2		19		6
11	2.30 / "	2		.86 / 16	.82 14	6' / "
12	2.30 / 1'	10		.86 / 16	.82 14	3' / "
13	2.41 / 2.42	28		.86 / " 16	.82 / .73	3' /
14	2.30 /	36		.86 / .70 16	.64 / .60	5' /
15	2.30 / .232			.70 / .62 9	.60 /	5' /
16	2.44 / 2.34			.62 / 9' / "	.60 /	5' /
17	2.36 / "			62 9' / "	.60	5' / "
18	2.36 / "			62 9' / "	.62 / .66	5' / "
19	2.42 / 2.44			.62 9' / "	.66 / "	5' / "
20	2.46 "			.84 15' / "	.70 / .66	5' /
21	2.48 /	1400 / 1 (3')	1.50 / 1.60	.84 15' / .91 17'	.78 / .86	5' / 9'
22	2.47 / "	1400 / (3')	1.70 / "	.91-17' / .2014'	.92 / .93	9' / 11'
23	2.46 /	1400 / (5')	1.70 / 1.80	.80 14' /	.96 "	11' / 14'
24	2.40 / 2.42	2000 / 4100 (5)	1.80 / 1.80	.86 15' / .86 15'	.96 / .94	11' / 11
25	2.40 / 2.36	4100 (9) "	1.80 / 1.80	186 15' / 110 23'	102 / 1.04 / .98	11' / 7
26	2.34 / 2.32	4100 / 9' / "	1.85 / 1.88	1.10 / 23' / "	1.00 / .96	11' / 7 / 16'
27	2.80 /	4100 / 9' / "	1.90 "	1.26 29' /	1.00 / 1.02	9' / "
28	2.80 /	4100 / 9' /	1.95 / 1.95	1.26 29' /	1.06 / 103	15' / 17
29	2.80 / "	4100 / 9' 5000 / 11'	1.45 / 1.40	1.32 31" / 1.40 35'	1.00 / 1.00	17' / 18'
30	2.84 / 2.78	5400 12' /	2.08 / "	1.47 30' /	.98 / "	20' / "
31	2.84 2.84	5400 / 12' / 4100 9'	2.05 / 2.07	1.60 42' / 1.68 45'	.96 .96	20' / 20 / 21'
	2.88		2.08		.85	21 /

(9)

DATE						
	57 Staff	57	E Staff	E	F Staff	F
1		4000 9' " 63		1.58 48		21
2		4000 9' "		1.58 41'		21
3	2.05 /	4000 9' "	.98 "	1.58 41' /	1.75 /	25'
4	2.10 / "	4000 9' "	1.00 /	1.58 41' /	1.85 /	27'
5	2.10 / 2.13	4000 9' "	1.02 / 1.06	1.58 41' /	1.75 / 1.90	29' / 31'
6	2.13 / "	4000 9'	1.06 /	1.58 41' /	1.80 / "	31' / "
7	2.13 / "	4000 9' 5400 12'	1.04 /	1.58 41' /	1.80 / "	31' / "
8	2.15 / "	5400 12' / 4500 10'	1.06 / 1.10	1.58 41' / 1.46 36'	1.80 / "	31' / "
9	2.19 / "	4500 10' /	1.16 /	1.46 36' / 1.42 35	2.25	35' /
10	2.18 / "	4500 10' / "	1.16 / "	1.40 34' / "	2.25 / "	35' / 33'
11	2.18 "	5400 12'	1.16 /	1.30 30' /	2.27 / "	35' /
12	2.19 2.13	4400 10' /	1.18	1.24 28' / 1.20 26'	2.26 2.20	33' /
13	2.14 / "	3400 8' /	1.10 / 1.18	1.14 24' /	2.10 / 2.37	33' / 30'
14		2400 6' /	1.10 / 1.08	.85 15'	2.00 / "	25' /
15		2400 6' /	1.60 / .98	.85 15' /	2.00	25' / 24'
16		3200 8' /	.96 /	.85 15 /	1.80 / 1.60	20' / 19'
17		3200 8' / 2400'	.92 / "	.85 15 /	1.55 / 1.50	17' / "
18		1600' / " 2.5	.90 /	.86 15 / .80 14'	1.40 / 1.20	18' / 17'
19		2000' / 4.4	.90	.80 14' / "	1.20 / 1.40	17' / "
20		2000 / 3800 4.4	.90	.87 16' / "	1.50 /	18' /
21		3800 / 8.4	.82	.94 18' /	.90	18' /
22		3800 / 8.4	.68 .78	.88 16' /	0	12' /
23		3800 / 8.4	.78	.80 16		12
24		3800 / 8.4	.78	.86 16		12
25		3800 / 8.4	.78	.86 16		12
26		3800 / 3000 8.4	.76 /	.80 14'		11'
27		2000 / "	.70 /	.80 14'		7'
28		1000 / 4.4	.80 /	.73 12'		7'
29		1000 / 2.2	.78	.73 12		7'
30		1000 / 2.2	.76	.73 12 .80 14		7'
31		1000 / 2.2	.72	.80 14		7'
		63				

(11)

DATE	Parks V	Gubb Pipe	S Waste	E4	F2	F6	G2
1		2000	1.00 / 1.25		2'		
2		2000	.75 / "		2'		
3		2000	1.35 / "		2' 6		2'
4		off 1000	0 /		6.0 6.5		2'
5	.10 .75' /	3600 / 2000	.75 / 2'	1.3	6.5		2'
6	6' /	2000 / "	0	1.3	6.5		2'
7	6' /	2000 / "	0	1.3	6.5		2'
8	6' /	2000 / "	0	1.3	6.5		2'
9	6' /	2000 / "	0	1.3	10.5	2.25 /	2'
10	6' /	2000 / "	0	1.3	10.5	2.25 /	2'
11	5.5 / 5.0	2000 /	0	1.3	10.5	2.50 /	2'
12	5.25 /	2000 /	0	1.3 1.5	10.5	2.30 /	2'
13	4.50 /	2000 /	0	1.8 /	10.5 7	2.25 /	2'
14	6.50 /	2000 /	2.50	2.0 /	4.5 /	0	2'
15	6.00	0	2.00	0	0	0	.25
16	6.25	0	2.25	0	0	0	.25
17	6.50	0	2.50	0	0	0	
18	4.50	0	0	0	0	2.20	
19	5.25	0	1.25	0	0	2.20	
20	1.5	0	1.50	0	0	2.00	
21	1.0		1	0	0 3	2.00	
22	0		0	0	3	0	
23					|		
24					|		
25					|		
26					|		
27					|		
28					|		
29					|		
30					|		
31					|		

(12)

Aug 2017

DATE	Siphon ✓	S weir ✓	S7 ✓	E ✓	F ✓	G ✓
1	55	82 28'	1000 2.2	14	7 / "	0
2	55	82 26'	1600 35	14	7 /	0
3	54	92 33	1600 3.5	.70 11' / "	13 / "	2
4	48	92 33	1600	.70 11 / "	13 / "	2
5	49	85 30	1600	.70 11 / "	10 / "	2
6	51	92 33	1600	.78 13 / "	10 / "	2 / 4
7	48	.84 29	1600	.78 13 / "	10' / 4'	4' / "
8	44	.84 20	1600	.78 13 /	4' / "	4' / " 22
9	38	.73 23	1600	.70 11 / "	2 /	4' / " 36
10	38	.73 23	1600	.70 11' /	2	4 "
11	38	.70 22	1600	.70 11' /	2	4 "
12	37	.70 22	1600	.70 11' /	2	4 "
13	40	.70 22	1600	.70 11' "	2	4 "
14	44	.70 22 / .65 20	1600	.70 11 /	2 / 1'	4 "
15	47	.65 20 / "	1600	.70 11' /	1'	4 / 2
16	48	.65 20 / "	1600	.70 11' /	1	2' / "
17	46	.65 20 / "	1600	.70 11' /	0'	2' /
18	45	.58 16' /	1600	.65 10' /	0'	2 /
19	43	.58 16' /	1600	.65 10 /	0'	2' /
20	38	.58 16' / .52 14'	1600	.58 8' /	0	2 /
21	37	.52 14' / "	1600	.54 8' /	0	2' /
22	31	.40 9' / "	1600	0	1' /	2 / 0
23	29	.40 9' / "	1600 22X.35	0	1'	0
24	29	.40 9' / "	1000 2.2X3	0	1	0
25	31	.46 12 "	1000 2.2	0	1	0
26	28	.46 12 "	2000 4.4	0	1	0
27	26	.38 9 / "	2000 4.4	0	1	0
28	30	.38 9' / "	2000 4.4	0	1	0
29	34	.48 12 / "	1800 4.0	0	1'	0
30	28	.48 12' / .45	1800 4.0	0	1.0 / 1.5	0
31						

(14)

Sept 24 4 / 6 Colby Sem 924

DATE	Siphon	S weir	S1	S3	S7	E
1	28	.31 7'	.50 / "		1800 4	
2	21	.31 7 / "	.50 / "		1800 4	
3	24	.31 7' / "	.50 / "		1800 4	
4	22	.44 11' / "	.50 / "		1800 4	
5	22	.44 11' / "	.50 / "		1800 4	
6	42	.49 13' / .61 18'	4' / "		1800 4	2' / "
7	45	.75 24' / "	4' / "		1800 4	6' / 8
8	45	.75 24' / "	4' / "	2.5' /	1800 4	8"
9	49	.75 24' /	4 / "	2.5' / "	400 .90	8"
10	49	.75 24' /	4 / "	2.5 / "	400 / .90	8
11	48	.78 26' /	4' / "	2.5 / "	400 / .90	8
12	50	.78 26' /	4' / "	2.5 / "	400 / .90	8
13	52	.78 26	4 / "	2.5 /	400 / .90	8
14	50	.78 26	4'	2.5 /	400 .90	8 13X8
15	44	.69 21	4'	2.5	400 .90	8 104
16	40	.69 21	4'	2.5	400 .90	8
17	22	.69 21 / .53 14'	.50 / "	2.5 / 0	400 .90	8
18	20	.53 / 14' / .44 10'	.50 / "	0 /	400 / 0.90	8
19	18	.42 10 / .50 13'	.50 / "	0 /	0	8
20	22	.52 14' / .58 16'	.50 / "	0	0 / 2800 6.25	8
21	25	.58 16 /	.50 / "	0	2800 / 6.25	0
22	26	.58 16 /	.50 / "	0	2800 / 6.25	0
23	26	.63 19'	.50 / "	0	2800 / 6.25	0
24	29	.72 23'	.50 / "	0	2800 / 6.25	0
25	44	.96 35'	.50 / "	0	2800 / 6.25	.65 10' /
26	53	.96 35'	2.00 /	0'	3700 / 8.25	.65 10' /
27	66	1.02 39	2.00 /	0	3700 / 8.25	.65 10 / .69 11'
28	74	1.05 41'	2.00 /	0	1800 / 4	.90 17' /
29	74	1.05 41'	2.00 /	0	1800 4	.90 17'
30	70	1.05 41'	2.00 /	0	1800 4	.90 17'
31	70	1.05 41' .95 35'	2.00	0	1800 4	.90 17
	41	.75 25' / .53 14	0	0	0	.65 10'

12x4 = 48
9
38
14

DATE	F	F3	F6	G	F flow off	F4
1						
2						
3						
4						
5						
6	3'	22.5		2.0		
7	3'	22.5		2.0		
8	3'	22.5 2.25		2.0		
9	3' 27	22.5		2.0		
10	3' 21	22.5		2.0		
11	3' 48	22.5		2.0		
12	3' 54	22.5		2.0		
13	3' 7 56		2.25			
14	3'		2.25			
15	7		2.25 16			
16	7 12		2.25			1.10
17	7 3 08		2.25			1.10
18	3		2.25			1.10
19	3		2.25			1.00
20	0					1.00
21	0					1.00
22	0 12					
23	2 12					
24	0			3' / 4'	4' /	
25	0 / 8			4' / "	4' /	
26	14' /			4' /	4' /	
27	14			4' /	4' /	
28	14			10' /	4'	
29	14			10' /	4'	
30	14			10' /	4'	
31	14			10' /	4	
				110'	14	
				210'	24	
				32'	34	

F2 (15)

4'
4'
4'
4'

2
2
2
2
2
2
2
2
2
2

2017

16)

DATE	Oct Spillway	Weir	S2	S3	S7	E
1	70'	41' 35'	2'		1000 2.2	14' /
2	41'	25' 14'	2'		1000 2.2	14'
3		14' 11'				10'
4		11'				10'
5		11' / 8'				5' 3
6		8' /				3'
7		7' / 6'				0
8		4' / 2'				0
9		2' /				
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

two

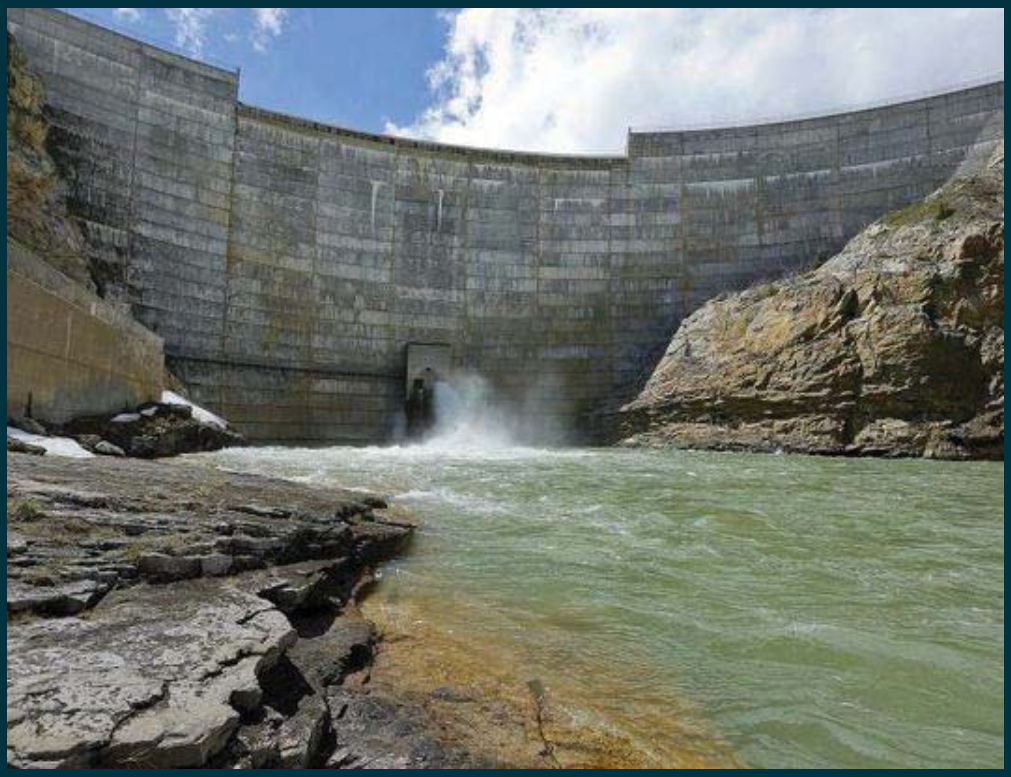
APPENDIX B

WATER CONSERVATON PLAN

Pondera County Canal & Reservoir Co.

2018 Update

Water Conservation Plan



May 2018

PONDERA COUNTY CANAL & RESERVOIR CO.

Water Conservation Plan

(Including Proposed Infrastructure Improvements)

May 2018 Update

Prepared for:
The PCCRC Board of Directors
Valier, Montana

Prepared by:
Cole Peebles – Company Engineer

QA/QC by:
Vern Stokes – Company Manager

Pondera County Canal & Reservoir Company

WATER CONSERVATION PLAN

(2018 UPDATE)

Letter of Intent

The Pondera County Canal & Reservoir Company (PCCRC) is planning for, and implementing, economically and technically feasible water conservation alternatives that have been identified as potentially beneficial to the Irrigation Project, the water users, and the environment. The PCCRC intends to utilize this plan and the program described herein to accomplish our long-term water conservation goals.

This Water Conservation Plan is a dynamic document and will be updated and modified as needed to meet our long term water conservation and irrigation delivery goals.

Vern Stokes – Manager

4/25/2018
Date

Gary Arnst – Board President

4/25/2018
Date

Note: This is a small excerpt from the WCP.
The enitre document is available on request.

WATER CONSERVATION PLAN
(2018 UPDATE)

I. Introduction & Goals

This Water Conservation Plan (WCP) provides an overview of the current water usage conditions and water delivery infrastructure for the Pondera County Canal and Reservoir Company (PCCRC). The PCCRC has prepared this WCP as a management tool to improve the efficient use and equitable distribution of available water and to improve the agriculture economy of the project.

II. Irrigation Project Description

A. History

In 1886, W.G. Conrad & his brother Charles began acquiring roughly 50,000 acres of land in the Valier Area and incorporated it into the 200,000-acre Seven Block Ranch, which stretched from Conrad to Fort Benton. Through the Valier Land and Water Company, they constructed a fifty mile-long ditch and irrigation system that incorporated Lake Frances as a storage reservoir.

In 1908 the Cargill Company purchased the Conrads' Valier Land & Water Company, and it became the Teton County Canal and Reservoir Company under the Carey Act of 1894. Construction of the original earth-fill Swift Dam on Birch Creek began in 1909. The project was re-incorporated in 1927 as the Pondera County Canal and Reservoir Company. Infrastructure construction was finally completed in 1948. In 1953, ownership of the project was turned over to the individual shareholders.

B. Physical Characteristics

Of the three successful Carey Act Irrigation Projects created in Montana, the PCCRC is the largest; roughly 70,000 acres were patented from the Federal Government initially. Today, the Company's 80,400 water shares are held in common stock by about 350 shareholders of various ownership percentages.

Currently, the PCCRC irrigates up to 72,000 acres in Pondera County. The PCCRC operates the Birch Creek Reservoir (Swift Dam), the Lake Frances Reservoir, the Birch Creek Diversion Dam, the Dupuyer Creek Diversion Dam, about 500 miles of primary canals and hundreds of other appurtenant irrigation structures.

The PCCRC's irrigation infrastructure stretches over 55 miles from the headworks at Swift Dam and east beyond the City of Conrad. The Company's incorporated offices are located in Valier, near the center of the irrigation project.

The elevation across the PCCRC Project ranges from 4,300 to 3,800 feet above sea level. Most of the serviced farm and ranch lands slope gently or are only moderately steep. The project topography allowed the original settlers and producers to irrigate utilizing gravity-fed surface methods. However, irrigation technology has advanced over the past century. As such, over half of the incorporated project lands are now irrigated utilizing pumping equipment.

EXHIBIT 1. GENERAL LOCATION MAP