



BUREAU OF RECLAMATION

NOTICE OF FUNDING OPPORTUNITY NO. R22

# WaterSMART

SMALL-SCALE WATER EFFICIENCY PROJECT  
BWCCD INSTALLATION OF RELIABLE  
DRAINAGE & AUTOMATED GATE SYSTEM  
ON LATERAL 44 PROJECT

APRIL 28, 2022

PREPARED FOR:

**DEPARTMENT OF THE INTERIOR  
BUREAU OF RECLAMATION  
WATER RESOURCES & PLANNING OFFICE**

PREPARED BY:

**BUCKEYE WATER CONSERVATION  
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APR 28 '22 PM 1:00

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## 1. Technical Proposal and Evaluation Criteria

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### 1.1 Executive Summary

This application is being submitted on 04/28/2022 If NTP January 2023  
Buckeye Water Conservation and Drainage District – Category A Applicant Start January 2023  
205 East Roosevelt Avenue, Buckeye, AZ 85326, Maricopa County End December 2023

Founded in 1922, the Buckeye Water Conservation and Drainage District (BWCDD) operates and maintains the 23 miles of Buckeye Canal, 7.5 miles of the South Extension Canal, and 14 miles of drainage ditch. BWCDD includes 200 miles of lateral ditches, 9 drain wells, and 54 production wells. It encompasses 22,000 acres and is located near the town of Buckeye, in the Buckeye Valley in the western part of Maricopa County, Arizona. On average, the BWCDD provides 130,000 acre-feet of water per year and their water sources include surface water, treated effluent water, and groundwater. The current irrigation delivery system was constructed in 1885 and is over 136 years old and consists primarily of easily eroded earthen canals and laterals with manual controls. This system is inefficient and prone to uncontrolled releases, spills, overflows, and requires constant overwatch and maintenance. Additionally, with the current manual controls on these main canals and laterals, 10-20% of excess water is typically diverted in order to meet the required demand. This **BWCDD Installation of Relief Drainage & Automated Gate System on Lateral 44 Project** will help remedy these problems. It will offer protection throughout a major portion of the canal system. With this improvement to the relief drain, there will be a much-needed outlet for storm water and flow mismatches, mitigating the breaching hazard of the canal. Additionally, and most importantly, this relief system will prevent the flooding hazard to residential homes adjacent to the canal. This is part of the District's overall strategy to slowly upgrade their irrigation system with real-time technology, new automated gates, and associated components.

The project is divided into two parts. The first is to replace one manual gate at the lateral 44 heading with an automated 24" Rubicon SlipMeter Gate. The second part of the project is approximately 1.25 miles downstream of the Lateral 44 headgate that includes constructing a spillway structure and pipe connection to the drain channel to provide the much needed relief on the main canal, and install a new automated 24" Rubicon SlipMeter Gate on the existing inlet headwall for the continuation of Lateral 44 before it goes into a siphon at Old Highway 80.

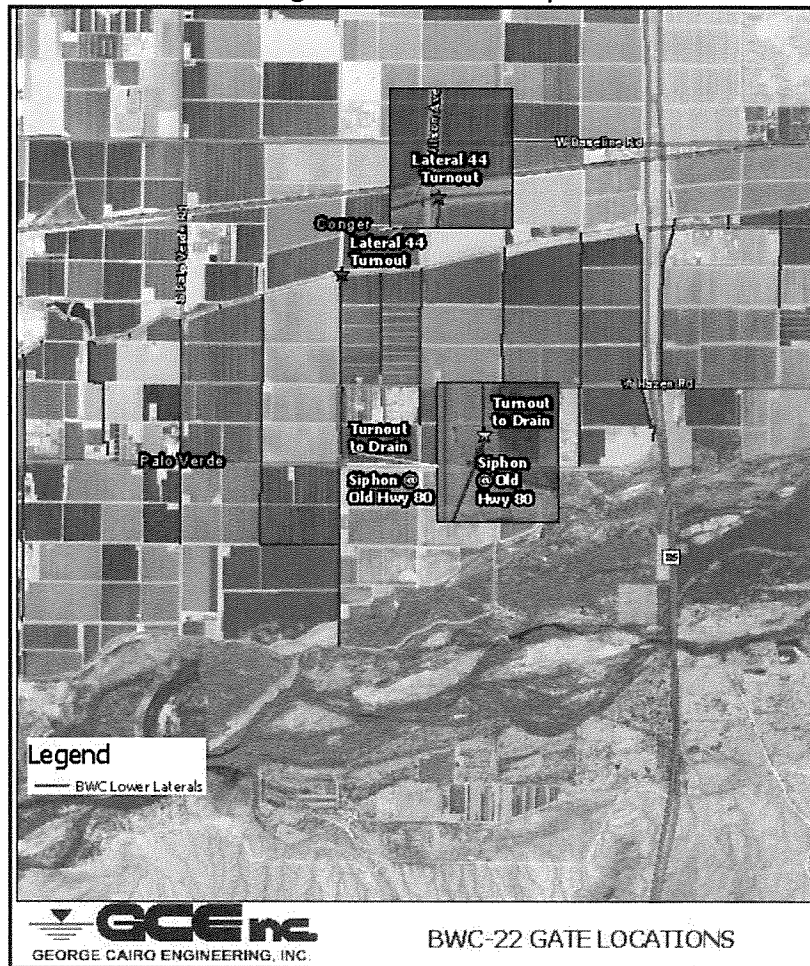
This Small-Scale Water Efficiency project is a priority to BWCDD, and we hope to leverage funding from the WaterSMART program to help complete this project, meeting both BWCDD's and BOR's goals to conserve and better manage our water resources and increase efficiency of our system. BWCDD will accomplish the goals established for the WaterSMART program and President Biden's Executive Orders by leveraging funding to conserve and better manage our water resources and increase efficiency of our system by slowly creating improved operations via an integrated network of automated gates. This further supports the Lower Colorado River Basin and local sub-basin drought resiliency. We plan to construct the project beginning in the late winter anytime between **April 2023 and December 2023**, depending upon NTP.

### 1.2 Project Location

The project site is located within the historical boundaries of the town of Buckeye, in Maricopa County, Arizona, and nearby the Arizona State Route 85 Corridor. It is approximately 5 miles northeast of the confluence of the Gila River and Hassayampa and approximately 20 miles northwest of the Gila River and Agua Fria River.

Lateral 44 Turnout Headgate                      Latitude: 33° 21' 56.32" N    Longitude: 112° 39' 35.08" W  
Lateral 44 Spillway Structure & Gate    Latitude: 33° 20' 55.32" N    Longitude: 112° 39' 34.96" W

Figure 1 – Location Map



### 1.3 Technical Project Description

Founded in 1922, the Buckeye Water Conservation and Drainage District (BWCCD) operates and maintains the 23 miles of Buckeye Canal, 7.5 miles of the South Extension Canal, and 14 miles of drainage ditch. BWCCD includes 200 miles of lateral ditches, 9 drain wells, and 54 production wells. It encompasses 22,000 acres and is located near the town of Buckeye, in the Buckeye Valley in the western part of Maricopa County, Arizona. On average, the BWCCD provides 130,000 acre-feet of water per year and their water sources include surface water,

treated effluent water, and groundwater. Including 54 wells (43%), surface water from the confluence of Gila Rivers and smaller tributaries (Salt, Verde, Agua Fria Rivers) (39%) and the City of Phoenix Effluent Water & other effluent water (18%). The primary purpose of BWCDD is to deliver irrigation water to agricultural users and to relieve waterlogging within the District boundaries. In addition, the BWCDD provides irrigation to residential homes and construction water for development projects. BWCDD also manages power distribution from purchase agreements with the Hoover Dam and SW Public Power Agency to its agricultural and residential users.

The current irrigation delivery system is over 136 years old and consists primarily of easily eroded earthen canals and laterals with manual controls for almost all its gates (only 4/155 gates are automated). This system is inefficient and prone to uncontrolled releases, spills, overflows, and requires constant overwatch and maintenance. Additionally, with the current manual controls on these main canals and laterals, 10-20% of excess water is typically diverted in order to meet the required demand. Lateral 44 is a very important lateral for the District, not only does it deliver to 3 large farms and 16 residential irrigated lots, it also is an area that could relieve the Buckeye Main Canal of potential canal breaches caused by heavy rain and flood events. Lateral 44 also experiences water losses from chokepoints/bottlenecks (Tie-ins to box culvert/pipe interfaces) during routine operations as well as during heavy rain events that cause flooding and severe erosion to affected fields resulting in a lack of water to others. This **Relief Drainage & Automated Gate System on Lateral 44 Project** will help address these issues.

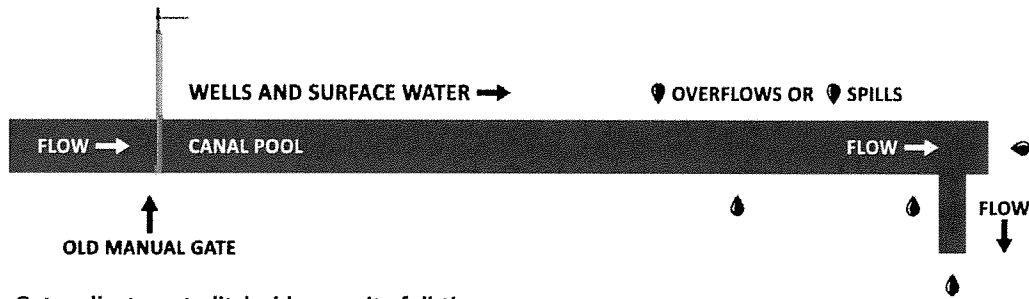
This project has been a District priority for over 10 years and is in the final design stage after receiving input from Rubicon Systems Australia Pty Ltd (Rubicon) and George Cairo Engineering, Inc. (GCE, Cairo) It has been presented and approved by the District Board and we also consulted with the local BOR. It will offer protection throughout a major portion of the canal system. With this improvement to the relief drain, there will be a much-needed outlet for storm water and mismatched flows, mitigating the breaching hazard of the canal. Additionally, and most importantly, this relief system will prevent the flooding hazard to residential homes adjacent to the canal. This is the **second grant application** for the WaterSMART grant and part of our overall strategy to slowly upgrade our irrigation system with real-time technology, new automated gates, and associated components. If awarded funding this will be our first grant.

The project is divided into two parts. The first is to replace one manual gate at the lateral 44 heading with an automated 24" Rubicon SlipMeter Gate. The second part of the project is approximately 1.25 miles downstream of the Lateral 44 headgate that includes constructing a spillway structure and pipe connection to the drain channel to provide the much needed relief on the main canal, and install a new automated 24" Rubicon SlipMeter Gate on the existing inlet headwall for the continuation of Lateral 44 before it goes into a siphon at Old Highway 80.

This Small-Scale Water Efficiency project is a priority to BWCDD and we hope to leverage funding from the WaterSMART program to help complete this project, meeting both BWCDD's and BOR's goals to conserve and better manage our water resources and increase efficiency of our system while supporting drought resiliency. In order to better understand the needs of the district, an overview of the BWCDD is provided in the Appendix.

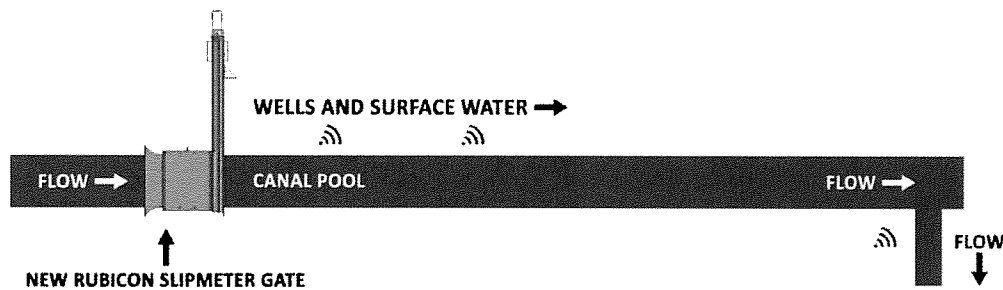
Figure 2 – Schematic Design of Automated System Before and After New Installation

MANUAL GATES (Existing)



- Gate adjustment, ditch rider on-site full-time
- Try to maintain constant flow/elevation – fluctuation +/- 2FT, yields variable, inefficient deliveries
- Must anticipate when to stop pumps and adjust gates to match flows and provide water needed
- Close to soon → inadequate delivery
- Close too late → excess flows carry downstream can cause overflow/flooding or loss (downstream gates open to prevent flooding and system overflow)

AUTOMATED GATES (New Installation)



- Adjusts automatically, ditch rider uses integrated network controls
- Maintains delivery ditch pool constant delivery flow
- Gate adjusts precisely when needed to varying water levels on canal pool
- Yields steady deliveries

List of Materials:

**Appurtenances and structures for three new automated gates:** concrete repair, structural repair, anchor bolts for new gate frame, epoxy for old bolt anchors, new trash rack, new safety rail, electrical wiring, new flow control and spillway structure, new pipeline, and safety features.

**Safety Supplies:** Shade, Coolers, Water/Electrolytes, Gloves, Safety Glasses, Reflective Vests, Hard Hats, Steel-Toed Boots, Signage, Cones, Barricades, COVID 19 Plan and PPE.

List of Equipment:

**Construction Equipment to be used for this project would include:** Front End Loader, Dump Truck, Rubber Tired Excavator Gradall, Water Truck, Service Truck, Project Manager Truck, and GPS Survey Equipment.

**Automation, Measurement Devices and Controls:**

The Rubicon SlipMeter includes the following items, see appendix for data sheet:

- The SlipMeter is a precision flow control and flow measurement gate that measures fully submerged flows (and partial-full flow in partial-full models) and mounts directly to a turnout headwall with no straight pipe requirements.
- The SlipMeter comes equipped with an internal and external frame complete with stainless steel anchor's, epoxy capsules, and polyurethane sealant.
- Each SlipMeter comes equipped with a separate standalone control pedestal which includes a display and keypad, solar panel power system and a 16 ft mast for mounting of communication antenna, RTUs, radio and antenna by others.
- The SlipMeter comes complete with an integrated power supply comprising an 85W solar panel, a charge controller, and a 48Ah 12-volt deep cycling battery pack.
- Standard Rubicon local controller software, including automatic local/remote flow control mode, local/remote gate position mode and local manual mode.

Rubicon data sheets have been provided in the Appendix.

#### 1.4 Evaluation Criteria

##### A. Project Benefits

###### Description of Expected Benefits to Category A: BWCCD Water Systems:

- **Clearly explain the anticipated water management benefits to the Category A applicant's water supply delivery system and water customers.**

BWCCD provides 130,000 acre-feet of water per year and the system faces many challenges:

- 1) Complexity of Routine Operations: Water celerity and distance and number of water sources: 43% is pumped from the 54 wells, 39% is surface water from four local rivers approximately 20 miles away, and 18% from City of Phoenix Effluent Water and other effluent water. Without automation and integrated controls, it is extremely difficult to precisely match water supply with demand to prevent mismatched flows and minimize operational spills. In the proposed improvement to Lateral 44, the project will provide relief to the Buckeye Main Canal of potential canal breaches and erosion caused by heavy rain and flood events.
- 2) Adverse weather conditions causing flooding of crops and flooding hazard to residential homes adjacent to the canal resulting in a lack of water to some growers due event impacts.
- 3) Age of Water Delivery System: approximately 136 years old with few modern improvements.

This project will help improve the **overall water management of the irrigation system by:**

- 1) Reducing Pumping and Energy Costs (Allowing more funding for other improvements)
- 2) Reducing operational losses from spills and overflows (est. 12,500-25,000 acre feet/year)
- 3) Reducing risk of **crop damage and residential damage from flooding**, Canal overtopping
- 4) Reducing manual operating costs and use of resources (more funding for improvements)
- 5) Reducing delivery level fluctuations (less water needed with optimum delivery/flow)
- 6) Enhancing the capability to provide on-demand water delivery to customers (Efficiency)
- 7) Enhancing the capability to provide remote monitoring and operation to BWCCD staff (better resources/staff management)
- 8) Providing the ability to identify leaks, seepage and unauthorized usage with precise flow rate measurement provided by the upgraded gate regulator (timely preventative actions)
- 9) Providing full integration between flow regulation gate structure and groundwater pumps (accurate water quantity delivery – no excess)

- 10) Improving on-farm water use efficiency and improving yields with reduction in fertilizer, protecting the groundwater.
- 11) Providing constant supply levels to maintain more constant flow rates through turnouts to improve levels of service to water users (less water needed with optimum elevation/flow)
- 12) Reducing "Order On" Lead Times to allow water delivery to be more precisely timed to crop needs (Less water needed)
- 13) Reducing "Order Off" Lead Times allows precise volumes to be applied to farm (Less water spilled)
- 14) Providing improved collaboration between multiple users and BWCCD with automated water ordering (more efficient use of delivery system, less water needed)
- 15) Providing irrigation decision support tools, such as on-line scheduling applications and digital monitoring of usage and flow levels for water users (efficient, timely and convenient)
- 16) Providing the ability to precisely match water supply to crop demand in order to irrigate each crop with the required amount of water (more accurate matching of need/demand with actual water quantity needed).

Reducing costs from reduction in water delivered and person-hours (From items 1-17).

o ***Are customers not currently getting their full water right at certain times of year?***

**YES**, BWCCD has been experiencing shortfalls annually as we are not receiving our full water allocation with more shortfalls anticipated to continue due to drought impacts, our intake from the river is inefficient needs rehabilitation, and once it gets into the system, it's not well controlled and poorly operated by manual methods. The system is also dependent on treated effluent water, which fluctuates diurnally and during certain times of the year. District has to offset demand with groundwater wells. If our effluent water is reduced, the loss is projected to be 20,000 ac-ft/yr up to 33,000 ac-ft/yr. Another factor is related to adverse weather conditions and heavy rainfalls. This usually occurs in the winter or monsoon, but with climate change there is more uncertainty. During heavy rainfall, the irrigation delivery system cannot handle the increased flow because of various chokepoint/bottleneck locations including *the proposed project location*. This can cause catastrophic flood damage to crop or residences and in other areas a complete lack of water.

o ***Does this project have the potential to prevent lawsuits or water calls?***

**YES**, from incidents such as flooding or insufficient delivery that could cause catastrophic crop or residential damage; food safety from bacterial contamination on produce causing serious illness or death (*compounded by Climate Change*). This project's automated flow control measures would help prevent these occurrences and subsequent lawsuits.

o ***What are the consequences of not making the improvement?***

Without these improvements the District will be able to control operational overflows/spills, Flooding from heavy rains, or lack of water to some areas during flooding incidents. As described above, consequences could include catastrophic crop damage, serious illness or death, economic loss, lawsuits, increased costs to growers in our district, as well as a lack of water during severe drought conditions. Additionally, if we don't improve our water operations and receive reduced water allocations, economic losses to the District from shortfalls will range from \$600,000 to millions of dollars per year.



o ***Are customer water restrictions currently required?***

Due to drought, BWCDD works with the growers to carefully balance the **voluntary seasonal fallowing** program (rotate fields/grower, number of acres and time interval – early spring) to reduce water use and prevent adverse economic impacts. The growers also utilize water conservation BMP's such as drip or sprinkler irrigation, soil moisture sensors, or crops that utilize less water. Additionally, the District has a pro-rated schedule where they have to reduce the water allocation during certain times of the year.

***Other significant concerns that support the need for the project.***

**Potential Shortfalls are a primary concern:** If drought continues, water supply quantities could be reduced because of increased demand from old as well as new users. Also, increased flooding due to climate change is a concern. The District strategy is to prioritize and complete step-wise yearly improvement projects to address these effects, but that still may not be enough.

**Broader Benefits: Description of Broader Benefits:**

• **Will the project improve broader water supply reliability at sub-basin or basin scale?**

BWCDD is located in the Gila River Basin, on the north side along the Gila River, which flows west from New Mexico ending at the Colorado River near Yuma. The Gila River's waters support a 60,000 square mile basin/watershed. It also supports the Lower Colorado River Basin. Any water conservation measures that support the western Gila River Basin and Lower Colorado River basin and other small tributaries in this network system (Hassayampa, Agua Fria, Verde and the Salt Rivers) also help protect groundwater and sustain wetland and riparian ecosystems as well as the Salt River and Gila River (Pima-Maricopa) Indian Tribes lands and culture. This project will provide a small buffer against state or federal mandated water quantity reduction improving reliability and sustainability of the system. It will allow BWCDD to save water through better management (automation) and reduction of groundwater removal by reducing pumping, thus contributing to the overall health of these two basins and surrounding fragile desert ecosystem. It will improve the integrity of delivery system with better controls to produce constant/reliable water flow, improve quantity (water elevation) and water quality prevent leakage/seepage, overflows/flooding/spills, especially due to the multi-source of water (wells, river and effluent). This will help address any shortfalls, as well as helping with future adverse conditions caused by drought and climate changes. These improvements also will result in improved on-farm efficiency and crop production.

• **Will the proposed project increase collaboration and information sharing among water managers in the region?**

**YES**, this project demonstrates collaboration between the water districts including Paloma IID, Arlington Canal Company, City of Goodyear, City of Buckeye, the BOR, and the agricultural users. It can be used as an example to other water managers reflecting how assessment, planning, usage, need, coupled with automation and new technology can be used to benefit a district, especially on districts relying on multiple sources of water under various conditions (distance from source, seasonal fluctuations in supply, drought and climate change).

• **Will the proposed project positively impacts/benefit various sectors and economies within the applicable geographic area?**

**The specific problem BWCDD faces regarding water supply are:**

- 1) Complexity of routine operations. Without automation and integrated controls, it is extremely difficult to precisely match water supply with demand to prevent mismatched flows and minimize operational spills. Cost from running the pumps and excess water loss mismatched overflows and spillage.
- 2) Adverse weather conditions causing flooding to crops and flooding hazard to residential homes adjacent to the canal resulting in a lack of water to some growers.
- 3) Age of Water Delivery System: approximately 136 years old with few modern improvements.

**Expected Geographic Scope Benefit:** Locally – include benefits described in the previous two paragraphs. Sub-basin/Basin - positive impact to entire system by reducing significant water loss ranging from 150 to 250 acre-ft/yr (Based on type of crop and growth cycle, irrigation distribution method, and frequency and length of water delivery). Also, reduction of ground water removal by less pumping, contributes to the overall health of the surrounding fragile desert ecosystem that will improve sustainability and help address drought and climate change issues. Any water conservation measures that support the lower Colorado River basin and other small tributaries in this network system (Hassayampa River, Agua Fria River, Verde River and the Salt River) sustain wetland, riparian ecosystems and Salt and Pima-Maricopa Indian Tribes.

**Specific Topics (Sectors and Areas) Positive Impacts/Benefits: Economic Positive Impacts/Benefits:**

**The specific problems BWCDD faces are:**

**Agricultural** – Economic (less water needed, less restriction on crop types, less danger of crop damage from overflows/flooding, reduce shortfalls, less energy needed for pumps, less danger or lawsuits or losses from bacterial contamination or flooding). Reduce O&M cost to BWCDD so funding can be used for other deteriorating structures and sites. Enable growers off Buckeye Main Canal to implement On-Farm improvements.

**Environmental** – Prevent flooding/erosion of earthen canal/lateral, less noxious/invasive weeds, less erosion, conservation support healthier ecosystem (Native plants, habitat, native species and migratory birds). More viable washes/ springs.

**Recreational/Tourism** – Gila River/Watershed, Salt River, Verde River, Agua Fria River, Hassayampa River, Improved off-roading/camping/hiking/photography/bird watching.

**Cultural** – Protection and preservation of native gathering sites (plants and clay), ancient trails, village, or ceremonial site.

**Food Safety** – Less produce contamination and catastrophic crop failure due better water elevation controls to prevent of overflows/flooding of fields with food crops.

**Public Safety** – Less residual flooding from overflow and spillage resulting in unsafe driving conditions and erosion of road and ditch banks.

• **Will the project complement work being done in coordination with NRCS in the area?**

**YES**, this project will greatly enhance the farmers ability to make “On-Farm water efficiency improvements through the NRCS EQIP program, however, until BWCDD can provide better controlled water delivery systems (flow rate and elevation), it is difficult for them to make improvements. As District Manager at BWCDD, I have an excellent relationship with NRCS. I am working with NRCS to help develop a strategy to match our improvements to specific canals with “On-Farm” projects. Also, to facilitate collaboration between our farmers with USDA

programs from NRCS, Rural Development, the Farm Service Agency, as well as new stand-alone programs. These partnerships between BWCCD, Federal Ag Agencies, the BOR and producers are critical to our future. They will help us plan and develop projects that complement each other, improving the overall system from diversions to the farm. Especially in the Western states where drought, climate change and aging infrastructure greatly affect our daily operations. Additionally, in coordination with the City of Buckeye, City of Goodyear, Paloma IID, and Arlington Canal Company, I have developed a 20-year strategic water conservation plan.

- **Will the project help address drought conditions at the sub-basin or basin scale?**
  - 1) Preventing possible water-related crisis (shortfalls or flooding) – creating resiliency
  - 2) Leveraging funding to conserve and better manage the water resources and increase efficiency of the system, thus reducing quantities delivered during drought.
  - 3) Improving water conservation of water delivery system to reduce water quantities.
  - 4) Reducing water quantities to allow water to be used by lower priority users that have shortfalls and mandatory water reductions during drought conditions.
  - 5) Reduce groundwater pumping and improve drought resiliency and basin dependence.

#### **1) Planning Efforts and Supporting the Project**

- **Is the project identified specifically in the planning effort?**

This Small Scale Water Efficiency project has been a priority to BWCCD for the last 10 years and is in the final planning stage. **Even though this project a major priority**, most of the District funds have been used for O&M and critical immediate repairs/rebuilds. This is the **third automation project** and part of BWCCD's overall strategy to slowly automate the irrigation system **as we improve the associated infrastructure**. The District's "Water Conservation Plan" mandates that we periodically assess the water delivery system and identify problems or needs as they continue to mature and adapt to address changing conditions while identifying new technologies and strategies. Each year, they identify and prioritize our system needs, problems, and projects.

- **Explain whether the proposed project implement a goal or address a need or problem identified in the existing planning effort?**

Each year, we identify and prioritize our system needs and problems, projects not addressed in the previous year are added. BWCCD Water Conservation Plan criteria includes:

- 1) Is the project (components) listed as a priority on the Capital Improvement Plan and Water Conservation Plan. **YES**
- 2) Can the problem or need be remedied with existing resources? **NO, Need BOR Match**
- 3) What benefits will occur from the corrective action taken (water/monetary savings, efficiency, sustainability, annual maintenance, crop losses, shortfalls, acre foot savings). **ALL**
- 4) Are additional resources and funds available if the existing funds are not available? **NO**
- 5) Recommendations from SOR. **We plan to apply for the WCFSP Grant in 2022.**

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

This Small-Scale Water Efficiency project has been approved by the Board and discussed with the Phoenix BOR Field Office. The board and the BWCCD Users are **100% supportive of this project** to slowly improve the irrigation system as shown by the number of grants we have begun submitting. See letters of support in the Appendix.

## 2) Implementation and Results

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

Once the Categorical Exclusion or Environmental Review is completed and we receive the NTP, we will begin initial planning. An Action Plan will be developed that lists each task, scheduled interval, responsible party, comments/notes and when the activity or task is completed and by whom. A work plan will also be completed. Major phases will include:

### ***Engineering/Design Work Required for Project (4 months)*** Allows for plenty of time for review.

This technical support will be performed by George Cairo Engineering, Inc. with input from Rubicon they provided professional services for 4 automated Rubicon gates and structures.

- Design and Fabrication of Rubicon SlipMeter, Controls and Framework – Rubicon
- Design of Civil Work, Structures Modifications, and Appurtenances - GCE
- Order Gates – BWCDD (Long Lead Item, may need 6 months lead time for fabrication)

### ***Pre-Construction/Site Preparation for Project (2-3 Weeks)*** Two sites

Time is of the essence for water outage work, complete all activities to reduce Dry-Up time.

- On-site support/final planning and safety/COVID 19 meetings – GCE, Rubicon, concrete and civil works Contractor.
- Begin Safe Dry-down to prevent canal liner damage, include notification to producers/growers – BWCDD
- Mobilization of Employees and Equipment
- Begin pre-casting or ready to cast in place concrete structures (Sidewalls, Aprons, Sills, miscellaneous metals, and Appurtenances) – Concrete and Civil Works Contractor
- Order Additional Concrete

### ***Construction and Installation (1 month)*** Two sites

- Implementation of all safety measures and COVID 19 requirements
- Installation of dirt plugs and any safety measures
- Removal of Manual Gates and Demolition of any required structure elements - BWCDD
- Continue to Coordinate/schedule with affected water user(s) - BWCDD
- Final Site Preparation - BWCDD Equipment Operator
- Concrete Foundation (Sidewalls and aprons) - BWCDD, GCE (Oversee)
- Material Testing – GCE
- Installation of 2 SlipMeter Gates (Attach to existing concrete structures) – Contractor’s work, BWCDD, GCE, Rubicon (Oversee)
- Installation of spillway structure and pipeline to drain channel – Contractor’s work, BWCDD, GCE, Rubicon (Oversee)
- Electrical Wiring - Contractor
- Installation of metals such as safety walkway and handrails - BWCDD

### ***Post-Construction:***

- Installation/testing of automation systems/controls (All activities not requiring Dry-out) – Rubicon and GCE
- Commission gates and certify accurate measurement and operation – Rubicon, GCE

- Postmortem to discuss lessons learned – Rubicon, Contractor, and GCE
- Training on gate control – Rubicon and BWCDD

**Closeout/Reports:**

As required (Progress Reports - Quarterly or Semi-Annual).

As-build final installation

Final report with documentation

*SlipMeter Gate Specifications are provided in the Appendix, a Schematic was provided on page 5.*

Table 1, the Tentative Milestone/Task Schedule is provided on the following page.

- Describe any permits that will be required, along with the process for obtaining such permits. **NONE.**
- Identify and describe any engineering or design work performed specifically in support of the proposed project.

This by George Cairo Engineering and Rubicon Fabrication of SlipMeter Gates, Controls and Framework. Design of Concrete Sidewalls, Spillway Structures, Inlet Headwall, Aprons, Walkway, Safety Handrails, Electrical Wiring, Lighting and Appurtenances.

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

**None.** No new policies or actions, BWCDD always gets prior approval from their board and coordinates improvement projects with water users to minimize impacts to their operations.

- Describe the timeline for completion of environmental and cultural resource compliance. Was the timeline for completion of environmental and cultural resource compliance discussed with the local Reclamation office?

**YES,** all work will comply with Federal environmental and cultural resource laws and other required regulations. See responses to Environmental Compliance Questions in age 19 for additional information. All work and staging will stay within the already disturbed area and there will be no new ground disturbance.

**Table 1 – Tentative Milestone/Task Schedule**

Milestone/Task	Planned Start Date	Planned Completion Date
<b>USBR Notice of Award</b>	01/01/23	01/01/23
<b>USBR Notice to Proceed and Contract Execution</b> <i>Can take up to 6 months for Rubicon to fabricate gates and ship gates from Australia. May order with USBR approval before contract execution.</i>	01/01/23	01/31/23
<b>USBR Categorical Exclusion/Environmental Compliance Review</b> BWCDD & GCE to work with USBR Environmental & Cultural Resources	02/01/23	03/31/23
<b>Pre-Construction</b> Contractor/Vendor Procurement: Engineering/Design, Concrete and Gates with associated structures, Contractors work with Pre-construction work	04/01/23	09/31/23
<b>Construction/Installation</b> Coordinate/schedule with affected water user(s), Site Preparation, Spillway	10/01/23 <sup>1</sup>	11/30/23 <sup>1</sup>

Concrete Structures & Pipeline, Installation of 2 SlipMeter Gates, Cleanup and Debris removal		
<b>Completion</b> Closeout/Final Report	11/30/23	12/31/23

<sup>1</sup> Construction and Installation will take about 1 month but will take place in the late winter between these two dates. There is less demand (quantity and time), thus minimal impact to our producers/growers. We would schedule our work to accommodate them. Ideally, we would like to start construction as soon as possible for design and procurement late 2022 or early 2023, but unless we receive the Award and NTP December 2022 or January 2023 from USBR, this is unlikely.

### 3) Nexus to Reclamation

- **Is the proposed project connected to a Reclamation project or activity? If so, how?**

**YES**, this project is connected to the Reclamation vision and goals by improving efficiency and conservation of water systems for our district and supporting lower basin drought resiliency.

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

**YES**, from four rivers (Confluence of Gila and Hassayampa Rivers), Agua Fria, Verde and Salt Rivers (upstream of BWCCD).

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

**NO**, BWCCD utilizes BOR controlled river (see above) and ground water (wells) for the irrigation systems.

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

**YES**, Gila River Basin: it is west of the confluence of the Gila River and Agua Fria River (Provides 39% water supply)

Agua Fria River, Verde River and the Salt River (Upstream Tributaries)

Lower Colorado River (Downstream – confluence in Yuma)

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

**YES**, Gila River Basin, Gila River and Hassayampa River (downstream confluence), Agua Fria River, Verde River, Salt Rivers (upstream tributaries) share basin with Gila River and Salt River Tribes which are BOR irrigation projects. Lower Colorado River Basin (Yuma BOR Project: Confluence of Colorado River downstream in Yuma).

### 4) Presidential and Department of the Interior Priorities

#### Sub-criterion No. E1. Climate Change

##### Combating the Climate Crisis

- **Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.**

We are using a “Best Practices” model by **conserving, protecting, and restoring** our natural resources (water and subsequent watersheds and habitats) by a variety of water conservation activities as discussed. Our partnership with farmers/growers enables us to work together to develop strategies to address the climate crisis (Heavy rains and flooding greatly impact us) through new and innovative agricultural conservation activities. We are also identifying system

components that can utilize solar energy. Regarding the 30 by 30 initiative, with NCRS and USDA we are identifying On-Farm projects to reduce carbon emissions and promote biodiversity, especially in the riparian areas and watersheds that border our district.

**Reducing climate pollution:** Agricultural Greenhouse Gas Emissions (10% of US total released)

1) Reduce carbon emissions through use of solar powered SCADA units and reduced O&M time requiring on-site vehicles.

**Protecting public health:** According to the CDC effects from Climate Change include increased incidence of respiratory and cardiovascular disease, injury and death due to extreme weather events, heat wave, droughts and floods causing losses to property and crops and change in food distribution, water-borne illnesses and mental health (CDC). This is especially true in rural, underserved, low-income populations such as ours. This project would:

- 1) Improve air quality by reducing carbon emissions through use of solar powered SCADA units and reduced O&M time requiring on-site vehicles and dust generated from dirt roads.
- 2) Reduce risk of biological contamination by automated controls to reduce incidence of spills, overflows and flooding.
- 3) Reduce cumulative effects from poor health (Type 2 Diabetes, Respiratory and Cardiovascular diseases).
- 4) Reduce incidence of floods and damages to homes and farms.

**Conserving our lands, waters, oceans, and biodiversity:**

By conserving water, we promote biodiversity, endangered species in this desert habitat rely on the Lower Colorado River and its backwaters, riparian areas and natural lakes and the marshy habitat it supports for nesting, spawning and daily life. It also is part of the migration pathway for many bird species. Their habitat was greatly affected by the dams constructed along the Colorado River and then by the increased demand for water by towns and farming. During drought conditions this is intensified, and their critical habitat threatened. Especially during the summer when water demands are increased. Numerous riparian and marshy areas form a perimeter between the agricultural fields our canals and laterals, the Gila and Hassayampa Rivers and its four tributaries as well as the Mesas (Northsouth and West) divert runoff from rainfall into natural riparian areas.

- **Does this proposed project strengthen water supply sustainability to increase resilience to climate change? Does the proposed project contribute to climate change resiliency in other ways not described above?**

**YES**, it improves integrity of delivery system to prevent leakage/seepage, overflows/flooding/spills, constant/reliable water flow, improve quantity (water elevation) and water quality. This will help address any shortfalls, as well as helping with future adverse conditions caused by drought and climate changes. These improvements also will result in improved on-farm efficiency and crop production and less spills by downstream water districts Paloma and Arlington. The project is in-line with President Biden and DOI objectives and drought mitigation for the Lower Colorado River Basin.

Results in less fallowed lands and less fugitive dust and lung and respiratory disease locally and in the urban area increased by monsoonal winds.

**Sub-criterion No. E2. Disadvantaged or Underserved Communities**

- **Will the proposed project serve or benefit a disadvantaged or historically underserved community?**

**YES**, Western Maricopa County is a historically underserved, rural, low-income, disadvantaged community (town of Buckeye, and Gila River and Salt River Indian Reservations) because of its ethnic minorities, poverty level and rural location. Unfortunately, because of urban sprawl from Phoenix and influx of new residents (40% increase in 20 years) there is a large disparity between income/poverty/unemployment and subsequent quality of life.

**Public Health and Safety as related to:**

Water Quality: Improved due to efficient groundwater use since communities relies on wells.

See page 13, under Protecting Public Health.

Economic Growth Opportunities – reduced farming costs allow for more employment and help create 2<sup>nd</sup> tier producers (value added products).

- **Please describe in detail how the community is disadvantaged based on a combination of variables.**

Without these improvements we would not be able to **better manage and improve water delivery efficiency**. Consequences could include: Shortfalls during severe drought conditions adversely effecting Tribal income from farming and land leases as well as tourism and recreation, additional groundwater pumping and energy consumption, and loss or riparian or watershed areas for traditional gathering and as habitat for native species.

**Table 2 – BWCDD Disadvantaged Community Variables**

<b>Buckeye Water Conservation &amp; Drainage District Disadvantaged Community Variables</b>			
<b>Variable</b>	<b>Buckeye</b>	<b>Gila River Indian Tribe</b>	<b>Salt River Indian Tribe</b>
Population	95,463	14,260	7,386
Low income, high and/or persistent poverty	MHI <sup>1</sup> \$71,707 9.95% Live in Poverty	MHI <sup>1</sup> \$9,283 52% Live in Poverty	MHI <sup>1</sup> \$31,852 22% Live in Poverty
High unemployment and underemployment	4.6%	22.6%	5.9%
Racial and ethnic residential segregation, particularly where the segregation stems from discrimination by government entities	1% Native American 25% Hispanic	100% Native American or Family Members	100% Native American or Family Members
Linguistic isolation	25% Spanish Speaking	Spanish Speaking O'odham	Spanish Speaking O'odham
High housing cost burden and substandard housing	10% Substandard Housing Expensive	90% Substandard	70% Substandard
High transportation cost burden and/or low transportation access	Limited Public Transportation	Limited Public/Tribal Transportation	Limited Public/Tribal Transportation
Disproportionate environmental stressor burden and high cumulative impacts	Poverty Level Magnify Wide Gap Between High and Low	Poverty Level Magnify 50% Type 2 Diabetes	Poverty Level Magnify 50% Type 2 Diabetes



	Income		
Limited water and sanitation access and affordability	Expensive Rural - Archaic	Archaic System	Archaic System
Disproportionate impacts from climate change	Poverty Level Magnify	Poverty Level Magnify	Poverty Level Magnify
High energy cost burden and low energy access	Utility Rates High	Utility Rates High	Utility Rates High
Access to healthcare	Limited, small clinic	IHS for BIA registered	IHS for BIA registered

<sup>1</sup>Even though Phoenix is 36 miles away, Buckeye is considered its westernmost suburb because of urban sprawl (many communities) creating a wide income gap between inhabitants

<sup>2</sup>MHI = Median Household Income

- **If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985.**

See Table 2. Population includes 25% Hispanics, they reside in a sparsely populated rural area, with little or no tax base to support their infrastructure. They are isolated by historically being considered less than equal as agricultural workers. The nearby Indian Reservations are also an underserved community and share BWCDD’s water resources from the Gila River.

**Sub-criterion No. E3. Tribal Benefits**

- **Does the proposed project directly serve and/or benefit a Tribe? Will the project improve water management for a Tribe?**

YES, this project will help Reclamation meet their trust responsibilities to the two local Indian Tribes. Any water conservation measures that support the Gila River basin and other small tributaries in this network system (Hassayampa, Agua Fria, Verde, and Salt Rivers) will help conserve water that the Salt River and Pima-Maricopa Indian Tribes need for their native wetland and riparian areas and water resources for residential, municipal and agricultural use.

- **Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety by addressing water quality, new water supplies, or economic growth opportunities?**

YES, Since these two Tribes reside in a similar area to BWCDD the answers to these questions are similar to those on pages 13 and 14. This project will provide a small buffer for resiliency against possible state or federal mandated water quantity reduction because of drought or climate change by saving water through better management (automation). It will improve the integrity of the delivery system to prevent leakage/seepage, overflows/flooding/spills, provide a constant/reliable water flow, improve quantity (water elevation) and water quality. These improvements will also result in improved on-farm efficiency and crop production. Less water used leaves more in the river and in the groundwater for Tribes including the Tohono O’odham San Lucy District at Painted Rock Dam.

## 2. Project Budget

### 2.1 Funding Plan and Letters of Funding Commitment

The **Federal share** is 45.56% and the **Non-Federal share** is 54.44%.

BWCDD Staff will be utilized for specific tasks during the approximate one-year project duration (including 1 month construction phase (October – November)). For In-Kind, BWCDD will utilize our staff and equipment/vehicles. The installation and commissioning will be overseen by a Rubicon representative, but BWCDD’s responsibilities will include project management, site preparation, some demolition, fill/compaction, concrete work, gate installation, dust control, cleanup and removal of debris and material at completion. By using our own staff costs will be greatly reduced because less hours will be required, and we will utilize our own equipment.

BWCDD Staff will include 8 personnel to assist with the project, preconstruction, construction, and close out activities. Their responsibilities and duties are provided on the following page.

**Costs incurred before start date:** None (May need to place order for Rubicon SlipMeter Gates since they take 6 months of lead time to fabricate and are shipped).

### 2.2 Budget Proposal

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal Funding	\$100,000.00
Costs to be paid by the Applicant	\$119,992.82
Value of third-party contributions	\$0.00
<b>TOTAL PROJECT COSTS</b>	<b>\$219,992.82</b>

#### Project Costs Breakdown:

##### Federal Funding

BUDGET ITEM DESCRIPTION	AMOUNT
Materials: 2 Rubicon SlipMeter Gates & Pipeline	\$57,504.00
Construction: Rubicon Installation & Commissioning	\$6,000.00
Construction: Contractor Civil Work & Gate Installation (Partial)	\$36,496.00
<b>TOTAL FEDERAL FUNDING</b>	<b>\$100,000.00</b>

##### Non-Federal Funding (BWCDD) – In Kind and Cash

BUDGET ITEM DESCRIPTION	AMOUNT
Salaries and Wages: <i>In Kind</i>	\$19,095.56
Fringe: <i>In Kind</i>	\$2,707.08
Equipment: <i>In Kind or Cash</i> if rented	\$8,936.18
Contractual: Engineering GCE	\$36,000.00
Construction: Contractor Civil Work & Gate Installation (Partial)	\$43,254.00
Environmental Compliance	\$10,000.00
In Direct Costs – De Minimis In-Kind	\$0.00
<b>TOTAL NON-FEDERAL FUNDING</b>	<b>\$119,992.82</b>

BUDGET ITEM DESCRIPTION	COMPUTATION		UNIT	TOTAL COST
	Rates	Quantity		
<b>Salaries and Wages (BWCDD)</b>				
Project Manager	\$48.07	140	HR	\$6,729.80
Water Master/Foreman	\$23.07	64	HR	\$1,476.48
Project Assistant	\$16.00	156	HR	\$2,496.00
Accountant	\$21.26	80	HR	\$1,700.80
Equipment Operator	\$38.88	96	HR	\$3,732.48
Gate Fabricator	\$25.00	64	HR	\$1,600.00
Gate Fabricator Assistant	\$14.00	40	HR	\$ 560.00
Concrete Fabricator	\$20.00	40	HR	\$ 800.00
<b>Total</b>		<b>680</b>	<b>HR</b>	<b>\$19,095.56</b>
<b>Fringe Benefits (BWCDD)</b>				
Project Manager	\$10.97	140	HR	\$1,535.80
Water Master/Foreman	\$5.30	64	HR	\$ 339.20
Project Assistant	\$1.22	156	HR	\$ 190.32
Accountant	\$1.63	80	HR	\$ 130.40
Equipment Operator	\$2.97	96	HR	\$ 285.12
Gate Fabricator	\$1.91	64	HR	\$ 122.24
Gate Fabricator Assistant	\$1.07	40	HR	\$ 42.80
Concrete Fabricator	\$1.53	40	HR	\$ 61.20
<b>Total</b>		<b>680</b>	<b>HR</b>	<b>\$2,707.08</b>
<b>Equipment (BWCDD)</b>				
Front End Loader	\$120.15	8	HR	\$ 961.20
Rubber Tired Excavator Gradall	\$143.19	16	HR	\$2,291.04
Dump Truck	\$130.03	6	HR	\$ 780.18
Water Tanker	\$160.19	16	HR	\$2,563.04
Crew Truck	\$48.94	24	HR	\$1,174.56
Project Manager Pickup Truck	\$48.59	24	HR	\$1,166.16
<b>Total</b>		<b>96</b>	<b>HR</b>	<b>\$8,936.18</b>
<b>Materials and Supplies</b>				
Rubicon 2 SlipMeter Gates & Pipeline	\$57,504.00	1	LS	\$57,504.00
<b>Total</b>				<b>\$57,504.00</b>
<b>Contractual</b>				
Engineering and Design	\$36,000.00	1	LS	\$36,000.00
<b>Total</b>				<b>\$36,000.00</b>
<b>Construction</b>				
Contractor	\$79,750.00	1	LS	\$79,750.00
Installation Supervision & Commissioning	\$6,000.00	1	LS	\$6,000.00
<b>Total</b>				<b>\$85,750.00</b>
<b>Environmental and Regulatory Compliance</b>				
Environmental Compliance	\$10,000.00	1	LS	\$10,000.00
<b>Total</b>				<b>\$10,000.00</b>
<b>TOTAL DIRECT COSTS</b>				<b>\$219,992.82</b>
Indirect Costs – De-Minimis Fixed	\$0.00	0	%	\$0.00
<b>TOTAL ESTIMATED PROJECT COSTS</b>				<b>\$219,992.82</b>

### 2.3 Budget Narrative

#### Salaries and Wages:

#### BWCCD Employee Hours Explanation

BWCCD Employee	Grant Compliance & Bid Procurement Process & Reporting (~ 12 months)	Pre-constr. Activities: Environmental Compliance, Contractor/Vendor, Procurement, Engineering/Design, Concrete & Gate, Concrete Work, etc. (~7 Months)	Constr./ Installation: Coord. & Sched. w/ affected Water Users, Site Prep., Concrete Struct. & Foundation Work, Gate Installation, Cleanup & Debris Removal (~ 2 Months)	Post-Construction: Installation & Testing of Automation & Controls, Commissioning Work, Grant Close-Out Work (~ 2-3 Weeks)	Sub-Total
General Manager/ Project Manager: Overall project management, coordination with Engineers, Manufacturer, and Contractor Installation of Rubicon Gate/Associated Controls/Structures, Scheduling of Staff and Equipment, etc.	Assume 12 months, Approx. 4 hr/month = 48 hrs	Assume 7 months, Approx. 4 hr/month = 28 hrs	Assume 2 months, Approx. 20 hr/month = 40 hrs	Assume 3 wks, Approx. 8 hr/wk = 24 hrs	= 140 hrs
Water Master/Foreman: Assist Project Manager – supervise BWCCD field staff, etc.	0 hr	Assume 2 months, Approx. 8 hr/month = 16 hrs	Assume 2 months, Approx. 20 hr/month = 40 hrs	Assume 1 wk, Approx. 8 hr/wk = 8 hrs	= 64 hrs
Project Assistant: Assist Project Manager with project coordination & reporting	Assume 8 months, Approx. 8 hr/month = 64 hrs	Assume 7 months, Approx. 4 hr/month = 28 hrs	Assume 2 months, Approx. 8 hr/month = 16 hrs	Assume 3 wks, Approx. 16 hr/wk = 48 hrs	= 156 hrs
Accountant: helped management project financials	Assume 4 months, Approx. 8	Assume 4 months, Approx. 4 hr/month = 16 hrs	Assume 2 months, Approx. 8	Assume 2 wks, Approx. 8 hr/wk = 16 hrs	=80 hrs

	hr/month = 32 hrs		hr/month = 16 hrs		
Equipment Operator (2 Staff): Site initiation work, manage and handle all equipment during construction activities, etc.	0 hr	Assume 2 months, Approx. 4 hr/month * 2 Staff = 16 hrs	Assume 2 months, Approx. 20 hr/month * 2 Staff= 80 hrs	0 hr	= 96 hrs
Gate Fabricator: Site initiation work, construction activities, etc.	0 hr	Assume 2 months, Approx. 20 hr/month = 40 hrs	Assume 2 months, Approx. 8 hr/month = 16 hrs	Assume 1 wk, Approx. 8 hr/wk = 8 hrs	= 64 hrs
Gate Fabricator Assistant: Site initiation work, construction activities, etc.	0 hr	Assume 2 months, Approx. 8 hr/month = 16 hrs	Assume 2 months, Approx. 8 hr/month = 16 hrs	Assume 1 wk, Approx. 8 hr/wk = 8 hrs	= 40 hrs
Concrete Fabricator: Site initiation work, construction activities, etc.	0 hr	Assume 2 months, Approx. 8 hr/month = 16 hrs	Assume 2 months, Approx. 8 hr/month = 16 hrs	Assume 1 wk, Approx. 8 hr/wk = 8 hrs	= 40 hrs

BWCDD certifies that the labor rates included in the budget proposal represent the actual labor rates of the identified personnel.

**Equipment:** Will use USACDOE equipment (EP 1110-1-8 30 November 2018)  
 Rate = (Average Hourly Rate + Fuel) \* 10% → Multiple by 10% since USACE rates are from 2018

- Front End Loader – Site preparation and final cleanup, installation
- Rubber Tired Excavator – Site preparation and final cleanup, installation
- Dump Truck – Haul away construction debris and material
- Water Truck – Dust Control
- Service Truck – Used in support of BWCDD Crew on-site
- Project Manager Truck – project management at site

**Materials and Supplies:**

Safety (Level D) and Construction:  
 Shade, Coolers, Water/Electrolytes, Gloves, Safety Glasses, Reflective Vests, Hard Hats, Steel-Toed Boots, Signage, Cones, Barricades  
 Concrete support structure  
 Two Rubicon SlipMeter Gate - the costs for each gate were quoted and provided by Rubicon System America, Inc., which includes furnishes and installation. Gate commissioning costs will be under Construction.

Gate No.	Gate Location ID	Materials	Sub-Total
Gate 1 & 2	Lateral 44 Headgate & Lateral 44 Turnout to Siphon @ Old Hwy 80	Rubicon SlipMeter Gate: SMB-600-2400-C (24" Gate)	\$38,980.00
Pipeline	Pipeline to Drainage Channel	100' Pipeline	\$18,524.00
		<b>Total</b>	<b>\$57,504.00</b>

**Contractual:**

Engineering and Design of Concrete support structures. Refer to GCE’s Quote.

The engineering cost quote was provided by George Cairo Engineering, Inc. for the design and survey of the 2 gates and associated concrete structures. The scope of work includes the following:

- Periodic project coordination meetings with BWCDD and Contractor, inclusive of project kick-off meeting
- Data collection and survey work
- Design site plan and structural sheets for each of the 2 gate installations and appurtenant features, and spillway structure to the drainage channel and 100’ of discharge pipeline
- 60% submittal and Final submittal
- Pre-services during construction activities and gate installation supervision

**Construction:**

Refer to Contractor’s Quote and Rubicon’s Quote.

Gate Installation: This work will be performed by Contractor and Rubicon staff and augmented by BWCDD Personnel & Equipment inclusive of mobilization, dirt plugs to seal work areas, remove existing gate, prepared for concrete work, form and place concrete mounted headwall, construct spillway structure and inlet headwall, install new gates, commission gate support, clean-up, and demobilization. Include Safety (Level D) and Construction: Shade, Coolers, Water/Electrolytes, Gloves, Safety Glasses, Reflective Vests, Hard Hats, Steel-Toed Boots, Signage, Cones, Barricade, concrete support structure, etc.

**Other:**

**Environmental Regulatory Compliance Costs:** Potentially an assessment affect will be needed for the new gates. No earth disturbing activities and no demolition of existing structure at the Lateral 44 Headgate. There will be limited earth disturbing activities at the Lateral 44 Turnout to Drain and Siphon. The new spillway structure will be installed at grade to limit any underground activities.

See responses to Environmental Compliance Questions on page 19 to determine what may be needed and preparation of Environmental compliance documents as required.

**3. Environmental and Cultural Compliance**

**3.1 Impact to Surrounding Environment**

**NONE**

No significant impact, all earth-disturbing work will occur within existing canal and sidewalls and existing easement.

- 3.2 Threatened or Endangered Species, or Designated Critical Habitat** **NONE**  
This area is greatly disturbed and in constant agricultural use. There are no threatened or endangered species present or critical habitat. *See page 14 last paragraph for description of surrounding biomes.*
- 3.3 Wetlands or Other Surface Waters (CWA) – Waters of the United States** **NONE**  
There are no wetlands within the project boundary.
- 3.4 Water Deliver System Date of Construction**  
The Buckeye Canal was constructed in 1885.
- 3.5 Modifications or Effects to Individual Features of a Delivery System (i.e., head gates, canals, or flumes)** **YES**  
One manual canal gate will be replaced with an upgraded automated gate, new spillway and automated control gate will be installed at the location with the existing flow restrictions approximately 1.25 miles downstream of the Lateral 44 Headgate Turnout.
- 3.6 Features in the Buckeye Water Conservation and Drainage District Listed or Eligible for Listed on the National Register of Historic Places** **SEVERAL**  
Buckeye Canal and some Laterals. Approximately 5-20 miles away: BWCDD Diversion Structure, Gillespie Dam Bridge, El Rio Research Project Site & Trails, Gila River and Salt Confluence, Gila River and Hassayampa River Confluence.
- 3.7 Archaeological Sites in Proposed Project Area** **NONE**  
There are no archaeological sites in the project area, but approximately 5-20 miles away: BWCDD Diversion Structure, Gillespie Dam Bridge, El Rio Research Project Site & Trails, Gila River and Salt Confluence, Gila River and Hassayampa River Confluence.
- 3.8 Disproportionately High or Adverse Effects on Low Income or Minority Populations** **NONE**  
No disproportionately high or adverse effects on low income or minority populations. If anything, this will have the opposite effect economically.
- 3.9 Limit Access to and Ceremonial Use of Indian Sacred Sites or Impact on Tribal Lands** **NO**  
No limited access to or ceremonial use of sacred sites or impact Tribal lands.
- 3.10 Contribution to Introduction, Continued Existence, or Spread of Noxious Weeds or Non-Native Invasive Species** **NO**  
If anything, this project will have the opposite effect, reducing noxious weeds and non-native invasive species, including aquatic vegetation.

#### 4. Required Permits or Approvals

There are no permits or approval required for this project.

#### 5. Letters of Support or Approvals

Daniel Gladden  
P.O. Box 1061  
Buckeye, Az. 85326

March 24, 2022

**SUBJECT: Department of the Interior Bureau of Reclamation Funding No.R22AS00195  
WaterSMART Grants: Small-Scale Water Efficiency Projects  
Buckeye Water Conservation and Drainage District-  
Installation of Relief Drainage and Automated Gate System on Lateral 44**

To Whom It May Concern,

It is with great pleasure that I provide this letter of support for the Buckeye Water Conservation and Drainage District's (BWCDD) application to the Reclamation for the WaterSMART Grants: Small-Scale Water Efficiency Project Funding Opportunity No.R22AS00195 This project will allow the BWCDD to make improvements on Lateral 44 to create a storm water and flooding relief drain for the protection of the districts main canal, farmers and residents impacted by an event in which the canal would otherwise breach due to flooding. With the continual development and growth within the district, it is imperative for BWCDD to receive this funding for the protection of the community and BWCDD.

Thank you for accepting this letter of support.

Sincerely,



Daniel Gladden  
Gladden Farms  
Buckeye, Az

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Murel Stephens  
25750 W. Hwy 85.  
Buckeye, Az. 85326

March 24, 2022

**SUBJECT: Department of the Interior Bureau of Reclamation Funding No. R22AS00195  
Water SMART Grants: Small-Scale Water Efficiency Projects  
Buckeye Water Conservation and Drainage District-  
Installation of Relief Drainage and Automated Gate System on Lateral 44**

To Whom It May Concern,

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Thank you for accepting this letter of support.

Sincerely,



Murel Stephens  
Stephens Farms  
Buckeye, Az

Steven Bales  
20600 W. Beloit Rd  
Buckeye, Az. 85326

March 24, 2022

**SUBJECT: Department of the Interior Bureau of Reclamation Funding No. R22AS00195  
WaterSMART Grants: Small-Scale Water Efficiency Projects  
Buckeye Water Conservation and Drainage District-  
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Thank you for accepting this letter of support.

Sincerely,



Steven Bales  
Bales Farm  
Buckeye, Az

Resolution 3-2022

**RESOLUTION OF THE  
BOARD OF DIRECTORS OF  
BUCKEYE WATER CONSERVATION  
AND DRAINAGE DISTRICT**  
(Adopted March 28, 2022)


WHEREAS, Buckeye Water Conservation and Drainage District (“the District”) desires to improve District facilities for the purpose of improved efficacy of water deliveries, sustainable water management; and

WHEREAS, the District wishes to apply for grant funding opportunities to reduce the financial burden on the District customers through these grant programs.

NOW, THEREFOR, be it resolved by the Board of Directors (the “Board”) of Buckeye Water Conservation and Drainage District (the “District”) as follows:

1. That the application for a United State Department of the Interior Bureau of Reclamation WaterSMART grant for Small-Scale Water Efficiency Projects pursuant to Funding Opportunity Number **R22AS00195** (the “Grant”) by the District Manager for the District to install automated Rubicon gates in a restructured box, with the addition of a shotcrete lines drainage drain for Lateral 44 (the “Project”) is hereby approved.
2. That District Manager Noel Carter is hereby authorized to submit the application for the Grant and to execute any and all documents, instruments, and reports necessary or appropriate to apply for, obtain, and use the Grant.
3. That District Manager Noel Carter is hereby authorized to expend up to \$200,000 of District monies for the Project, which monies the Board finds are available for this purpose, and to apply the Grant to the costs of the Project.
4. That the District will work with the United States Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

ADOPTED, this 28 day of March 2022.

  
\_\_\_\_\_  
W.T Gladden  
President of the Board

Attest:  
  
\_\_\_\_\_  
District Secretary