

**FUNDING OPPORTUNITY
R21AS00300**

**WATERSMART GRANT
SMALL-SCALE WATER EFFICIENCY PROJECT APPLICATION**

**PIPELINE REPLACEMENT PROJECT FOR THE
SIOUX LATERAL
FY 2022**

Submitted To:

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1. Technical Proposal and Evaluation Criteria

1.1 Executive Summary

This **Category A** application is being submitted on 03/18/2021 by:

Bard Water District

1473 Ross Road

Winterhaven, Imperial County, California 92283

The Bard Water District (BWD) located in Bard and Winterhaven California, has operated for over 100 years with little improvement or modernization of our 67 miles of delivery system. We also provide and maintain the irrigation water delivery system on the Fort Yuma Indian Reservation. With this grant, BWD proposes to remove the badly deteriorated, leaking black corrugated pipeline on the Sioux Lateral that was installed over 25 years ago. This type of pipe, once thought to be long-lasting, has proven otherwise. It was installed along H Street (Alley) in Winterhaven because in this urban interface, trash, garbage and debris was being thrown in the earthen lateral. We plan to replace this pipeline with a standard 36 inch diameter reinforced concrete pipeline (RCP). This new pipeline will significantly reduce the quantity of water lost from leakage, minimize the risks of cross-contamination of the irrigation water, and reduce the amount of time required for on-site monitoring during water delivery. This is our **first pipeline replacement project** and part of our overall strategy to slowly upgrade our irrigation system. Other ancillary water losses that occur with distribution such as seepage, evaporation, and overflow will also decrease. This new pipeline is critically needed to better manage this water delivery system.

We will accomplish the goals established for the WaterSMART program by leveraging funding to conserve and better manage our water resources and increase efficiency of our system by slowly replacing badly deteriorated structures.

We plan to complete the project in a 3 month period and construction can begin in the summer of 2022, between May and July, depending upon the NTP. Since the primary use of the water is agricultural, this is the best time interval because there is less demand (quantity and time), thus minimal impact to our producers/growers. We would schedule our work as to accommodate them.

This project is located on a Federal facility, as well as in the town of Winterhaven, California surrounded by the Fort Yuma Indian Reservation and part of the Indian Unit (irrigation system).

1. Technical Proposal and Evaluation Criteria

1.2 Project Location

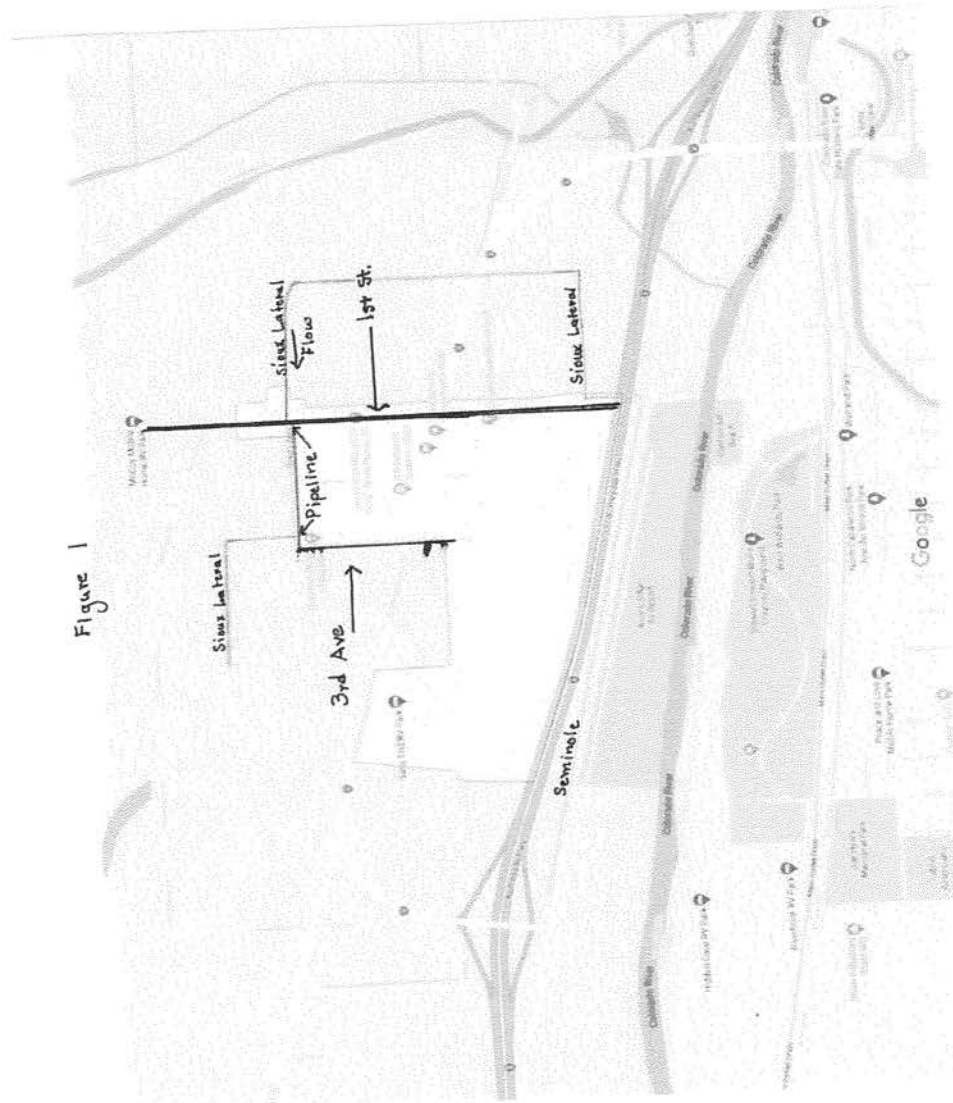
Within the historical boundaries of the town of Winterhaven, California surrounded by the Fort Yuma (Quechan) Indian Reservation in Imperial County). It is 2 miles west of the lower Colorado River and the Arizona state line. It is 5 miles North of the Mexican border.

Sioux Lateral, between 1st Street and 3rd Ave, parallel to H Street (Alley)

Start: Latitude: 32.741897 Longitude: 114.633298 (1st St and H St.)

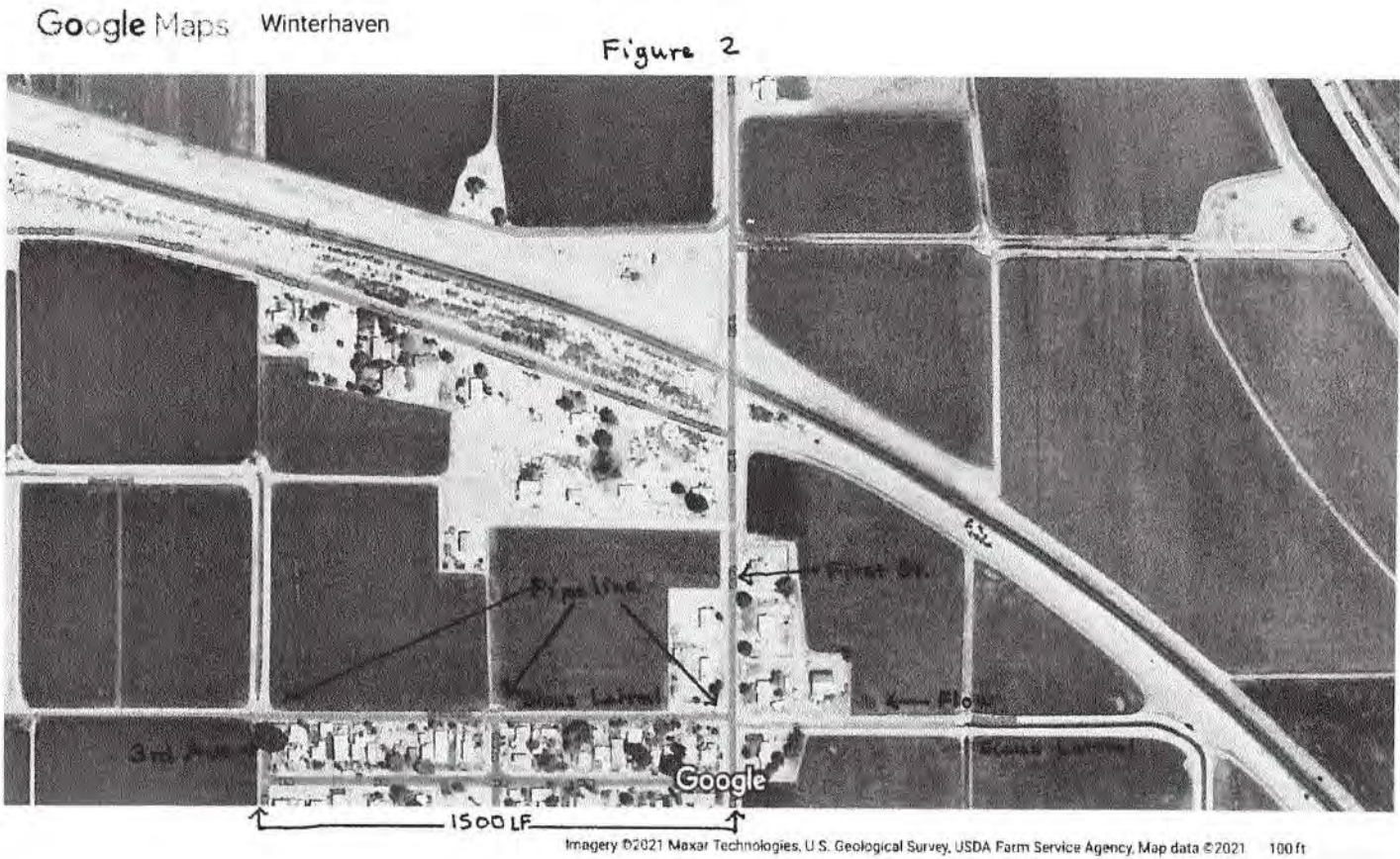
End: Latitude: 32.741844 Longitude: 114.637611 (3rd Ave. and H St.)

Maps have been provided below (Winterhaven) and on the following page.



1. Technical Proposal and Evaluation Criteria

1.2 Project Location



1. Technical Proposal and Evaluation Criteria

1.2 Technical Project Description

The Bard Water District (BWD) located in Bard and Winterhaven California, has operated for over 100 years with little improvement or modernization of our 67 miles of delivery system. We also provide and maintain the irrigation water delivery system on the Fort Yuma Indian Reservation. Over 70% of our delivery system is inefficient and prone to uncontrolled releases, spills, overflows, and requires constant overwatch and maintenance. With this grant, BWD plans to address problems we with a badly deteriorated and leaking pipeline. This is our **first pipeline replacement project** and part of our overall strategy to slowly upgrade our irrigation system.

BWD proposes to remove the badly deteriorated, leaking black corrugated plastic pipeline on the Sioux Lateral that was installed over 30 years ago. This type of pipe, once thought to be long-lasting, has proven otherwise. We plan to replace this pipeline with a standard 36 inch diameter reinforced concrete pipeline (RCP). This new pipeline will significantly reduce the quantity of water lost from leakage, minimize the risks of cross-contamination of the irrigation water, and reduce the amount of time required for on-site monitoring during water delivery. Other ancillary water losses that occur with distribution such as seepage, evaporation, and overflow will also decrease. This new pipeline is critically needed to better manage this water delivery system.

In the Appendix, we have attached a price quote from Oldcastle Infrastructure for the pipeline that provides a detailed description and specifications of the pipe sections and gaskets. A data sheet has also been provided on the following page.

This Small-Scale Water Efficiency project is a priority to BWD and is in the final planning stage. It has been discussed and approved by our Board and also with our local BOR contact. We hope to leverage funding from the WaterSMART program to help us complete this project, meeting both BWD's and BOR's goals to conserve and better manage our water resources and increase efficiency of our system. In order to better understand the needs of our district, we have provided a summary of BWD's background, history and description in the Appendix.

Materials and Equipment to be Used:

List of Materials:

Pipeline Installation:

1,352 LF Reinforced Concrete Pipe (RCP) with ISO Pre-lubed gaskets, fill dirt, gravel

Safety Supplies:

Shade, Coolers, Water/Electrolytes, Gloves, Safety Glasses, Reflective Vests, Hard Hats, Steel-Toed Boots, Signage, Cones, Temporary Fencing/Barricades

List of Equipment:

Construction Equipment to be used for this project would include:

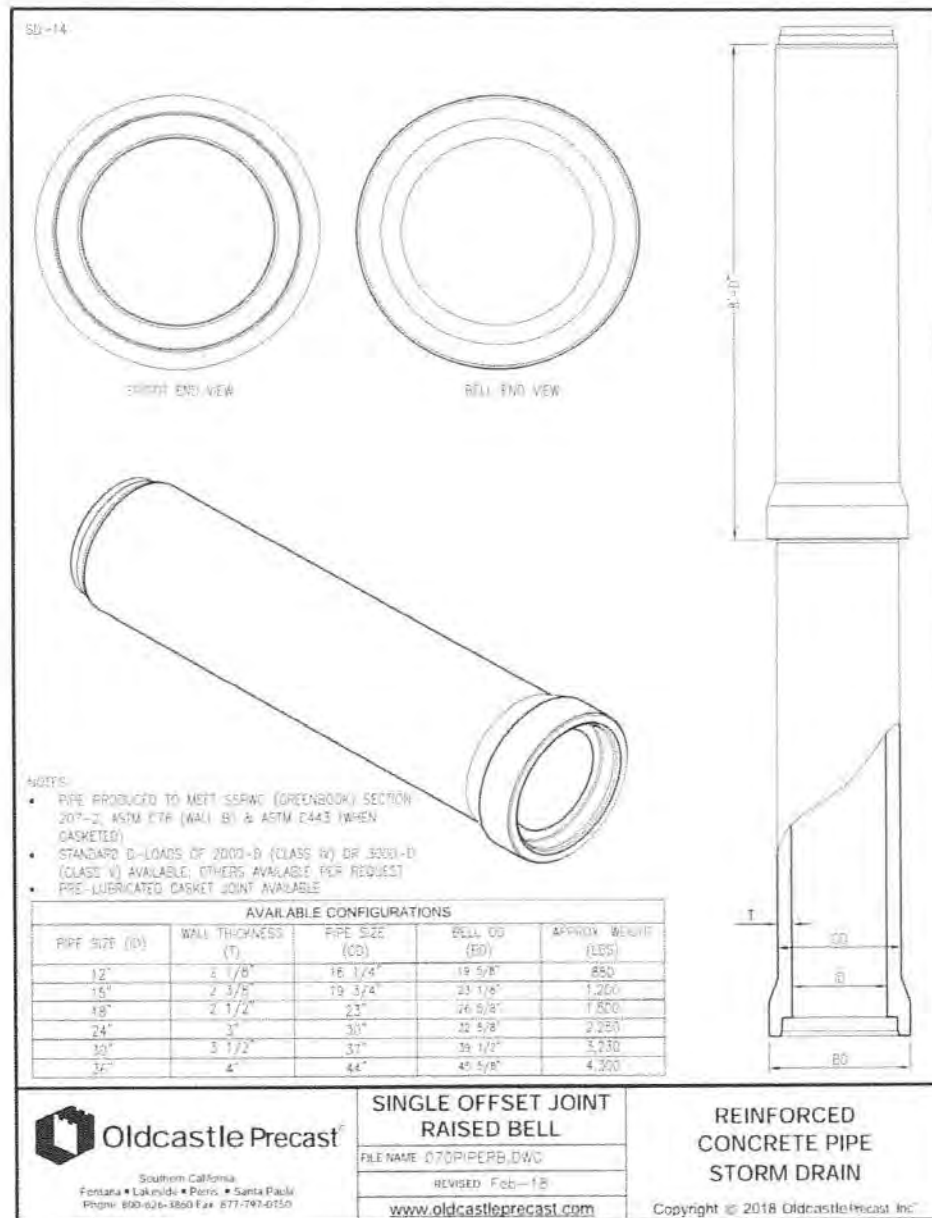
CAT 938G Front End Loader, Dump Truck Kenworth, CAT M318F Rubber Tired Excavator, 12M3 Motor Grader, Water Truck GMC, Service Truck 1 Ton 2000 Ford, Project Manager Truck (Hourly Rate/Usage has been provided in the budget).

1. Technical Proposal and Evaluation Criteria

1.3 Technical Project Description

See Section 1.4 Evaluation Criteria, C. Project Implementation for a description of major tasks and the tentative Milestone/Task Schedule.

Figure 3
Reinforced Pipe Data Sheet



1. Technical Proposal and Evaluation Criteria

1.4 Evaluation Criteria

A. Project Benefits

Description of Expected Benefits and Outcomes from Implementing Project:

BWD's existing water delivery system faces many challenges primarily due to its age. Most concrete structures' lifespan are only 20 years. Earthen canals, laterals and ditches require constant maintenance and over watch. Many check gates and turnout gates are not efficient. Any improvement project such as this, slowly allows us to address these issues, one problem at a time to:

Improve Water Delivery System: Efficiency, control, reliable/constant flow, less water level fluctuations, quick detection/prevention of leaks or spillage, less time required for delivery (from initial request), improved coordination/collaboration with water users, improved response time for Orders (On and Off). Create a positive impact by reducing overflows/leakage/spills (which can also cause crop damage). All contributing to less water loss and decreasing operating costs.

Other Benefits:

Improve Overall Reliability: Improve integrity of delivery system to prevent leakage/seepage, overflows/flooding/spills, constant/reliable water flow, improve quantity (water elevation) and water quality. This could 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.

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 120 to 200 acre ft/yr (Based on type of crop and growth cycle, irrigation distribution method, and frequency and length of water delivery). Water conservation efforts contribute to the overall health of the surrounding fragile desert ecosystem. This 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/lakes in this network system (Gila River, Mitry Lake, Martinez Lake) also help sustain wetland and riparian ecosystems as well as the Quechan and Cocopah Indian Tribes traditional native plant sites.

Collaboration and Information Sharing Among Water Districts in Region: This project demonstrates collaboration between our water district, BOR, the Quechan Indian Tribe, Mexico and our 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).

1. Technical Proposal and Evaluation Criteria

1.4 Evaluation Criteria

A. Project Benefits

Local or Economic Positive Impacts/Benefits:

Agricultural – Economic (less water needed, less restriction on crops types). Reduce O&M cost to BWD so funding can be used for other deteriorating structures and sites.

Environmental

Health (less mosquito habitat, less noxious and invasive weeds, safer structure). Less erosion, conservation support healthier ecosystem (Native plants, habitat, native species and migratory birds). More viable washes/springs.

Cultural

Protection and preservation of native gathering sites (plants and clay).

Food Safety

Less danger of catastrophic crop failure due better water elevation control to prevention of overflows/flooding of fields with food crops.

Recreational/Tourism

Lower Colorado and Gila River/Watersheds, desert washes – Improved off-roading/camping/hiking.

Public Safety

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

Expected Outcomes:

The new Sioux Pipeline will significantly reduce operating costs and the quantity of water lost (approximately 120 - 200 acre feet/year from spills and overflows). This is based on type of crop and growth cycle, irrigation distribution method, and frequency and length of water delivery). Other ancillary water distribution losses, such as seepage, and evaporation will also decrease.

WaterSMART Goals and Outcomes:

- 1) Preventing possible water-related crisis (shortfalls or flooding) – creating resiliency
- 2) Leveraging funding to conserve and better manage our water resources and increase efficiency of our system.
- 3) Improving water conservation, efficiency and effectiveness of water delivery system.

1. Technical Proposal and Evaluation Criteria

1.4 Evaluation Criteria

A. Project Benefits

Project Specific Expected Outcomes: Project Specific Expected Outcomes:

- 1) Reduced operational losses from spills and overflows (150-250 acre feet/year)
- 2) Reduction in quantity of water loss when water is delivered from the Seminole Canal to the Sioux Lateral (Ranging from 120 - 200 acre feet/year).
- 3) Reduced risk of crop damage from flooding, uncontrolled releases or overtopping
- 4) Reduced use of personnel and resources (More funding for improvements)
- 5) Reduced delivery level fluctuations (Less water needed with optimum delivery/flow)
- 6) Enhanced capability to provide on-demand water delivery to customers (Efficiency)
- 7) Improved on-farm water use efficiency and improved yields with reduction in fertilizer protecting the groundwater.
- 8) Provide 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)
- 9) Reduced "Order On" Lead Times to allow water delivery to be more precisely timed to crop needs (Less water needed)
- 10) Reduced "Order Off" Lead Times to allow precise volumes to be applied to farm (Less water)
- 11) Provide improved collaboration between multiple users and BWD with automated water ordering (More efficient use of delivery system, less water needed)
- 12) More 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).

Complementing NRCS Projects:

In January 2020, Bard Water District hosted its first grant workshop for producers, farmers and ranchers. Thirty-two attended. Presenters included USDA: Rural Development, NRCS, and the Farm Service from AZ and CA. Also, the CA Dept. of Food and Agriculture and a researcher from the U of AZ who discussed previous and current research projects being conducted in our area. We continue to work closely with NRCS and our producers. *Steve Reddy – District Conservationist, NRCS Yuma, AZ* prepared a project plan entitled "*Conservation Implementation Strategy for Bard, CA Imperial County, Irrigation Improvement*". *This Project Plan was prepared for 24 projects (2 of which have been completed, 1 in progress). We also just received a BOR Agricultural Partnership grant from BOR, Mid-Pacific Region which requires subsequent NCRS EQIP projects.* NCRS helps 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.

1. Technical Proposal and Evaluation Criteria

1.4 Evaluation Criteria

B. Planning Efforts Supporting the Project

This Small-Scale Water Efficiency project is a priority to BWD and is in the final planning stage. It has been discussed and approved by our Board as well as with our local BOR contact. We hope to leverage funding from the WaterSMART program to help us complete this project, meeting both BWD's and BOR's goals to conserve and better manage our water resources and increase efficiency of our system.

Our "Water Conservation Plan" mandates that we periodically assess our water delivery system and identify problems or needs as we continue to mature and adapt to meet changing conditions as well as identifying new technologies and strategies. We have established an excellent relationship with a local engineering firm that specializes in irrigation district infrastructure modernization and planning projects, George Cairo Engineering. They will also be conducting a System Optimization Review for us later this year.

Each year, we identify and prioritize our system needs and problems and projects not addressed in the previous year are added. Our criteria include:

- 1) Is the project listed as a priority on our Capital Improvement Plan, USBR TSC Recommendations, Water Conservation Plan, Drought Contingency Plan or by us?
- 2) Can the problem or need be remedied with existing resources and funds?
- 3) What benefits will occur from the corrective action taken (water/monetary savings, efficiency, sustainability, annual maintenance, acre foot savings).
- 4) Are additional resources and funds available if the existing funds are not available?
- 5) Recommendations from SOR

This project has been second on our priority for the last 10 years, but we have not had the funds. This is our **first pipeline replacement project** and part of our overall strategy to slowly upgrade our irrigation system. We have just completed a concrete canal lining project and have another one planned. We also have 6 new gate replacement projects planned. We just completed two projects for gate/canal measurement devices.

1. Technical Proposal and Evaluation Criteria

1.4 Evaluation Criteria

C. Project Implementation

Implementation Plan:

Once the Categorical Exclusion 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. A work plan will also be completed. Major phases will include:

Pre-Construction:

Vendor Procurement and Award for Materials/Supplies

Order/Schedule Delivery of Reinforced Concrete Pipe with Pre-Lube Gaskets (Estimate 22 Loads)

Order Safety Supplies

Identify Fill (Dirt and Gravel)

Identify Staging Area (Parking for Equipment and Vehicles and Yard for Supplies)

Temporary Fencing/Barriers for Work Area

Construction/Installation(4 weeks) – All by BWD

Implementation of all safety measures and COVID 19 requirements

Project Manager/Water Master Coordinate/schedule with affected water user(s)

Site Preparation by Bard Equipment Operator

Continue to Coordinate/schedule with affected water user(s)

Excavation and removal of the black plastic corrugated pipe

Compaction/Leveling of Pipeline bed (with gravel base)

Installation of Pipeline

Test for leaks/pressure/flow

Fill and Cover

Post-Construction:

Certify accurate measurement and operation

Postmortem to discuss lessons learned

Closeout/Reports

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

Final report with documentation

1. Technical Proposal and Evaluation Criteria

1.5 Evaluation Criteria

C. Project Implementation

Estimated Project Schedule (Ten Months)

Figure 4

| Milestone/Task | Planned Start Date | Planned Completion Date |
|--|---------------------------|--------------------------------|
| USBR Award and NTP | 1/31/22 | 4/29/22 |
| Pre-Construction Vendor Procurement /Order Materials/Supplies Pipe, Fill (Dirt and Gravel), Safety Supplies | 05/01/22 | 04/30/22 |
| Site Preparation Set up staging area (Temporary Fencing or barricades) | 5/02/22 | 05/13/22 |
| Excavation/Demolition Coordinate/schedule with affected water user(s) Excavate and Remove existing plastic corrugated pipe | 5/16/22 ¹ | 06/10/22 |
| Construction/Installation Pipeline Bed (Level, compact, gravel base) Pipeline Installation Test for leaks, pressure and flow Import Fill, Fill and cover | 06/13/22 | 07/29/22 ¹ |
| Completion Closeout/Final Report | 08/01/22 | 10/31/22 |

¹ Construction and Installation will only take 8-12 weeks but will take place in the summer between these two dates. There is less demand (quantity and time), thus minimal impact to our producers/growers. We would schedule our work as to accommodate them.

Permits Required: None

Engineering/Design Work Required for Project:

None required, BWD will use laser leveling for base elevation (gravity flow).

New Policies or Administrative Actions Required to Implement Project:

No new policies or actions, Bard Water District always coordinate these improvement projects with the water users to minimize impact to their agricultural operations.

1. Technical Proposal and Evaluation Criteria

1.5 Evaluation Criteria

C. Project Implementation

Describe the Environmental Compliance Process and Estimate:

All work will comply with Federal environmental and cultural resource laws and other required regulations. However, since no earth disturbing activities will occur outside the existing lateral/pipeline. All work will take place within the lateral itself which was constructed above grade on **elevated "borrow" material**, we anticipate that only a Categorical Exclusion will be required at no costs. See responses to Environmental Compliance Questions in Section 3, page 16 for additional information.

D. Nexus to Reclamation 10 Points

This project is connected to the Reclamation activity of improving efficiency and conservation of our water systems for the Indian Unit. This project will help reduce excess water flows to Mexico.

The Bard Water District receives Reclamation Water: **Yes**
Via the All-American Canal.

Project on Reclamation lands or facilities: **Yes**
Bard Irrigation District manages Colorado River water and the irrigation systems.

Project in same basin as Reclamation project or activity: **Yes**
Lower Colorado River

Project contributes water to a basin where a Reclamation project is located: **Yes**
Lower Colorado River

Tribal Benefit: **Yes**
This project will help Reclamation meet their trust responsibilities to the Quechan Indian Tribe.
This project is located on the Indian Unit (managed by Bard Water District).

BWD has been awarded 10 grants from BOR since 2019, they include gate replacement, concrete canal lining, automated measurement devices, Watershed planning and System Optimization review. This is our first BOR grant application for a pipeline.

2. Project Budget

2.1 Funding Plan and Letters of Commitment

The Federal share of this project is 36.94% The Non Federal Share is 63.06% BWD. *Please note even though total costs are over \$200,000 (It is only by 1.5% and mostly In-Kind 2/3s). We prefer using this Small-Scale program for funding this project and utilize the larger grants for the more costly projects (concrete lining canals, automated gate control/measurement systems, major infrastructure improvements, etc.)*

Bard In-kind Contributions: Salaries/Fringe, Equipment, Indirect Costs

We will utilize our staff and heavy equipment for all project activities, including specific Tasks and Milestones, especially during the three-month construction phase (May-July). This will include Project Management, on-site excavation/ demolition/installation (7 personnel, range of 80 to 120 hrs each). By using our own staff costs will be greatly reduced because less hours will be required, and they will utilize our own equipment.

Bard Cash Contribution: Remaining cost of pipe, plus tax and freight.

Costs incurred before start date - None

Other Federal – None

2.2 Budget Proposal

Total Project Costs

| SOURCE | AMOUNT |
|---|---------------------------------|
| Costs to be reimbursed with the requested Federal Funding | \$75,000.00 |
| Costs to be paid by the Applicant | \$128,014.00 |
| Value of third-party contributions | \$0.00 |
| TOTAL PROJECT COSTS | \$203,014.00¹ |

¹ \$184,558 (Total Direct Costs) plus \$18,456 (10% De-Minimus Indirect Costs)

Federal Funding

| BUDGET ITEM DESCRIPTION | AMOUNT |
|---|--------------------|
| Materials: Reinforced Concrete Pipe (RCP) \$89,232-\$14,232 | \$75,000.00 |
| TOTAL FEDERAL FUNDING | \$75,000.00 |

Bard Water District Funding – Cash and In Kind

| BUDGET ITEM DESCRIPTION | AMOUNT |
|--|---------------------|
| Salaries and Wages – In Kind | \$23,164.00 |
| Fringe – In Kind | \$12,525.00 |
| Materials: Reinforced Concrete Pipe (RCP) \$89,232-\$75,000 - Cash | \$14,232.00 |
| Tax \$6,945.00 and Freight \$22,192.00 – Cash | \$29,137.00 |
| Equipment – In Kind | \$30,500.00 |
| Direct Costs | \$109,558.00 |
| In Direct Costs – De Minimus – In Kind | \$18,456.00 |
| TOTAL NON-FEDERAL FUNDING | \$128,014.00 |

2. Project Budget

| BUDGET ITEM DESCRIPTION | COMPUTATION | | Quantity Type | TOTAL COST |
|--|-------------|--------------|---------------|---------------------|
| | \$/Limit | Quantity | | |
| Salaries and Wages | | | | |
| Project Manager | \$43.34 | 120 | Hrs | \$5,200.80 |
| Water Master | \$27.56 | 80 | Hrs | \$2,204.80 |
| Equipment Operators (2 x 120 Each) | \$23.02 | 240 | Hrs | \$5,524.80 |
| Laborers (2 x 80 Hrs Each) | \$19.69 | 160 | Hrs | \$3,150.40 |
| Laborer Helpers (2 x 80 Hrs Each) | \$13.52 | 160 | Hrs | \$2,163.20 |
| Concrete Fabricator | \$19.69 | 80 | Hrs | \$1,575.20 |
| Contracts & Grants Specialist | \$36.40 | 80 | Hrs | \$2,912.00 |
| Adm. Assistant | \$21.63 | 20 | Hrs | \$ 432.60 |
| Total | | 940 | Hrs | \$23,163.80 |
| Fringe Benefits | | | | |
| Project Manager | \$19.65 | 120 | Hrs | \$2,358.00 |
| Water Master | \$12.08 | 80 | Hrs | \$ 966.40 |
| Equipment Operator | \$13.56 | 240 | Hrs | \$3,254.40 |
| Laborer | \$9.84 | 160 | Hrs | \$1,574.40 |
| Laborer Helper | \$7.48 | 160 | Hrs | \$1,196.80 |
| Concrete Fabricator | \$11.21 | 80 | Hrs | \$ 896.80 |
| Contracts & Grants Specialist | \$25.60 | 80 | Hrs | \$2,048.00 |
| Adm. Assistant | \$11.52 | 20 | Hrs | \$ 230.40 |
| Total | | 940 | Hrs | \$12,525.20 |
| Equipment (Bard Water District) | | | | |
| Front End Loader CAT 938G | \$100.00 | 80 | Hrs | \$8,000.00 |
| Rubber Tired Excavator CAT M318F | \$100.00 | 60 | Hrs | \$6,000.00 |
| 12M3 Motor Grader | \$150.00 | 40 | Hrs | \$6,000.00 |
| Dump Truck – Kenworth | \$100.00 | 40 | Hrs | \$4,000.00 |
| Water Truck – GMC | \$50.00 | 20 | Hrs | \$1,000.00 |
| Service Truck 1 Ton 2000 Ford | \$50.00 | 80 | Hrs | \$4,000.00 |
| Project Manager Truck | \$25.00 | 60 | Hrs | \$1,500.00 |
| Total | | 380 | Hrs | \$30,500.00 |
| Supplies and Materials | | | | |
| Reinforced Concrete Pipe (RCP) | \$66.00 | 1,352 | LF | \$89,232.00 |
| Tax (See quote provided in Appendix) | | | % | \$6,945.48 |
| Freight | \$1,168 | 19 | RT | \$22,192.00 |
| Safety Supplies | NC | | | \$0.00 |
| Total | | | | \$118,369.48 |
| Environmental and Regulatory Compliance – Categorical Exclusion | | | | \$0.00 |
| TOTAL DIRECT COSTS | | | | \$184,558.48 |
| Indirect Costs – De-Minimus 10% Fixed | 10% | \$100,322.33 | | \$18,455.85 |
| TOTAL ESTIMATED PROJECT COSTS | | | | \$203,014.33 |

2. Project Budget (continued)

2.3 Budget Narrative

Salaries and Wages:

Project Manager: Nick Bahr, General Manager 120 Hrs

Manage Overall Project:

Bid Procurement Process (Vendors - Pipe)

Excavation, Demolition and Removal of Existing Pipeline

Installation of New Pipeline

Scheduling of Staff and Equipment.

Water Master: Shawn Weddle 80 Hrs

Assist Project Manager – Help supervise BWD employees and Alert/Coordinate with Water Users

EQ Operators: 2 x 120 Hrs

Initial site preparation – some excavation and demolition activity and water diversion system if required, provide support for all construction activities including logistics

Laborers 2 x 80 Hrs and **Helpers** 2 x 80 Hrs

Assist with all construction activities

Concrete Fabricator: 1 x 80 Hrs

Assist with pipe installation and fitting gaskets/connections

Contracts & Grant Specialist: Arlene Kingery 80 Hrs

Contract Administration, Tracking, Quarterly and Final Reports

Administrative Assistant: Maria Alonso 20 Hrs

Purchasing, Payroll. Tracking, Equipment/Staff Hours

Fringe: Fixed

Project Manager 45.34%

Water Master 43.83%

Equipment Operator 58.91%

Laborer 49.97%

Laborer Helper 55.33%

Concrete Fabricator 56.95%

Contracts & Grants Specialist 70.33%

Adm. Assistant 46.94%

The Bard Water District certifies that the labor and fringe rates included in the budget proposal represent the actual labor rates of the identified personnel.

2. Project Budget (continued)

2.3 Budget Narrative

Travel: No Travel Required

Equipment: Will use Bard equipment (Bard Schedule)

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

Motor Grader – Grading, finishing earthwork

Service Truck – Used in support of Bard Crew on-site

Project Manager Truck – project management at site

Materials and Supplies:

Safety: Barriers/Temporary Fencing, Level D Personal Vests, glasses, hard hats, gloves; Drinking Water; Shade

Contractual:

None

Other:

Environmental Regulatory Compliance Costs:

All work will comply with Federal environmental and cultural resource laws and other required regulations. However, since no earth disturbing activities will occur outside the existing lateral/pipeline. All work will take place within the lateral itself which was constructed above grade on **elevated “borrow” material**, we anticipate that only a Categorical Exclusion will be required at no costs. See responses to Environmental Compliance Questions in Section 3, page 16 for additional information.

3. Environmental and Cultural Resources Compliance

3.1 Impact to Surrounding Environment

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

3.2 Threatened or Endangered Species, or Designated Critical Habitat

This area is greatly disturbed and in constant agricultural use. There are no threatened or endangered species present or critical habitat.

3.3 Wetlands or Other Surface Waters (CWA) – Waters of the United States

There are no wetlands within the project boundary.

3.4 Water Deliver System Date of Construction

The existing Sioux black plastic corrugated pipeline was installed in the 1990s.

3.5 Modifications or Effects to Individual Features of a Delivery System (i.e., head gates, canals, or flumes)

The existing delivery system (corrugated pipeline will be replaced.

3.6 Features in the Bard Water District Listed or Eligible for Listed on the National Register of Historic Places

These include The All- American Canal, USBR Dams, Head Gates, and Retention Areas, Old Southern Pacific Rail Line and Bridges, Fort Yuma, Potholes, Petroglyphs. None will be impacted by this project.

3.7 Archaeological Sites in Proposed Project Area

There are no archaeological sites in the project area.

3.8 Disproportionately High or Adverse Effects on Low Income or Minority Populations

No disproportionally high or adverse effects on low income or minority populations.

3.9 Limit Access to and Ceremonial Use of Indian Sacred Sites or Impact on Tribal Lands

Not limit access to and 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

This project will reduce 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. Official Resolution

Approved by Board, no third party financial support. Resolution will be provided within 30 days from submission.

Appendix

Old Castle Infrastructure Quote

BWD Summary

Description, Background and History



Contract & Proposal

Quote No.: S250597-1

10441 VINE ST
 LAKESIDE, CA 92040 2415

Telephone 619-240-8000
 Fax -

oldcastleinfrastructure.com

Quote To : Bard Water District
 1473 ROSS RD
 WINTERHAVEN, CA 92283 9715

Ship To : Winterhaven - Bard Water District
 Winterhaven Ca. - Address to be confirmed
 Winterhaven CA 92283

| Reference : | | Contact: | | Phone: | | |
|-------------|-----------|-------------|-------------|---------------|----------------|------------------|
| Order No | Date | Customer No | Terms | Cash discount | Delivery terms | Quote valid for: |
| S250597 | 2/23/2021 | 008967 | Net 30 Days | | FOB Job Site | 30 days |

Group: A

| Qty | Unit | Item | Description | Mark | Unit price | Amount |
|----------|------|----------|--|------|------------|-----------|
| 1,352.00 | FT | 12036308 | RCP 36"X96" 3000 D-LOAD | | 66.00 | 89,232.00 |
| 169.00 | Ea | 12036360 | 36" ISO PRE-LUBED GASKET, TSS135, 900mm, 20/bx, 300/pal | | | |

Group: B

| Qty | Unit | Item | Description | Mark | Unit price | Amount |
|-------|------|---------|---------------------------|------|------------|-----------|
| 19.00 | \$ | 9400010 | FOB Jobsite (non taxable) | | 1,168.00 | 22,192.00 |

Group: C

| Qty | Unit | Item | Description | Mark | Unit price | Amount |
|------|------|---------|---|------|------------|--------|
| 1.00 | Ea | 0000001 | Quote based on Qty requested without the benefit of plans or specs and is not to be considered as a guaranteed Bill of Materials RCP material quoted in 8' lengths, short joints and beveled pipe have an additional cost. Unit pricing will prevail on all actual quantities of materials supplied. PLEASE NOTE: 12" thru 36" RCP will have a raised bell. OFF-LOADING BY OTHERS. Please note, canceled deliveries after 12.00 PM the day prior to delivery date will be | | | |



Contract & Proposal

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| S250597 | 2/23/2021 | 008967 | Net 30 Days | | FOB Job Site | 30 days |

charged full delivery. Please Note,
 1 hr is allotted for off loading, after
 1 hr. standby will be charged at
 \$195.00 per Hr.

| Tax Code | Taxable amount | Tax Rate | |
|------------|----------------|----------|----------|
| CA | 89,232.00 | 6.25 | 5,577.00 |
| CA-Imperia | 89,232.00 | 0.50 | 446.16 |
| CA-Local | 89,232.00 | 1.00 | 892.32 |

Should this be a prevailing wage project, Oldcastle must be notified immediately as additional costs may be applied to the quotation.

All products and services listed on this Quotation are provided under the Standard Terms and Conditions located at:
<https://oldcastleinfrastructure.com/customer-support/terms-conditions/material-sales/>

QUOTATION TOTAL US 118,339.48

IMPORTANT: This proposal is based on standard terms and conditions. Items and quantities shown are the basis for the quotation, and we are not responsible for any discrepancies between this list and actual items or quantities.

 (Accepted by) Sales Person: Curtis Mumford Telephone: 619-456-0228

 (Position) (Date) By _____

Description, Background and History of the Bard Water District

The Yuma Project, initiated in 1909, is a Federal Reclamation Project and lies within the historical boundaries of the Fort Yuma Indian Reservation in Southeastern California (Imperial County) along the lower Colorado River near Yuma, Arizona. The Bard Water District and Lands located in the Yuma Project includes the Valley Division in Arizona and the Reservation Division in California. The Reservation Division consists of approximately 14,700 irrigable acres of which 7,100 acres are in the Bard Unit (Bard Water District, mostly on the Eastern portion) and 7,600 acres in the Indian Unit (mostly on the Western portion).

On December 1, 1978, the Bard Irrigation District was renamed the Bard Water District. In March 1981, the Bard Water District entered a contract with the U.S. Bureau of Reclamation (USBR) for the operation and maintenance of the Bard Unit, In January 1983, BWD entered an additional contract to operate and maintain the Indian Unit facilities. The Indian Unit Water Users pay the Bureau of Indian Affairs (BIA) their O & M costs, then these funds pass through to the USBR and eventually BWD is compensated. *The overall condition of the delivery and drainage systems is relatively poor due to aging infrastructure , flood damage, maintenance challenges and other causes*, USBR TM 86-68210-2016-07, Evaluation of O & M Costs Allocation, July 2016.

The Fort Yuma Indian Reservation of California was established for the Quechan Indian Tribe by an Executive Order of January 9, 1884. These Indian lands are held in trust by the BIA for the individual Indian allottees in about 10-acre allotments. This acreage is pooled and leased to approximately 10 major farm operators in the area. The leases are administered by the Bureau of Indian Affairs. The Bard Unit contains patented lands held in private ownership. There are about 190 individual water user accounts in the Bard Water District and 10 in the Indian Unit.

Work began on the distribution system of the Reservation Division in 1909 and the patented land was opened to settlers in 1910. With the construction of the Laguna Dam from 1905-1909, approximately 38,000-acre feet per year were provided to the non-Indian sections. The Bard Irrigation District was organized in 1927 to represent landowners in the Bard District. Water for the project was diverted from the Laguna Dam.

Description, Background and History of the Bard Water District

Later after the construction of the Imperial Diversion Dam (1938), 5 miles upriver and the completion of the All-American Canal (1941), irrigation for the Reservation Division was diverted from 5 turnouts along the All-American Canal. This included the Siphon Drop Power Plant for additional turnouts off the Yuma Main Canal for the Valley Division located in Arizona.




The Bard water users originally contracted (beginning in 1909) with the Bureau of Reclamation under Present Perfected Rights to provide water under this pre-existing agreement. Bard's consumption is based upon these farm units. The Yuma Project Reservation District (YRPD) can divert all the water needed for crops; not to exceed 25,000 acres per year. The Bard Water District is just below the Laguna Dam, the first dam built on the Colorado River to divert water for the Yuma Project.

The Bard Unit is part of the Yuma Project Reservation Division and has 2nd Priority Water under the California Seven Party Agreement. Return water flows back into the Colorado River and continues to Mexico as specified by the International Agreement. The most important crops grown in the Bard Water District are produce, Medjool dates, citrus, cotton, alfalfa hay, and wheat. Crops can be grown year-round in this warm dry climate with little need for frost protection.

Currently, the Bard Water District operates and maintains 67 miles (353,760 Linear Feet) of irrigation ditches and canals; only 30% are lined with concrete or concrete piping. YRPD diverts approximately 90,000 acre feet per year to irrigate approximately 15,000 acres. Efforts to conserve water are challenging in Bard's antiquated system, but Bard works closely with its Water Users, USBR and other agencies to be pro-active in addressing these issues.

Description, Background and History of the Bard Water District

Source of Water Supply:


Colorado River  All American Canal  Canals  Laterals

Total Quantity of Water Supplied: Bard Unit: 50,000 acre ft/yr Indian Unit: 49,000 acre ft/yr

Current Users and Number Served: 217 Water Users (Farmers and Producers)

Current Water Demand: 17 cfs **Projected Water Demand:** 17 cfs

Estimated Water Loss Reduction if New pipeline installed: 120 – 200 acre feet/year

Major Crops: Wheat, Sudan Grass, Produce and Cotton (Listed by water demand: High  Low)

Total Acres Served: Approximately 15,000

Potential Shortfalls in Water Supply: If drought continues, quantities could be reduced. Increased demand from new users. Water conservation measures are critical. Farmers here have already been encouraged to implement seasonal fallowing, use drip irrigation methods, eliminate crops that require large quantities of water (i.e., wheat or Sudan grass – Estimated total of 16-acre feet (48 hours @ 4-6 intervals),

Bard Water District Water Delivery or Distribution System: Agricultural Use only.

Type and Approximate Total Lengths of Canals, Laterals and Pipes: 67 Miles 353,760 LF

Concrete Lined/Pipe: 26 Miles 137,280 LF (39%) **Unlined:** 41 Miles or 216,480 LF (61%)

Type and Approximate Total Lengths of Canals: 13 Miles 68,640 LF

Concrete Lined: 8 Miles 42,240 LF **Unlined:** 5 Miles 26,400 LF

Type and Approximate Total Lengths of Laterals: 50 Miles 264,000 LF

Concrete Lined: 12 Miles 63,360 LF **Unlined:** 36 Miles 190,080 LF

Fragmented/Deteriorated Concrete Lined Lateral: 1 Mile 5,280 LF

Type and Approximate Total Lengths of Pipes: 3 Miles 15,840 LF

Number of Irrigation Turnouts: 450

Significant Irrigation Improvements: Automated Controls Structures: 2 SCADA: 0

Remote Monitoring Devices: 7

Other: 3 Ram type Cipolletti weirs, 2 Long-throated flumes.