STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 201700000931
Date: 04/24/17
Description:
PDAA 2500 WSRF HUERFANO_PURG RIV AG REPAIR_ARK
Effective Date: 10/01/16 Expiration Date: 06/01/18

BUYER
Buyer:
Email:

VENDOR
HUERFANO COUNTY WATER
PO BOX 442
LA VETA, CO 81055-0442

Contact: .
Phone: .

**** IMPORTANT ****
The order number and line number must appear on all invoices, packing slips, cartons and correspondence

BILL TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIP TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIPPING INSTRUCTIONS
Delivery/Install Date:
F.O.B: FOB Dest, Freight Allowed
VENDOR INSTRUCTIONS:

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	$30,000.00	☐
Description: PDAA 2500 WSRF HUERFANO_PURG RIV AG REPAIR_ARK						
Service From: 10/01/16 Service To: 06/01/18						

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
2	G1000		0	0.00	$60,000.00	☐
Description: PDAA 2500 WSRF HUERFANO_PURG RIV AG REPAIR_ARK						
Service From: 10/01/16 Service To: 06/01/18						

TERMS AND CONDITIONS
https://www.colorado.gov/osc/purchase-order-terms-conditions

DOCUMENT TOTAL = $90,000.00

Exhibit A
Statement of Work

WATER ACTIVITY NAME – Ditch Infrastructure Repair Project

GRANT RECIPIENT – HUERFANO COUNTY WCD

FUNDING SOURCE - WSRA Basin and Statewide Grant Funds

INTRODUCTION AND BACKGROUND
Provide a brief description of the project. (Please limit to **no more than 200 words**; this will be used to inform reviewers and the public about your proposal)

This project encompasses several irrigation canal infrastructure repair projects located in the Huerfano County Conservancy District (HCWCD). They are all located in Las Animas County, one of the poorest counties in the State of Colorado. None of the small ditch companies represented by these projects have the funds available to complete the necessary repairs that will ensure compact compliance and prevent water losses that have gradually grown to a critical mass. HCWCD pays the Bureau of Reclamation annual fees based on amount of water diverted. An estimated 10% of water that could be diverted may be lost each year; an average of 5,000 acre-feet per year. The projects address crumbling infrastructure and stream bank erosion. Safety and flooding issues are addressed as well. Water conservation and increased efficiency will result, and approximately 1,000 linear feet of Purgatoire River bank erosion will be restored.

OBJECTIVES
Multiple objectives are met by completing these projects, including:

- Aging Infrastructure Replaced – as listed in the Basin Implementation Plan IPPs
- Conservation/Efficiency - water savings averaging 5,000 acre-feet in an average year
- River Restoration - 1,000 linear feet of Purgatoire River bank restored
- Watershed Health - flood mitigation and prevention
- Compact Compliance – accuracy of measurement, water loss prevention
- Safety – degraded infrastructure has created dangerous operational issues

TASKS
Provide a detailed description of each task using the following format

TASK 1 – PICKETWIRE DITCH HEADGATE

Description of Task

Debris from upstream is lodging against the headgate and in the opening. There is no safe way to clean out the debris. This project will resolve safety issues, improve maintenance access, reduce debris collection and erosion, and improve water control.

Method/Procedure

- Surface mount ladders will be installed leading down to the headgates.
- A trash rack will be installed to divert and reduce debris collection.

- A catwalk will be installed on the trash rack to improve safety and maintenance access.
- A concrete wall will be installed along the railroad rail to control erosion and limit debris accumulation.
- A concrete floor will be installed ahead of the gate structure to control erosion and stabilize the outlet works.
- New gate seals will be installed to improve water control.
- Fencing, access gates, handrails, catwalks, and signage will be constructed to improve safety and decrease public access.

Deliverable

The completed project will be documented with photographs and a written report.

TASK 2 – CHILILI DITCH

Description of Task

The Chilili Ditch is a small ditch, seven miles long, with a diversion right of 7.0 cfs. The ditch has degraded over the years, occasionally preventing the flow of water to reach its end destination. Obstacles include overgrowth of trees and willows, variation of ditch depth and width, leaky pipes and culverts. There is a reach approximately 700-feet long where the ditch lies in a very narrow location between a bluff and highway on one side and train tracks on the other. Runoff and flooding problems are exacerbated by very limited accessibility. This project will repair the ditch, and prevent flooding.

Method/Procedure

- A 450-foot length of piping will be replaced and extended another 300 feet.
- New debris screens will be installed on the culverts.

Deliverable

The completed project will be documented with photographs and a written report.

TASK 3 – BACA DITCH SIPHON

Description of Task

The Powell Arroyo Ditch Siphon delivers water to the headgates of three ditch companies. Previous erosion control measures have deteriorated and begun to fail. This project will provide erosion protection for the sluice/siphon in the form of rip rap and concrete.

Method/Procedure

- Existing rip rap will be re-installed and grouted with concrete.

Deliverable

The completed project will be documented with photographs and a written report.

TASKS 4/5 – ENLARGED SOUTHSIDE IRRIGATION DITCH REPAIRS

Description of Task

The Purgatoire River has eroded the bank beyond the wing wall of the diversion structure. The erosion is working its way back to the Southside Ditch and threatens loss of the Ditch embankment. In addition, the ditch takes a sharp turn to cross under railroad tracks, causing erosion and debris to accumulate on

the outside of the bend. This project will repair river bank erosion and erosion that threatens the railroad bank and culvert entrances.

Method/Procedure

- Sediment will be removed and used to backfill the eroded area.
- The eroded area will then be armored with rock riprap.
- A concrete floor, headwall and wing walls will be installed at four culverts that pass under railroad tracks.

Deliverable

The completed project will be documented with photographs and a written report.

TASK 6 – EL MORO HEADGATE

Description of Task

The headgate does not completely shut off the water. This project will correct the issue.

Method/Procedure

- Gate seals will be replaced.

Deliverable

The completed project will be documented with photographs and a written report.

TASKS 7/8 – NEW JOHN FLOOD DITCH

Description of Task

A metal flume crosses the Lietzendorfer Arroyo. Supports are in good condition, but the flume has rusted and is leaking. At the headgate, the diversion cannot be shut off completely. This project will repair the flume and headgate operator.

Method/Procedure

- Flume will be relined with metal.
- Concrete wall and railing will be rebuilt at headgate, so that the gate can be screwed down to successfully shut off the diversion.

Deliverable

The completed project will be documented with photographs and a written report.

REPORTING AND FINAL DELIVERABLE

Reporting

The Applicants shall provide the CWCB a final progress report. The progress report shall describe the completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address those issues.

Final Deliverable

At completion of the Project, the applicant shall provide the CWCB an opportunity for a site visit and, if appropriate, a meeting with interested agencies. The final report will include "before and after" photographs and a summary of the construction and project management activities.

BUDGET

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, $/unit of material for construction, etc.).

Anticipated budget tables for the Project are provided below. These tasks correspond to those identified above.

Purgatoire Ditch Infrastructure Repair Project	**Cash (or Loan)**	**In-kind**	**Total**
Huerfano County River Water Conservancy District	$100,000	-	$100,000
Picketwire Ditch Company	$4,640	-	$4,640
Enlarged Southside Irrigation Ditch Co.	$13,420	-	$13,420
Chilili Ditch Company	$7,870	-	$7,870
Baca Ditch Company	$2,350	-	$2,350
New John Flood Ditch Co.	$4,030	-	$4,030
El Moro - Hoehne Pipeline Assoc. Ditch	$190	-	$190
Sub-total matching funds	**$132,500**	**$0**	**$132,500**
Arkansas Basin Account	$30,000	-	$30,000
WSRA Statewide Account	$60,000	-	$60,000
Total*	**$222,500**	**$0**	**$222,500**
*Project budget detail below			

Purgatoire River Water Conservancy District - Ditch Infrastructure Repair Project
Engineer's Estimate of Probable Costs

TASK	USE OF FUNDS	UNITS	QUANTITY	UNIT COST	AMOUNT
1	**PICKETWIRE DITCH HEADGATE**				
	Water diversion and dewatering	LS	1.0	$ 1,500	$ 1,500.00
	Excavation and preparatory work	LS	1.0	$ 500	$ 500.00
	Railroad rail grid tie backs	EA	5.0	$ 150.00	$ 750.00
	Riprap/Grid infill grout	CY	8.0	$ 125.00	$ 1,000.00
	Concrete wall on north side upstream of gates	CY	6.2	$ 450.00	$ 2,790.00
	Ladder rungs	EA	8.0	$ 39.00	$ 312.00
	Inlet sill slab on grade	CY	7.4	$ 200.00	$ 1,480.00
	Catwalk and Trash Deflector framing	LB	1,266.2	$ 3.25	$ 4,115.15
	Catwalk deck	LB	306.0	$ 2.50	$ 765.00
	2-Rail handrails	LF	100.0	$ 66.30	$ 6,630.00
	3-Rail handrails	LF	20.0	$ 87.25	$ 1,745.00
	Timber lagging (4x12)	BF	240.0	$ 2.55	$ 612.00
	Miscellaneous-anchors, steel, fabrications, etc.	LS	1.0	$ 500.00	$ 500.00
	New gate seals	EA	2.0	$ 1,000.00	$ 2,000.00
	Surface mount metal ladder	EA	1.0	$ 300.00	$ 300.00
			SUB TOTAL		**$ 25,000.00**
2	**CHILILI DITCH**				
	Remove deteriorated culvert and prep trench	LF	450.0	$ 4.00	$ 1,800.00
	Haul off debris	CY	270.0	$ 7.00	$ 1,890.00
	Excavate and reshape existing ditch for new culvert	LF	300.0	$ 3.00	$ 900.00
	Furnish and install 24" diameter HDPE pipe	LF	750.0	$ 41.25	$ 30,937.50
	Furnish and deliver backfill material	CY	535.0	$ 6.00	$ 3,210.00
	Backfill and compact trench	CY	535.0	$ 6.25	$ 3,343.75
	Trash screen	EA	1.0	$ 300.00	$ 300.00
			SUB TOTAL		**$ 42,380.00**
3	**BACA DITCH SIPHON PROTECTION**				
	Preparatory work	LS	1.0	$ 1,000.00	$ 1,000.00
	Furnish and deliver rock riprap	T	167.0	$ 30.00	$ 5,010.00
	Place rock riprap	CY	93.0	$ 36.50	$ 3,394.50
	Furnish and pour concrete grout	CY	18.6	$ 175.00	$ 3,255.00
			SUB TOTAL		**$ 12,660.00**
4	**ENLARGED SOUTHSIDE IRRIGATION DITCH DIVERSION EROSION REPAIR & DEBRIS REMOVAL**				
	Improve road in and re-route River flows	LS	1.0	$ 3,000.00	$ 3,000.00
	Excavate sediment deposit	CY	267.0	$ 3.00	$ 801.00
	Place and compact excavated material	CY	267.0	$ 4.00	$ 1,068.00
	Furnish and deliver rock riprap	T	500.0	$ 30.00	$ 15,000.00
	Place rock riprap	CY	280.0	$ 36.50	$ 10,220.00
	Site restoration	LS	1.0	$ 1,000.00	$ 1,000.00
			SUB TOTAL		**$ 31,090.00**

TASK	USE OF FUNDS	UNITS	QUANTITY	UNIT COST	AMOUNT
5	**ENLARGED SOUTHSIDE IRRIGATION DITCH RAILROAD CROSSING**				
	Improve road to site	SY	2,400.0	$ 1.70	$ 4,080.00
	Excavate, clean and prep around culverts	LS	1.0	$ 5,600.00	$ 5,600.00
	Reinforced conc. retaining wall headwall & wing walls	CY	42.0	$ 650.00	$ 27,300.00
	Inlet sill slab on grade	CY	12.0	$ 275.00	$ 3,300.00
	Backfill and compaction	CY	76.0	$ 12.00	$ 912.00
			SUB TOTAL		**$ 41,190.00**
6	**EL MORO - HOEHNE PIPELINE ASSOC. HEADGATE**				
	Remove division plate	LS	1.0	$ 100.00	$ 100.00
	Remove and repair gate and reset	LS	1.0	$ 750.00	$ 750.00
	Replace and reset division plate	LS	1.0	$ 150.00	$ 150.00
			SUB TOTAL		**$ 1,000.00**
7	**NEW JOHN FLOOD DITCH HEADGATE**				
	Demolition	LS	1.0	$ 300.00	$ 300.00
	Excavation and prepare site	LS	1.0	$ 500.00	$ 500.00
	Reinforced concrete retaining wall headwall	CY	5.1	$ 450.00	$ 2,295.00
	Canal invert concrete slab on grade	CY	0.9	$ 275.00	$ 247.50
	Ground surface/operator concrete slab on grade	CY	1.8	$ 275.00	$ 495.00
	Ladder rungs	EA	6.0	$ 39.00	$ 234.00
	2-Rail handrails	LF	8.0	$ 66.30	$ 530.40
	Repair and remount operator	LS	1.0	$ 1,200.00	$ 1,200.00
			SUB TOTAL		**$ 5,800.00**
8	**NEW JOHN FLOOD DITCH LIETZENDORFER ARROYO FLUME**				
	Furnish, shape and weld in 3/16-inch steel plating	SF	2,160.0	$ 7.35	$ 15,880.00
			SUB TOTAL		**$ 15,880.00**
	SUB TOTAL OF ESTIMATED CONSTRUCTION COSTS				$ 175,000.00
	Other Costs				
	Contingency @ 10%				$ 17,500.00
	Engineering				$ 30,000.00
	TOTAL ESTIMATE FOR DITCH INFRASTRUCTURE REPAIR PROJECT				**$ 222,500.00**

SCHEDULE **

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

Task	Timeline	Start Date	Finish Date
1	Picketwire Ditch Headgate	NTP	June 01, 2018
2	Chilili Ditch	NTP	June 01, 2018
3	Baca Ditch Siphon Protection	NTP	June 01, 2018
4	Enlarged Southside Irrigation Ditch Diversion Erosion Repair and Debris Removal	NTP	June 01, 2018
5	Enlarged Southside Irrigation Ditch Railroad Crossing	NTP	June 01, 2018
6	El Moro Headgate	NTP	June 01, 2018
7	New John Flood Ditch Headgate	NTP	June 01, 2018
8	New John Flood Ditch Lietzendorfer Arroyo Flume	NTP	June 01, 2018

** Work will be performed after irrigation season has passed; Fall and Winter 2016/2017.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.