# WEST EXTENSION IRRIGATION DISTRICT UMATILLA PROJECT UMATILLA & MORROW COUNTY, OREGON

**DUNS NO. 082619339** 

WATERSMART SMALL-SCALE
WATER EFFICIENCY PROJECT
GRANT PROGRAM FY 2021
Funding Opportunity Announcement No. R21AS00300
March 17, 2021

## IRRIGATION WATER METER PROJECT BOARDMAN EAST PIPELINES



# Applicant/Project Manager Bev Bridgewater, District Manager WEST EXTENSION IRRIGATION DISTRICT 840 HIGHWAY 730, P. O. BOX 100, IRRIGON, OR 97844 541-922-3814 (Telephone) 541-922-9775 (Fax) bbridge@oregontrail.net

WEID

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#### **EXECUTIVE SUMMARY**

**Date:** March 17, 2021

Applicant: West Extension Irrigation District (WEID or District)

840 E. Hwy 730; P. O. Box 100

Irrigon, OR 97844

Morrow and Umatilla Counties, Oregon

Serving Cities of Umatilla, Irrigon and Boardman, Oregon

This is a Category A applicant.

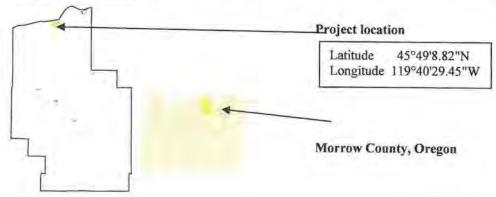
**Project Summary:** This project will install nine magnetic meters on six piped laterals that have been previously funded through WaterSmart Grants. This will allow the District to better manage its water. The project meets the goals of the District's Water Management and Conservation Plan.

Start & Completion Dates: Begin January 31, 2022. Completion July 31, 2023.

**Federal Project:** This project is part of a federally owned irrigation project – the West End of the Umatilla Project, authorized in 1905.

#### PROJECT LOCATION

The WEID is located in NE Oregon and covers portions of Umatilla and Morrow counties. Included in the service area are the cities of Umatilla, Irrigon and Boardman. The 9,235 acres extend from the confluence of the Umatilla and Columbia Rivers, westward for 27 miles, to form a long, narrow irrigated band lying south of the Columbia River. It is 160 miles east of Portland, Oregon and 220 miles west of Boise, Idaho.



#### BACKGROUND INFORMATION

The District is the West End of the Umatilla Basin Project, authorized by Reclamation in 1905. Water is diverted at Three Mile Falls Diversion Dam which is located about two miles upstream from the mouth of the Umatilla River. Water is then gravity-fed into the District's main feature – it's 27-mile long concrete-lined Main Canal. There are seventeen booster stations along the canal and over 120 deliveries off the main canal. Many deliveries are piped and gravity-fed. There are 11 open sub-laterals totaling 16 miles. Buried pipelines total 32 miles.

Diversion facilities also include a pump station on the Columbia River that provides supplemental water to the WEID. A second Columbia River pump station is federally owned and operated, by the Bureau of Reclamation and is part of the Umatilla Basin Exchange program. Both pump stations pump water directly into the WEID main canal.

The final nine miles of the 27-mile long main canal deliver water to the Boardman area. The Boardman area accounts for 4,548 acres (49% of District) and has 35% of the District landowners. 44% of the Boardman Project area was flood-irrigated in 2015, but that number is decreased to 30% with the recent piping projects. The District has piped six of its open Boardman sub-laterals and has WaterSmart funding for three more in the next two years.

Table 1. Conservation Projects Years 2015-2023 Boardman Canal / Sub-laterals

Service Area Description	Comments	Pipe Details (Feet)	Cost of Project	Estimated Savings	Year Completed
Boardman Project Phase IA	Pipe Sub-lateral 7 and meter deliveries	4860 ft 6" – 21"	\$191,167	435 AF	2016
Boardman Project Phase II	Pipe & pressurize Sub-lateral 11. convert 84.5 flood acres to sprinkler, meter deliveries.	3700 ft 6" – 12"	\$123,148	278 AF	2017
Boardman Project Lateral 9	Replace open sub-lateral Install VFD pump station Eliminate Lat 5 & add land to Sub-Lateral 7	4600 ft. 6"-12"	\$198,134	150 AF	2019
Boardman Project 12	Replace open sub-lateral Install VFD booster station.	4400 ft, 4" - 12"	\$162,974	225 AF	2021 (current)
Boardman Project East Phases III, IV & V	Complete piping of the Baardman East sub-lateral by eliminating Laterals 13 and 18 and piping laterals 15 and 17.	22,600 ft 6" – 21"	\$1,200,000	771 AF	2023 (current)

Once the District started piping the open sub-laterals in Boardman, two major issues became apparent.

- There was not a power grid in place for the new pump stations. The District had to work with the local power company to bring three-phase power to the remote sites.
- Many of the folks that were being piped did not have the resources for upgrading their own systems. Lots ranged from 2 acres to 80 acres.

The Board of Directors decided that the District would pressurize the laterals. This will save energy and provide additional water conservation. This decision is paying off. At first, landowners were not in support of the changes. Now, many are planning ahead and wondering when they will be next to be pressurized. They not only see the ease of having a pressurized system but see how the land is benefitting from consistent and modern irrigation practices.

The District has funding through 2023 and will keep looking forward. There are seven open laterals left and two large flood deliveries after the planned projects are completed. The remaining laterals serve flood irrigated properties and have the potential for more water savings.

Table 2. List of federal grants managed by WEID

Grant No	Dates	Type	Purpose	Federal \$\$\$
1425-08-FG-10- 04810	FY2001-2002	Fish & Wildlife Coordination Act	Canal Control, Monitoring & Measurement	\$85.000
1425-02-FC-10- 8960	FY 2003 - 2006	Multi Year	Canal Control, Measuring, conservation Planning	\$220,00
1425-08-FG-1L- 1378	FY 2008-2011	Water 2025	System Optimization Review	\$34,000
1425-08-FG-1L- 1355	FY2008-2011	WCFSP	GIS Conversion	\$12,915
R15AP00059	FY2015-2016	WCFSP	Pipe & Pressu4rize Sub- lateral 7	\$25,000
R16AP00068	FY2016-2017	WCFSP	Pipe & Pressurize Sub- lateral 11	\$25,000
R17AP00202	FY2018-2019	WaterSMART SWEP	Pipe Rippee Rd East & West - Add Lat 5 folks to Lateral 7, Pipe & Pressurize Lat 9	\$65,000
R19AP00183	FY2020-2023	WaterSmart	Add 13 to Lat. 12, Pipe and Pressurize Sub-lateral 15 and 17, eliminate 18	\$514,700
R19AP00253	FY2020-2021	WaterSmart SWEP	Piping & Pressurize Sub- Lateral 12	\$63,000

WEID is a partner with Reclamation, the local fish agencies, the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and Bonneville Power Administration (BPA) for Phase I of the 1988 Umatilla Basin Act, an exchange program to benefit the fisheries.

FY 2008-2016: The District and Reclamation worked with the City of Hermiston to allow for reclaimed or reuse water to enter the irrigation canal. EPA, Oregon Department of Environmental Quality, Oregon Water Resources Department and the fisheries agencies all had oversight.

#### PROJECT DESCRIPTION

The meters will be placed at the head of six laterals that are piped and pressurized and comprise the Boardman East Piping and Pressurization Project. This project will combine nine open ditches into six pressurized systems. This has been accomplished through two Field Conservation Services Grants and three WaterSmart Grants, with dates from 2015 to completion in 2023. The total project will pressurize 1343 acres and is 61% complete. The remaining 39% will be completed by June 30, 2023,

This project will provide "master" meters on each of the pressurized irrigation systems and will allow the District to see at a glance how much water is being delivered down each lateral. This is a critical component to water management and water balancing for the District. The meters will each have the ability to provide electronic communication to the District.

Magnetic meters will be purchased through a competitive bid process. They will be installed by District crews using District equipment. Calibration of the meters will be done by a contractor, if necessary. Meters needed and a breakdown of acres served are:

Rippee Pump Station – one 21-inch meter	302 acres served
Hamilton Pump Station - one 12-inch meter/two 6-inch meters	232 acres served
McGraw Pump Station - one 12-inch meter/one 6-inch meter	158 acres served
Miller Pump Station – one 12-inch meter	125 acres served
Horseshoe Pump Station - one 18-inch meter	236 acres served
Paul Smith Pump Station – one 21-inch meter	290 acres served

#### Boardman East Area Map



#### **ACTUAL PUMP/METER LOCATIONS:**

Rippee Pump Station	Latitude 45°49'21.98"N	Longitude 119°39'15.11"W
Hamilton Pump Station	Latitude 45°49'18.24"N	Longitude 119°39'43.64"W
McGraw Pump Station	Latitude 45°49'17.61"N	Longitude 119°40'11.39"W
Miller Pump Station	Latitude 45°49'9.20"N	Longitude 119°40'29.56"W
Horseshoe Pump Station	Latitude 45°49'3.78"N	Longitude 119°41'22.63"W
Paul Smith Pump Station	Latitude 45°48'46.43"N	Longitude 119°43'17.31"W

#### EVALUATION CRITERIA

#### E.1.2. Evaluation Criterion A—Project Benefits (35 points)

Up to 35 points may be awarded based upon evaluation of the benefits that are expected to result from implementing the proposed project. This criterion considers a variety of project benefits, including the significance of the anticipated water management benefits and the public benefits of the project. This criterion prioritizes projects that modernize existing infrastructure in order to address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflict in the region.

Describe the expected benefits and outcomes of implementing the proposed project.

The expected outcome is measuring the water delivered at each lateral. The outcome is better water management.

What are the benefits to the applicant's water supply delivery system?

#### Drought Resiliency Benefit

Northeast Oregon has experienced moderate to severe drought conditions on a yearly basis since the District was formed in 1919. Continue implementation of the District's Water Management and Conservation plan, such as this application. is important for reducing its' drought risk. This grant is part of improving the reliability and consistency of the water supply. By reducing drought risk, the District will decrease the possibility of crop loss due to drought. In addition, this important conservation project will help preserve the limited water supply for irrigation, wildlife, and the environment.

#### Other Project Benefits:

- Improve water supply consistency: Knowing what is being delivered is a critical part of managing the water supply and delivery.
- Managing the water to assure it is available to an economically disadvantaged area: The Boardman area is a small agricultural area. The latest figures identified a Hispanic or Latino population in Boardman of 66%. Working with NCRS and increasing communication to our entire district makes our staff aware of the inadequacies of our past relationship to our entire population. Finding a common ground of improving water delivery by measuring and managing the water is working well for all.
- The growth of the Port of Morrow (including Tillamook Cheese Plant, data processing centers, and the ag processing industry) and the expansion of the Three Mile Dairy Farm

facility just west of Boardman are attracting many ag workers. There are year-round jobs now and this has added to the necessity of Boardman to develop and address its housing needs. Some of the smaller farms are dividing into two-acre lots and more is expected. District policies already require developers to provide community irrigation systems. The newer and younger landowners in the Boardman area expect a more modern system and the District's upgrades help supply that for them.

If other benefits are expected explain those as well. Consider the following:

- Extent to which the proposed project improves overall water supply reliability.

  Though each landowner is individually metered, the master meter provided critical information to the District dtichrider and watermaster on a daily basis. Issues with the system, such as leaks, unscheduled use or over use, will be immediately realized and addressed.
  - The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin)

The project will benefit the local farmers. It is part of the overall Boardman Master Plan and Water Conservation Plan which will provide cumulative impact and increase the flows for fisheries in the Umatilla River.

• Extent to which the proposed project will increase collaboration and information sharing among water managers in the region.

This is not an anticipated result of this project.

• Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism).

As part of the system that is enabling local farmers to move from flood to sprinkler irrigation, the project will allow them to increase the value of their farms. This will have a monetary benefit to the local farmer, especially small farms which are located in this area, and the local ag economy.

• Extent to which the project will complement work done in coordination with NRCS in the area (e.g., with a direct connection to the district's water supply).

District landowners are working with NRCS who is providing technical service and funding to them in conjunction with the piping projects. This is especially important to the smaller landowners (under 10 acres) who are moving from flood to sprinkler irrigation methods. NRCS has also provided funds for Russian Olive tree removal.

Describe any on-farm efficiency work that is currently being completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other program. As mentioned above, NRCS is working with the landowners to increase their on-farm efficiencies by providing technical assistance, funding and assistance in the farming practices.

#### E.1.2. Evaluation Criterion B—Planning Efforts Supporting the Project (35 points)

Up to 35 points may be awarded based on the extent to which the proposed on-the-ground project is supported by an applicant's existing water management plan, water conservation plan, System Optimization Review (SOR), or identified as part of another planning effort led by the applicant. This criterion prioritizes projects that are identified through local planning efforts and meet local needs.

Describe how your project is supported by an existing planning effort.

- Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?
- Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.

The WEID developed its Boardman Master Plan (BMP) in 2004 and updated it in 2016. The purpose of the BMP is to plan for growth in the Boardman area, to prioritize District activities, to obtain conservation funding and to provide information to irrigators and developers with a blueprint for irrigation upgrades. Specific recommendations were made for each sub-lateral service area. The recommendations are based on zoning classifications, irrigation demand calculations, modeling, engineering judgment, and discussions with landowners.

The WEID adopted its Water Management and Conservation Plan (WMCP) in December 2011, which includes its System Optimization Review. It not only meets the requirements of the State of Oregon and Bureau of Reclamation for such a document, but is an excellent resource for the District for current and future management activities. The WMCP quantified the water savings that could be gained from various piping projects and prioritized the projects. The nine sub-laterals that we have and are piping (or eliminated laterals when landowners were added to adjacent lateral project) were identified as medium to high priority projects.

As the District is modernizing its system, the need for instant communication becomes important. These meters will provide not only instantaneous readings and monitoring for the ditchrider, but will have the capability to report to the office. This will make Boardman East "SCADA" ready for the District to upgrade its technology.

#### E.1.3. Evaluation Criterion C—Project Implementation (10 points)

Up to 10 points may be awarded based upon the extent to which the applicant is capable of proceeding with the proposed project upon entering into a financial assistance agreement. Applicants that describe a detailed plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.

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.

#### **Project Schedule**

Task	January 2022	Feb – March 2022	January 2023	Feb-March 2023	April – June 2023
Prepare bid documents and go to bid for meters	xxxx		xxxx		
Purchase meters		XXXX		XXXX	
Install meters		XXXX		XXXX	
Calibrate meters		XXXX		XXXX	

Complete project	XXXX
and prepare reports	

Describe any permits that will be required, along with the process for obtaining such permits:

> Project Permits: No permits will be required.

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

Engineering Design: No engineering is needed for this work.

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

> Policies / Administrative Action: All policies and procedures are in place for this project.

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?

Environmental Compliance: Installation of the meters is a part of a larger project for which the environmental compliance is complete..

#### E.1.4. Evaluation Criterion D— Nexus to Reclamation (10 points)

Up to 10 points may be awarded based on the extent that the proposal demonstrates a nexus between the proposed project and a Reclamation project or activity. Describe the nexus between the proposed project and a Reclamation project or activity, including:

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

The West Extension Irrigation District is part of the federal Umatilla Basin Project, authorized in 1905. The facilities are federally-owned and the District manages the project under a 1926 O&M contract. The District has several water rights, including one owned by the Bureau of Reclamation. There is one other federally-owned irrigation district in the Basin and two irrigation districts that receive stored water under federal contract. The WEID is also part of the Umatilla Basin Act of 1988 which authorized irrigation water exchange so that water is left in the Umatilla River for the benefit of fisheries. WEID operates under Phase I of that project.

Will the project benefit any tribe(s)?

Yes, the master meter project is part of a larger project WEID (Boardman East Piping and Pressurization) that results in water conservation. Saved water is left in the Umatilla River and Columbia River and will benefit the Confederated Tribes of the Umatilla Indian Reservation.

#### PROJECT BUDGET

The non-federal share of the project costs will be from the District's annual budget. The funds will be available January 1, 2022.

Budget Table 1 - Summary of Non-Federal & Federal Funding Sources

FUNDING SOURCE	FUNDING AMOUNT
Non-Federal Entities:	
West Extension Irrigation District	
WEID In - Kind	12,500
Budget, Line Item	20,000
Non-Federal Subtotal	32,500
Reclamation Funding	32,500
TOTAL PROJECT FUNDING	65,000

Budget Table 2. Funding Breakdown

Description	Percentage	Total	
District Funds			
In-Kind	16.0%	\$ 10,690	
Budgeted	37,0%	\$ 25,500	
Reclamation Funds	47.0%	\$ 32,500	
TOTAL PROJECT	100%	\$ 68,690	

### DETAILED PROJECT BUDGET - METER PROJECT, BOARDMAN

<b>Budget Item Description</b>	Quantity	Price/Unit	Cost
Salary/Wages			
Manager	20 hrs	\$36.00/hr	\$ 720
Op Mgr/Supervisor	52 hrs	\$25.00/hr	\$ 1,300
District Crew	200 hrs	\$22.00/hr	\$ 4,400
Sub-total Labor			\$ 6,420
Fringe - Mgr		50.00%	\$ 360
Fringe - Supervisor		52.00%	\$ 676
Fringe - District Crew		53.00%	\$ 2,332
Sub-total Fringe			\$ 3,368
Mileage-Travel	0.00		0.00
Equipment			
Trackhoe/Loader	40 hrs	\$22.55	\$ 902
Sub-total equipment			\$ 902
Supplies/Materials			

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Meters	\$ 53,000
Misc. Materials	\$ 2,000
Sub-total materials	\$ 55,000
Contractors	
Calibrate meters	\$ 3,000
Sub-Total Contractors	\$ 3,000
TOTAL DIRECT & PROJECT COSTS	68,690

#### BUDGET NARRATIVE:

Salaries and Wages – The labor rates in the budget proposal are the anticipated labor rates of the identified personnel for 2022-2023 based on Union contract and COL.

Bev Bridgewater, District Manager – Annual salary \$75,000. Rate of \$36.00 per hour. 20 hours for bidding, purchasing, general oversight of project and preparing reports.

Ben de los Santos, Field Supervisor - Rate of \$25.00 per hour. 52 hours for organizing materials, project planning, and supervising all phases of project.

Crew -2 men Hourly rate of \$22.00 per hour. Will operate equipment, install meters and build meter boxes. 2 men in field -160 hours. One man in shop -40 hours. Total of 200 hours.

Fringe Benefits: The District has paid leave, health insurance, PERS, and the standard state and federal payroll tax benefits. An estimated rate based on previous grants and known PERS increases is used in the budget.

**Equipment:** All equipment is owned by the District. We used the Army Corps Region 8 Ownership and Operating Costs manual for calculating costs for this project.

Materials and Supplies: Meters will be purchased as well as materials to construct meter boxes. All materials are billed at cost.

Travel - No travel will be billed for this job.

Contractors: A contractor may be needed to calibrate the meters.

Environmental & Regulatory Compliance Costs: No work is needed.

Indirect Costs: No indirect costs have been included.

Other Costs: None.

Contingency Costs: The District budget will cover any contingencies.

#### ENVIRONMENTAL AND CULTURAL RESOURCE COMPLIANCE

The District has consulted on the individual Boardman East projects. The installation of the meters is in compliance with previous consulattions.

Enviro 1: Will the project impact the surrounding environment? No.

Enviro 2: Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? There are none, based on previous environmental and cultural resource reviews.

Enviro 3: Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "waters of the United States?" No.

Enviro 4: When was the water delivery system constructed? 1916

Enviro 5: Will the project result in any modifications of or effects to, individual features of an irrigation system? If so, state when these features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously. There is no modification.

Enviro 6: Are any buildings, structures or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? Yes.

Enviro 7: Are there any known archeological sites in the proposed project area? No.

Enviro 8: Will the project have a disproportionately high and adverse effect on low income or minority populations? No.

Enviro 9: Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands? No.

Enviro 10: Will the project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area? No.

**PERMITS:** No permits are needed for this work.

**READY TO PROCEED:** The District is registered with SAM; it has the available funds, equipment & manpower: enviro consultation is complete. It will be ready to proceed when the contract is signed.

#### RESOLUTION BOARD OF DIRECTORS

#### WEST EXTENSION IRRIGATION DISTRICT RESOLUTION NO. 21-007 WATERSMART: SMALE SCALE WATER EFFICIENCY FUNDING OPPORTUNITY NO. R21AS0030

#### BOARDMAN EAST LATERAL WATER MEASUREMENT

WHEREAS, the Board of Directors (BOD) of the West Extension Irrigation District (WEID) has an approved Water Management and Conservation Plan (WCMP), and

WHEREAS, the Board of Directors (BOD) has implemented the WCMP and made improvements to its Boardman delivery system, and

WHEREAS, the BOD has decided that it is in the best interest of the WEID, now

THEREFORE BE IT RESOLVED that the BOD of the WEID authorizes an application to the Bureau of Reclamation WaterSMART program for the amount up to \$15,000 for District water measurement on Boardman East piped laterals. The application will be prepared by the WEID Manager and the Manager is authorized to sign the application on behalf of the WEID. The Board commits the match of up to \$15,000 in funding or inkind specified in the funding plan. The WEID will work with Reclamation to meet established deadlines for entering into a cooperative agreement and authorizes its Manager to sign such agreements on behalf of the WEID.

ADOPTED BY THE BOARD OF DIRECTORS OF THE WEST EXTENSION IRRGATION DISTRICT THIS 16th DAY OF MARCH, 2021.

Dalarie Philippi, Chairman

Vem Frederickson, Vice Chairman

Robert Mueller, Director

Whitney Coffman, Director

Abe McNamee, Director