

WaterSMART

Small-Scale Water Efficiency Projects for FY2024

Funding Opportunity No. **R24AS00059**

Jackson Valley Irrigation District Propeller Meter Upgrades

Ione, CA



Jackson Valley Irrigation District

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Technical Proposal and Evaluation Criteria

Executive Summary

Date: Application due date: July 9, 2024

Applicant: Jackson Valley Irrigation District (JVID), Amador County, California

Project Title: Propeller Meter Upgrades

Project Summary:

JVID has measured surface water deliveries with mechanical propeller meters for billing and allotment purposes since the 2014 drought. Prior to the drought JVID used a flat rate billing system based on crop type and expected water demand. Meters were only used for management purposes such as main line distribution meters and not individual customers meters. The district now plans to upgrade surface water measurement for end-users to electromagnetic meters with the assistance of this project proposal.

JVID will make use of district and Bureau funds to upgrade 65 meters on surface water diversions in the district in the next two years. This represents the largest water users in the district and will capture accurate water measurement for the greatest amount of water used in JVID. JVID will contract with a meter manufacturer for the purchase and configuration of electromagnetic meters that will satisfy state and GSA reporting regulations as well as the district's water measurement and data needs. JVID staff is skilled in the installation and configuration of pipelines and will perform the installation of these new meters with the assistance of installation contractors.

Approximate Length: Two Years

Completion Date: May 15, 2027

Background Data

Jackson Valley Irrigation District (JVID):

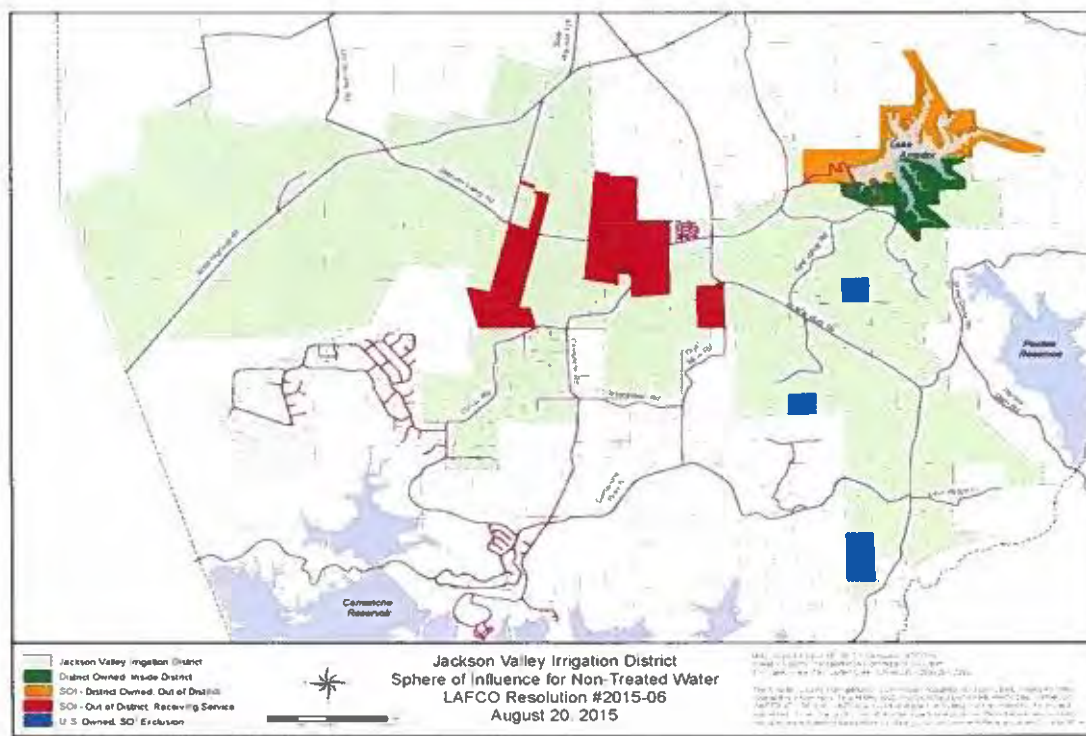
Jackson Valley Irrigation District (JVID) was formed in October of 1956 as an independent special district to provide irrigation services to the Jackson Valley near Ione, CA. Special districts in California are created and funded by a community's residents to provide new or enhanced local services and infrastructure. Jackson Valley Irrigation District was formed in October 1956 under Division 11 of the California Water Code. The Jackson Creek Dam was financed by a Bureau of Reclamation loan in 1964 and completed in 1965 to form Lake Amador. JVID includes roughly 12,500 Acres of Land within its boundaries. Crops commonly planted in the JVID include alfalfa, corn, fruit trees, grapes, pasture, walnuts, and miscellaneous outside residential use. The district is governed by a five-member board of directors. JVID provides distribution of raw water to irrigation and industrial users, distribution of treated water and bottled water to domestic users, and hydroelectric power generation. JVID has an agreement with a private concessionaire to operate the Lake Amador recreation facilities.

On 16 September 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably pursuant to one or more Groundwater Sustainability Plans (GSPs). The Cosumnes Subbasin, California Department of Water Resources (DWR) Basin No. 5-022.16, is located at the northern end of the San Joaquin Valley (within Sacramento and Amador Counties) and is classified by CA DWR as a medium priority basin. JVID is located within the Amador County Groundwater Management Agency and participates in the water management activities of the 7 members GSAs under the Cosumnes Groundwater Sustainability Plan (GSP) which has been approved by the CA DWR on 10/26/23. Measurement practices proposed under this proposal are consistent with the Cosumnes GSP in the Cosumnes Subbasin.

Project Location

Jackson Valley Irrigation District is located in Ione, CA in Amador County. The Jackson Creek watershed is approximately 56 square miles and JVID includes roughly 12,500 acres of land within its boundaries. Specific meter locations can be found in **Attachment 2** of this document.

Area Map - Jackson Valley Irrigation District



Technical Project Description and Milestones

Jackson Valley Irrigation District (JVID) intends to improve surface water measurement within the district by upgrading to electromagnetic meters for with assistance from the WaterSMART

Small-Scale Water Efficiency Grant.

Meter Upgrades: The district proposes to implement the process to upgrade each mechanical propeller meter with electromagnetic meters with no moving parts. Converting all 4"- 12" irrigation services to electromagnetic meters will improve the accuracy and water use reporting for the largest water diversions of the district. The proposed project will upgrade old mechanical meters to an electromagnetic meter featuring datalogging capabilities. The new meters will have remote displays outside the meter pits for easier reading by district staff and will also be telemetry-ready to allow the district to upgrade to SCADA in the future. The new meters will also reduce the amount of staff time required for meter service and repairs. Meter down-time will be reduced improving water use records at JVID. The district is proposing to upgrade 65 mechanical propeller meters with electromagnetic meters in the next two years. The meters planned to be installed will be the McMag3000 electromagnetic meter. McMag3000 is a saddle-style electromagnetic meter. The McMag3000 will easily substitute for the mechanical propeller meters that are currently installed. The McMag3000 also features a remote-mount converter which will be beneficial for meters that are installed below-grade. These meters will provide operational advantages to the district as well as improving data collected for water management in the district. Upon the successful award of this proposal, meters will be ordered in fall of 2025/26 and 2026/27 for installation during the off-season of each respective year.



Evaluation Criteria

Evaluation Criterion (A)- Project Benefits: *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.*

Benefits to the Category A Applicant's Water Delivery System: *Describe the expected benefits to the Category A applicant's water delivery system. Address the following: Clearly explain the anticipated water management benefits to the Category A applicant's water supply delivery system and water customers.*

- *Will the project result in more efficient management of the water supply?*

Yes. Extreme and exceptional drought conditions since 2013 have brought about the need for water rationing in JVID. Meters have been installed as directed by the JVID Board in 2014. District approved meters must be installed prior to a shareholder taking water under drought conditions. Mechanical propeller meters were installed and the district has had issues with meter performance. District staff have been required to perform maintenance on meters during the growing season and in the off-season. The new meters will also have remote-mount converters which will improve the installation as many of the propeller meters are currently installed below grade. This type of installation will allow for easier reading of the meters by district staff making their work more efficient.

JVID currently utilizes over 65 propeller-style meters. The existing meters show wear and require off-season maintenance to remain in service. As the meters wear, their accuracy also reduces, causing losses due to poor meter reading and performance. The meters proposed to replace the existing meters have an accuracy of up to +/- 1% and will have **no moving parts**. The lack of moving parts is a great advantage from an operational and accuracy standpoint. Improved measurement will provide better water accounting accuracy. Better accuracy will foster more equitable distribution among patrons of the district. The more accurately water is measured, the less water is lost with faulty meter readings. Greater accuracy of water delivery to irrigators will improve efficiency for JVID field staff and water accounting procedures.

Improvements in technology will also be realized by implementing the new meters. Each of the meters installed will be equipped with internal dataloggers as a standard feature. These internal dataloggers will allow district staff to download time-stamped digital records of water pumped or delivered within specified time intervals. This is an improvement of water deliveries for internal purposes such as billing or pumping records for reporting purposes under state requirements. The new meters will also have the capability for telemetry compatibility for the district to make the upgrade to cellular telemetry or SCADA in the future.

- *Where any conserved water as a result of the project will go and how it will be used?*

Conserved water will remain in Lake Amador for future use in times of shortage for all water users. This will also benefit wildlife conservation since fish, waterfowl, and terrestrial wildlife that utilize the reservoir for habitat will be supported through improved storage in the lake.

Explain the significance of the anticipated water management benefits for the Category A applicant's water delivery system and customers. Consider:

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

No, drought conditions have necessitated metered allocations by the JVID Board of Directors to allocate water under drought conditions since 2014. This project is necessary to upgrade meters in JVID to accurately appropriate water in current and future drought conditions. Upgrading meters to electromagnetic meters with no moving parts will improve the performance of the meters installed in the field and the accuracy of the data received from the meters as well. In the past when meters failed, some users may have received more than their allotment which would have caused deliveries for the rest of the district to be short. More accurate readings will improve the distribution of water across the district and ensure that shareholders are receiving the amount of water to which they are entitled.

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

Yes. The metered allocation system that the JVID Board has implemented has safeguards in place to prevent shareholders from taking more water than their share. If members are caught stealing or over-using water during a Declared Water Shortage, a member's water valve can be locked and the user's water privileges revoked for the remainder of the growing season. Water shortages have been commonplace over the past ten years that California has experienced

drought. JVID plans to avoid situations such as this with the adoption of more accurate meters that will ensure accurate measurement of deliveries.

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

If the meter upgrades are not made, the district will continue to expend staff time to continually repair the mechanical propeller meters. The district staff have other tasks vital to the district including managing water deliveries and monthly meter readings. Reading all meters in the district requires up to two full days per month. To read meters district staff must physically drive to the meter, sometimes in remote locations or behind farm fences. Remote displays deployed on the new meters will make reading some of these hard-to-reach meters easier. In addition, the inaccurate measurement of water deliveries will continue preventing equitable distribution of water across the district. Also, when mechanical meters are broken, the district is forced to estimate water use which further reduces the accuracy and equitability of water distribution.

- *Are customer water restrictions currently required?*

Yes. The Water Shortage Declaration by the JVID Board requires the installation of meters prior to a water user taking water deliveries. The installation of accurate and reliable meters is important to the enforcement of water allocations enforced by JVID and water reporting requirements under the Cosumnes GSP.

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

Jackson Creek originates at the community of Pine Grove at an elevation of 2,500 feet. The Jackson Creek watershed only is about 56 square miles. Rainfall from October through May is the source of water for Jackson Creek and the JVID water supply. Because of the small, isolated nature of the watershed that supplies Lake Amador, this project is very important to the water supply in the basin.

This project supports the continuation of irrigated agriculture in the Jackson Creek and the State of California. The nation continues to depend on agricultural production in the State of California which is even more important now in times of supply chain issues. Lower agricultural production could lead to a scarcity in food resources for the State of California and the nation as a whole.

Broader Benefits: Describe the broader benefits that are expected to occur as a result of the project. Consider:

- *Will the proposed project increase collaboration and information sharing among water managers in the region? Please explain.*

Yes. This project will streamline the time expended by JVID staff by allowing them to spend their time on activities that are vital to the delivery of water to shareholders of the district rather than repairing meters. The new meters will allow for more expedient collection of water use data for individual members of the district and improve their administration of water allocations and deliveries in JVID.

- *Is the project in an area that is experiencing, or recently experienced, drought or water scarcity? Will the project help address drought conditions at the sub-basin or basin scale? Please explain.*

Yes. JVID has experienced significant drought over the past ten years which brought about the need for the installation of meters for accurate water deliveries within JVID. The new meters will

December 27, 2022



allow for accurate and dependable deliveries of water for individual members of the district and improve the administration of water allocations by JVID staff.

Even though recent rains in 2023 have alleviated the drought in much of California, the effects of the drought will be felt for years. The entire state was experiencing drought within the past year as seen in the figure to the left from the U.S. Drought Monitor. The area where JVID lies was in D3 or Extreme Drought at the end of 2022. This project will enable the improved management of water in the district now as well as when the next drought occurs.

- *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please explain.*

This project will benefit water users in the Jackson Valley, as well as any threatened or endangered species fish who frequent the basin. Water that we do not need for delivery to the project area can be used to enhance river or lake habitat for fish or terrestrial species including the following state and federally listed species. The following threatened or endangered species exist in Amador County, CA according to the Center for Biological Diversity's website

<https://www.biologicaldiversity.org/>:

Species by County	
Related records:	
California red-legged frog	2
California spotted owl	2
California tiger salamander (Central CA)	2
Conservancy fairy shrimp	2
Fleshy owl's clover	2
Foots yellow-legged frog (South Sierra DPS)	2
Giant garter snake	2
Ione red fish (Sierra Nevada)	2
Ione manzanita	2
Monarch butterfly	2
Sacramento Orcutt grass	2
Sierra Nevada red fox	2
Sierra Nevada yellow-legged frog	2
Isle of Alderberry longhorn beetle	2
Vernal pool fairy shrimp	2
Vernal pool tadpole shrimp	2
Whitebark pine	2

As of April 2015, species on the Federal Endangered Species list that may be present within the Basin are listed below, but not all species in list are reliant on groundwater or interconnected surface water (for example, vernal pool fairy shrimp).

- Bird of Conservation Concern: bald eagle, tricolored blackbird, and willow flycatcher
- Threatened: vernal pool fairy shrimp, Central Valley steelhead, California tiger salamander, California red-legged frog, and giant garter snake
- Endangered: vernal pool tadpole shrimp, Sacramento Orcutt grass

- Under review in the candidate or petition process: foothill yellow-legged frog and western spadefoot

As of April 2015, species on the California Endangered Species or Sensitive Species lists that may be present within the Basin include the following:

- Endangered: bald eagle, willow flycatcher, Sacramento Orcutt grass, fleshy owl's-clover
 - Special Concern: American white pelican, canvasback, redhead, tricolored blackbird, yellow breasted chat, yellow-headed blackbird, vernal pool fairy shrimp, vernal pool tadpole shrimp, California fairy shrimp, midvalley fairy shrimp, Central Valley steelhead, western pond turtle, foothill yellow-legged frog, California red-legged frog, western spadefoot, California floater, western pearlshell, dwarf downingia, Tuolumne coyote-thistle, pincushion navarretia, false Venus'-looking-glass, and sanford's arrowhead
 - Threatened: bank swallow, California tiger salamander and giant garter snake
 - Watch List: white-faced ibis
- *Will the proposed project positively impacts/benefit various sectors and economies within the applicable geographic area (e.g., impacts to agriculture, environment, recreation, and tourism)? Please explain.*

Yes. The improved administration of water allocations to district shareholders will more evenly distribute water across the district and allow JVID to deliver more to more of its shareholders especially in times of drought since water deliveries will be more accurate and over-deliveries significantly reduced. Accurate and dependable deliveries will support agricultural production in the Jackson Valley which will support the local agricultural economy and related industries that depend on agriculture.

- *Will the project complement work being done in coordination with NRCS in the area (e.g., the area with a direct connection to the districts water supply)? Please explain.*

Yes. JVID has a long history of working with the USDA NRCS to promote and incentivize Irrigation Water Best Management Practices. JVID has been a partner to EQIP programs in the past that have promoted the installation of more efficient irrigation systems such as drip irrigation. In parallel with this project, JVID intends to make an application to the Resource Conservation Partnership Program (RCPP) for additional complimentary Irrigation Water Management practices such as soil moisture monitoring and weather stations which will further promote water conservation in the Jackson Creek Basin.

Evaluation Criterion (B) Planning Efforts Supporting the Project: *Up to 25 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 Category A applicant. This criterion prioritizes projects that are identified through local planning efforts and meet local needs.*

Plan Description and Objectives: *Is your project supported by a specific planning document or effort? If so, describe the existing plan. When was the plan developed? What is the purpose and objective of the plan?*

Yes. JVID is a stakeholder in the Amador County Groundwater Management Agency and participates in the water management activities of the 7 members GSAs under the Cosumnes

Groundwater Sustainability Plan GSP (Groundwater Sustainability Plan). The GSP has been developed over the past five years and was approved by the CA DWR on 10/26/23.

The purpose of this Groundwater Sustainability Plan (GSP) is to meet the regulatory requirements set forth in the three-bill legislative package consisting of Assembly Bill (AB) 1739 (Dickinson), Senate Bill (SB) 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA) of 2014. The SGMA defines sustainable groundwater management as “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.” Undesirable Results (URs) are defined by SGMA as any of the following effects caused by groundwater conditions occurring throughout a basin:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality;
- Significant and unreasonable land subsidence; and
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

The Cosumnes Subbasin (“the Basin”) of the San Joaquin Valley Basin (California Department of Water Resources [DWR] Basin No. 5-022.16) is a medium priority basin located in Sacramento and Amador Counties (DWR, 2019). This GSP provides a path to maintain and document sustainable groundwater management within 20 years following Plan adoption and preserves the long-term sustainability of locally-managed groundwater resources.

Plan Development: Describe how your project is supported by an existing planning effort. Identify the planning effort and who developed it. If the planning effort was not developed by the Category A applicant, describe the Category A applicant’s involvement in developing the planning effort.

The 7 GSAs adopted a Communication and Engagement (C&E) Plan in June 2018 that fulfilled SGMA notice and communications requirements and documented the GSAs’ efforts to encourage input from beneficial groundwater users throughout GSP development. The C&E Plan identified key stakeholders, interests, and issues and was updated throughout GSP development to reflect outreach efforts and stakeholder communications. The C&E Plan will continue to be updated during GSP implementation. The GSP was approved by the CA DWR on 10/26/23.

Per the GSP Regulations, an Annual Report on basin conditions and GSP implementation status for each Water Year (WY) is required to be submitted to DWR by April 1 of each year following GSP adoption (23-CCR § 356.2). These annual reports will be prepared, under the direction of the CGA Project Manager with support from the Watershed Coordinator and technical consultants, as needed, by using data collected during GSP implementation, as described above. Annual reports will include, but are not limited to, the following:

- Groundwater elevation contour maps for both Fall and Spring conditions;
- Hydrographs of groundwater elevations in the RMWs;
- Annual groundwater extraction volumes for the entire Basin, an explanation as to how

groundwater extraction volumes were estimated, an accounting of accuracy and uncertainty, and an explanation as to how accuracy and uncertainty was determined;

- **Annual surface water supply volumes** used for the entire Basin, quantified by source type, as applicable;
- Annual total water use for the entire Basin, quantified by water use sector and water year type;

This project will aid JVID in meeting the reporting requirements set forth in the Cosumnes GSP. A description of the reporting requirements can be found in **Attachment 1** of this document.

Support for the Project: Describe to what extent the proposed project is supported by the identified plan. Address the following:

- *Is this type of project identified in the planning effort?*

Yes. An Annual Report on basin conditions and GSP implementation status for each Water Year (WY) is required to be submitted to DWR by April 1 of each year following GSP adoption (23-CCR § 356.2). This project will directly aid JVID in the timely and accurate reporting of surface water used within the district to meet these reporting requirements. A description of the reporting requirements can be found in **Attachment 1** of this document.

- *Explain whether the proposed project implements a goal, objective, or address a need or problem identified in the existing planning effort*

The Sustainable Groundwater Management Act (SGMA) requires that a Sustainability Goal be defined for each basin (California Water Code [CWC] § 10727(a)). The Groundwater Sustainability Plan (GSP) Regulations further clarify that the Sustainability Goal should culminate “in the absence of undesirable results within 20 years of the applicable statutory deadline” (23 California Code of Regulations [CCR] § 354.24).

The Sustainability Goal of the Cosumnes Subbasin (Basin) is to ensure that groundwater in the Basin continues to be a long-term resource for beneficial users and uses including urban, domestic, agricultural, industrial, environmental and others. This goal will be achieved by managing groundwater within the Basin’s sustainable yield, as defined by sustainable groundwater conditions and the absence of undesirable results.

Even though JVID is a district dependent upon surface water, the conservation practices deployed for surface water will also have beneficial effects upon groundwater sustainability. Under the Cosumnes GSP, JVID is concerned with the conjunctive management of surface water and groundwater for the benefit of all water users in the Basin.

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

The JVID Board of Directors resolved at its **Jan 10, 2024** board meeting to initiate meter upgrades. In addition, the Cosumnes GSP was adopted on **Jan 19, 2022** by the Cosumnes Subbasin Working Group (the predecessor to the Cosumnes Groundwater Authority) and the 7 Cosumnes Subbasin Groundwater Sustainability Agencies (GSAs) (the member agencies of the Cosumnes Groundwater Authority) has placed a priority on metering to deliver water with

accuracy and efficiency throughout the district during times of drought or water shortage. The GSP was approved by the CA DWR on 10/26/23.

Evaluation Criterion (C) Implementation and Results: *Up to 20 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.*

July 7, 2024: Submit Application to the Bureau

Dec, 2024: Successful notification of award from the Bureau

Mar, 2025: Sign contract with the Bureau

May, 2025: Initiate Environmental Compliance with local Bureau office. Determine adequate sizing of meters for meter order.

Fall, 2025: Order flowmeters from manufacturer

Winter, 2025: Install 30-35 new meters at farmer turnouts

Fall, 2026: Order flowmeters from manufacturer

Winter, 2026: Install 30-35 new meters at pumps or farmer turnouts

May, 2027: Prepare Final Project Report for Bureau

• *Proposals with a budget and budget narrative that provide a reasonable explanation of project costs will be prioritized under this criterion.*

Please refer to Section D.2.2.3. for a detailed budget and budget narrative.

• *Describe any permits and agency approvals that will be required, along with the process for obtaining such permits.*

No permits will be required for this project.

• *Identify and describe any engineering or design work performed specifically in support of the proposed project. What level of engineering design is the project currently? If additional design is required, describe the planned process and timeline for completing the design.*

No engineering or design work is required for this project. JVID is consulting with the meter manufacturer on proper meter installation specifications.

• *Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If the applicant does not yet have permission to access the project location, describe the process and timeframe for obtaining such permission.*

Yes. JVID maintains an easement for the existing pipeline that delivers water to its patrons. All work will be conducted on the pipeline within the easement which allows district employees access.

• Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs.

JVID staff has contacted staff at the Mid-Pacific Regional Bureau office. Since installation of meters will be installed at existing meter locations at existing farmer turnouts, JVID estimates the total Environmental compliance costs will be less than \$1,500.

Evaluation Criterion (D) Nexus to Reclamation: *Up to 5 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?

Yes. Jackson Creek Dam was constructed by the Bureau of Reclamation in 1964 and completed in 1965 to form Lake Amador.

• Does the applicant have a water service, repayment, or operations and maintenance(O&M) contract with Reclamation?

No. JVID does not receive Reclamation project water and is not on project lands, however, Jackson Creek Dam was constructed by the Bureau of Reclamation in 1964 and completed in 1965 to form Lake Amador.

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

Yes, JVID is in the same basin as the Friant Dam, New Melones Reservoir, the San Joaquin River Restoration Project and the Central Valley Project which supplies water to JVID.

• If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?

No. JVID does not receive Reclamation project water through a Reclamation contractor or by other means, however, Jackson Creek Dam was constructed by the Bureau of Reclamation in 1964 and completed in 1965 to form Lake Amador which supplies water to JVID.

• Will the proposed work benefit a Reclamation Project Area or activity?

Yes. Water conserved in JVID will be beneficial to other districts such as Galt Irrigation District which receives water under temporary contracts with the Bureau of Reclamation during non-drought years.

Evaluation Criterion E—Presidential and Department of the Interior Priorities (15 points)

Up to 15 points may be awarded based on the extent that the project demonstrates support for the Biden-Harris Administration's priorities, including E.O. 14008: *Tackling the Climate Crisis at Home and Abroad*, E.O. 13985:

Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, and the President's memorandum, *Tribal Consultation and Strengthening Nation-to Nation Relationships*. Points will be allocated based on the degree to which the project supports the priorities listed, and whether the connection to the priority(ies) is well supported in the application. Without repeating benefits already described in previous criteria, describe in detail how the proposed project supports a priority(ies) below.

E.1.5.1. Sub-criterion No. E1. Climate Change

Points will be awarded based on the extent the project will reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity. Address the following as relevant to your project. **Combating the Climate Crisis** E.O. 14008: *Tackling the Climate Crisis at Home and Abroad*, focuses on increasing resilience to climate change and supporting climate- resilient development. For additional information on the impacts of climate change throughout the western United States, see: <https://www.usbr.gov/climate/secure/docs/2021secure/2021SECUREReport.pdf>. Please describe how the project will address climate change, including:

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

Once the meters in this project are deployed, field technicians will have fewer repairs reducing overall vehicle use, consequently reducing greenhouse gas emissions. With the replacement of mechanical propeller meters, drive time between meter boxes will be reduced for performing routine maintenance and meter readings. The new meters will also have internal dataloggers that will provide date and time-stamped records of water deliveries that would not be available without multiple trips to the field. The proposed electromagnetic meters will be upgradable to telemetry which will benefit JVID in the future.

- *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, the proposed Project will strengthen water supply sustainability by increasing water measurement accuracy. JVID has experienced nearly a decade-long drought as climate changes are causing water shortages and lower than expected allocations for all shareholders. With lower allocations, accurate water measurement and accounting is critical to distribute the limited irrigation water resource properly.

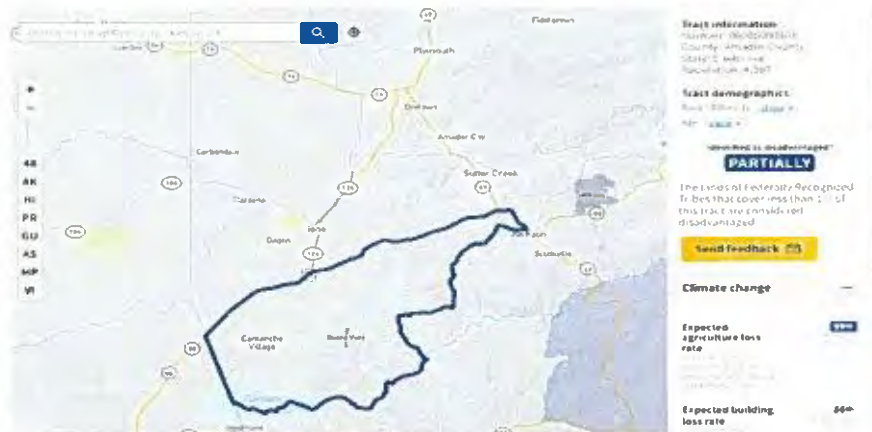
E.1.5.2. Sub-criterion No. E2. Disadvantaged or Underserved Communities

Points will be awarded based on the extent to which the Project serves economically disadvantaged or underserved communities in rural or urban areas.

- *Please use the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool, available online at Explore the map – Climate & Economic Justice Screening Tool (<https://screeningtool.geoplatform.gov>) to identify any disadvantaged communities that will benefit from your project.*

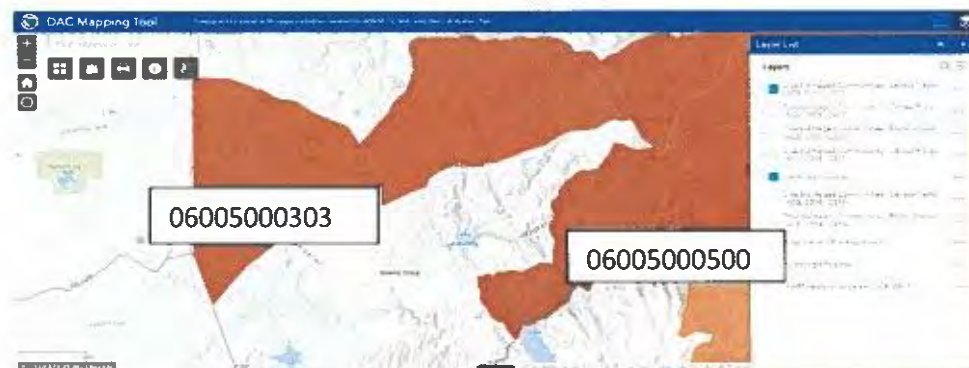
Yes, Lake Amador is located in Census Tract #06005000304 (**Figure #1**) which is considered partially disadvantaged according to the Climate and Economic Justice Screening Tool. (<https://screeningtool.geoplatform.gov>) Moreover, this tract is in the **99th percentile** for Expected Agricultural Economic Loss Rate resulting from natural disasters each year.

Figure 1



Census Tracts 06005000303 and 06005000500 (**Figure 2**) are designated as Disadvantaged Communities by the California Dept of Water Resources for responsibilities related to Integrated Regional Water Management (IRWM), the Sustainable Groundwater Management Act (SGMA), and the CA Water Plan. Both tracts contain portions of the lands irrigated by the Jackson Valley Irrigation District.

Figure 2



In addition, 2022 data from the U.S. Census Bureau reports that the annual median household income for the State of California is **\$91,905**. The median annual income for Amador County in the JVID is **\$74,853** which is less than the statewide annual median household level as shown in the table below:

JVID County	2022 Median Household Income
Amador	\$74,853.00

Section 1015 of the Cooperative Watershed Act defines a disadvantaged community as one with an annual median household income that is less than 100 percent of the statewide annual median household income for the State. Consequently, the project area meets the criteria for a disadvantaged community in JVID. (<https://data.census.gov>)

- *If applicable, describe how the project benefits those disadvantaged or underserved communities identified using the tool. For example, does the project increase reliability of water supplies, improve water quality, provide economic growth opportunities, improve or expand public access to natural areas or recreation, or provide other benefits in a disadvantaged or underserved community?*

As described above, Amador County exhibits median household incomes at **83.4%** of the State's median household income. In 2019, both counties had a **9.95% poverty rate** per DATA USA. The county relies heavily on the agricultural industry as a leading source of employment and revenue. During the current drought, the water shortage has increased the burden on one of the county's main industries - agriculture. Lower agricultural production due to water shortage affects other industries, including retail, import/export, and energy.

Agricultural operators in JVID and the Central Valley of California have experienced narrow profit margins for several years for many of the commodities that they produce. Despite recent increases in agriculture commodity prices profit margins remain to be narrow because of increasing input prices for fuel, fertilizer, herbicides/pesticides, and seeds. An efficient water shortage/drought policy will better distribute water in times of shortage, leaving more water to be used by these farms to generate income.

E.1.5.3. Sub-criterion No. E.3. Tribal Benefits

Points will be awarded based on the extent to which the Project will honor the Federal government's commitments to Tribal Nations.

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

No tribes are served irrigation water within the JVID Plan area.

- *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?*

No tribes are served irrigation water within the JVID Plan area. However, the Buena Vista and Lone Bands of the Miwuk Indian tribe border JVID on the north and south boundaries of the district. The Lone Band of the Miwuk tribe rely on both surface and groundwater to meet demands. The Lone Band of the Miwuk tribe is located in Amador County and is a public water supplier dependent upon groundwater, serving a population of 62 residents. Even though this project does not directly benefit the tribe, they will benefit indirectly since water will be conserved in the local watershed to the benefit of all water users.

The Wilton Rancheria tribe is located in Sacramento County in the northwestern portion of the Basin, adjacent to the Cosumnes River. The mission statement for the Wilton Rancheria Department of Cultural Preservation describes the importance of protecting resources committed to the Tribes, including the Cosumnes River which is considered a valuable resource by the Tribe. The Tribal Chairman was interviewed as part of initial stakeholder outreach efforts and has attended multiple Working Group meetings.

- *Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?*

No tribes are directly served within the JVID Plan area.

D.2.2.3. Project Budget & Narrative

Funding Plan and Letters of Commitment

VJID has budgeted funds collected from local fees to pay for the matching portion of the meters and accessories. No expenses are to be incurred prior to the project start date. No funding requests are pending with any other entities. VJID staff will be responsible for the installation of meters and accessories. VJID is requesting **\$100,000** from the Bureau or **44.6%** of the cost of the project. The cash and in-kind match provided by VJID would be **\$124,040** or **55.4%**. No outside funding sources are included in this proposal and consequently no letters of commitment are attached.

Project Budget

Table 1 - Total Project Cost Table

Funding Sources	% of Total Project Cost	Total Cost by Source
Costs to be reimbursed with the requested federal funding	44.6%	\$100,000
Costs to be paid by applicant, VJID. (Cash and In-Kind)	55.4%	\$124,040
TOTAL PROJECT COST	100%	\$224,040

Table 2 - Budget Proposal

Budget Item Description	Computation \$/unit	Quantity	Quantity Type (hours/days)	Total Cost
Salaries and Wages				
No wages being requested by this project				\$0
Fringe Benefits				
No fringe benefits being requested by this project				
Travel				
No federal funds to be used for travel to install				
Equipment				
4" Insertion Electromagnetic Meter	\$2,568.00	19	ea	\$48,792
6" Insertion Electromagnetic Meter	\$2,727.20	15	ea	\$40,908
8" Insertion Electromagnetic Meter	\$2,980.00	10	ea	\$29,800
10" Insertion Electromagnetic Meter	\$3,492.00	11	ea	\$38,412
12" Insertion Electromagnetic Meter	\$4,012.80	10	ea	\$40,128
Subtotal		65		\$198,040
Supplies and Materials				
6" SDR35 PVC riser stand pipe 3-4' in length w/cap	\$ 45.00	50	ea	\$2,250
Misc. plastic/pipe wrap, tape, etc	\$ 15.00	65	ea	\$975
			ea	\$0
Subtotal				\$3,225
Contractual/Construction				
Installation Contractor*	\$250.00	65		\$16,250
Subtotal				\$16,250
Total Direct Costs				\$217,515
Indirect Costs				\$6,525.45
Total Estimated Costs				\$224,040
*Potential Matching Funds				

Funding for our project will be provided by the WaterSMART grant and the JVID. No letters of commitment from outside sources will be needed.

Budget Narrative

The estimated project cost is **\$224,040**. Upon delivery of the supplies, the grant funds from the BOR will help pay for the equipment purchased from the meter distributors.

In-kind contributions from JVID will be a combination of cash required to purchase meters and accessories as well as the staff time, services, and materials required for the administration and field work to install the meters. This will amount to approximately **\$124,040** as noted in the Budget Proposal. JVID will be responsible for all the labor, heavy equipment, and the materials needed for meter installation at the sites to accommodate the new equipment. This is reflected in the budget as an in-kind contribution to the project. A quote from the meter manufacturer has been obtained for meter pricing and is included in **Attachment 3**.

In-kind contributions that do not cover our share will be made up by the JVID Operating fund. The expenditures benefit the project by improving JVID's ability to monitor and deliver constant water flows to the farmers and to our own canals and laterals.

Total Costs

The district requests **\$100,000** from the Bureau's Small-scale Water Efficiency Grant. The remaining **\$124,040** will come from the Jackson Valley Irrigation District in cash and in-kind services.

Unique Entity Identifier and System for Award

Jackson Valley Irrigation District has been registered on the SYSTEM for Award Management (SAM) and is in the process of reapplying for SAMs. The DUNS number for JVID is **169215530**. The Jackson Valley Irrigation District will maintain an active SAM registration throughout the project.

Section H: Environmental and Cultural Resources Compliance

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

JVID plans to accomplish meter upgrades or improvements with this project. The meters will be in the same locations as previous meters and any environmental impacts will be minimal.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

No, Endangered species will not be affected.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

No.

When was the water delivery system constructed?

Jackson Valley Irrigation District was formed in 1956 when the farm community needed a reliable source of water for irrigated crops and used the Jackson creek as delivery system. In November 1965 JVID began construction on a 22,000 acre-foot reservoir and in 1967 began using the current pressured pipeline delivery system.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

Discharge pipes of existing turnouts will need slight modifications, but no changes will be made to canals, headgates, or flumes as a result of this project.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

No

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

No

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No. To the contrary, this project will benefit agricultural producers and the labor force that they support which will benefit low income or minority populations.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

No

Board Resolution

OFFICIAL RESOLUTION OF THE JACKSON VALLEY IRRIGATION DISTRICT (JVID)

Resolution NO.412-01-24

WHEREAS, the United States Department of Interior, Bureau of Reclamation, has announced the WaterSMART Grants for Small-Scale Water Efficiency Projects for Fiscal Year 2024 to provide financial assistance to water managers.

WHEREAS, JVID has a present need for funding to deploy meters for surface water measurement necessary under the laws of the State of California.

NOW, THEREFORE, BE IT RESOLVED that the JVID Directors agree to and authorize the following;

- The JVID Directors have reviewed, support the proposal prepared, and direct the General Manager to submit the proposal to the Bureau of Reclamation;
- JVID is capable of providing the amount of funding needed for the matching grant from the WaterSMART Grant; and
- If selected for a WaterSMART Grant, JVID will work with Reclamation to meet the established deadlines for entering into a cooperative agreement.



Steven Fredrick, JVID General Manager

DATED: 1/11/2024

Attachment 1

Plan Implementation Groundwater Sustainability Plan Cosumnes Subbasin

19.1.6. Annual Reporting

§ 356.2 Annual Reports

Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:

(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:

- (1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:
 - (A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.
 - (B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.
- (2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.
- (3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.
- (4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.
- (5) Change in groundwater in storage shall include the following:
 - (A) Change in groundwater in storage maps for each principal aquifer in the basin.
 - (B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.

Per the GSP Regulations, an Annual Report on basin conditions and GSP implementation status for each Water Year (WY) is required to be submitted to DWR by April 1 of each year following GSP adoption (23 CCR § 356.2). These annual reports will be prepared, under the direction of the CGA PM with support from the Watershed Coordinator and technical consultants, as needed, by using data collected during GSP implementation, as described above. Annual reports will include, but are not limited to, the following:

- Groundwater elevation contour maps for both Fall and Spring conditions;
- Hydrographs of groundwater elevations in the RMWs;