

SOUTH SAN JOAQUIN IRRIGATION DISTRICT

ADVANCED METERING INFRASTRUCTURE PROJECT

SAN JOAQUIN COUNTY, CA



**Application Submitted to the United States Bureau of Reclamation for a
WaterSMART Grants: Water and Energy Efficiency Grants
for Fiscal Year (FY) 2024 and FY 2025
Funding Opportunity No. R24AS00052**

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Abbreviations

AF.....	Acre Feet
AWMP	Agricultural Water Management Plan
CEQA	California Environmental Quality Act
CFDA	California Department of Food and Agriculture
CO ₂	Carbon Dioxide
CVP	Central Valley Project
DAC.....	Disadvantaged Community
DOI.....	Department of the Interior
EQIP.....	Environmental Quality Incentives Program
ESA	Endangered Species Act
ESJGWA	Eastern San Joaquin Groundwater Authority
GHG	Green House Gas
GSA.....	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
kW	Kilowatt
kWH	Kilowatt per Hour
MRNRD.....	Middle Republican Natural Resources District
NEPA	National Environmental Policy Act
NOFO	Notice of Funding Opportunity
NRCS	Natural Resources Conservation Services
OID.....	Oakdale Irrigation District
SCADA.....	Supervisory Control and Data Acquisition
SGMA.....	Sustainable Groundwater Management Act
SSJID	South San Joaquin Irrigation District
SWEEP	State Water Efficiency & Enhancement Program
TDS	Total Dissolved Solids
USBR	United States Bureau of Reclamation

1 TECHNICAL PROPOSAL

(A) EXECUTIVE SUMMARY

General Project Information

Proposal Name: Advanced Metering Infrastructure Project

Date: November 10, 2024

Applicant Name: South San Joaquin Irrigation District

City, County, and State: Manteca, San Joaquin County, California

The South San Joaquin Irrigation District (SSJID) is a Category 'A' applicant and provides agricultural water to 50,000 irrigated acres and urban water to four cities in San Joaquin County, California. The District delivers Stanislaus River water and the users supplement with groundwater. The District delivers, on average, about 200,000 acre-feet (AF)/year for agriculture and 20,000 AF/year for urban use (ten-year average). The District recently experienced a drought in 2022.

The District proposes the Advanced Metering Infrastructure Project, which will install 433 magnetic smart meters (magmeters) with real-time telemetry capability at irrigation turnouts. These meters will be placed on turnouts that have a range of current metering capabilities including no meters, non-functional private meters, and various private meters. The project is located in agricultural areas of San Joaquin County in Central California. The meters will measure water delivered to 20,043 acres with an accuracy of +/-0.5% compared to 11% accuracy for the current measurement method. This improved measurement will allow growers to better match supplies to crop demands and irrigation scheduling, resulting in a 5% water savings, which is 2,645 AF/yr, or 79,350 AF over the equipment's 30-year life span. The telemetry will provide SSJID staff with more detailed and accurate information on customer demands and allow delivery releases to better meet demands. This is expected to reduce operational spills by 3,900 AF/yr, or 117,000 AF over the life of the project.

Other benefits include more accurate water budget accounting, preservation of groundwater resources due to more efficient surface water utilization, drought protection, energy savings, reductions in greenhouse gas emissions, and improvements that will enhance other on-farm improvements. The project will benefit agricultural, rural and urban water users.

The project will not include any modifications to Federal facilities or include work on Federal Lands. The project will be implemented by a California Irrigation District. There are no project partners, and the project is not a phase in a larger overall project.

The project has no permitting requirements and will have no ground disturbing activities.

The notice to proceed is assumed to be November 2025, equipment installation would start in May 2025 and work would be completed by June 2028. The project can be completed three months before the anticipated contract deadline. The total project cost is estimated at \$4.02 million with a requested grant of \$2.0 million (Funding Group II).

(B) PROJECT LOCATION

South San Joaquin Irrigation District (SSJID) is located in southeastern San Joaquin County in California's San Joaquin Valley. The District boundary encompasses urban and agricultural areas in and surrounding the Cities of Manteca, Ripon, and Escalon, with its southern boundary paralleling the Stanislaus River. **Figure 1** is a vicinity map showing the District boundaries and surrounding cities.

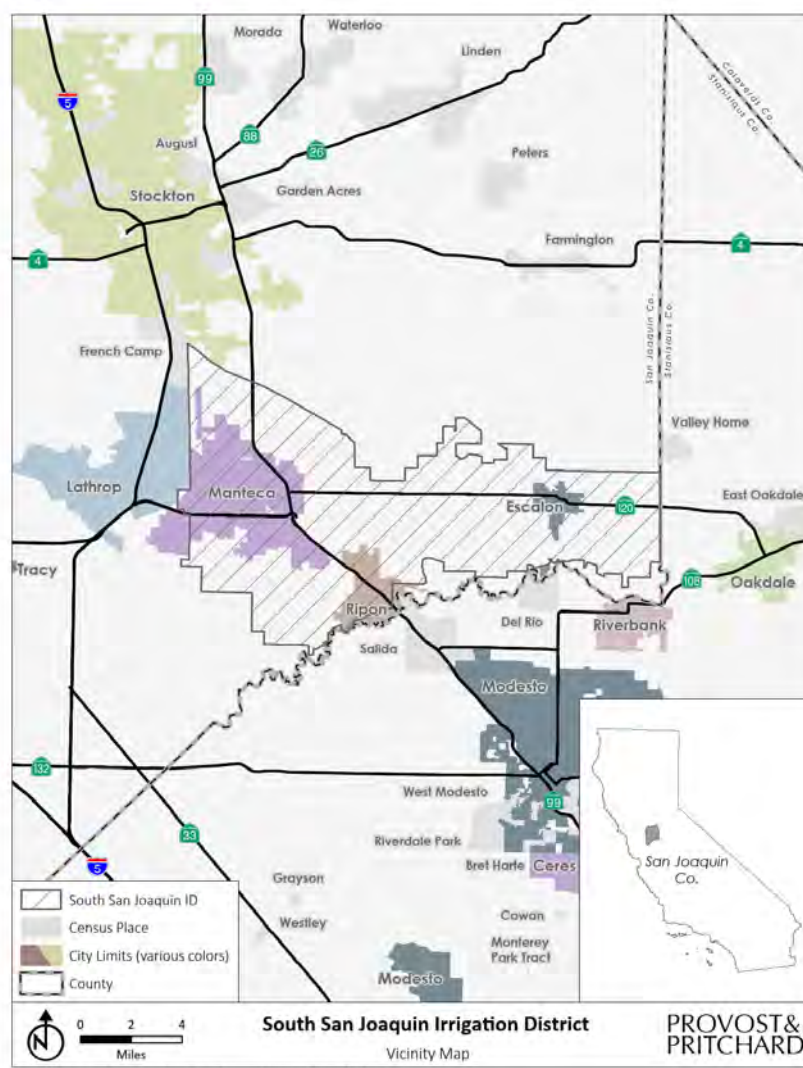


Figure 1: Vicinity Map

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, San Joaquin County GIS/Planning, California State Parks, San Joaquin, Garmin, SafeGraph, MLU/NASA-USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS



(C) PROJECT DESCRIPTION

South San Joaquin Irrigation District (SSJID) serves irrigation water to over 50,000 irrigated acres with surface water from the Stanislaus River and delivers treated water to three cities in the area. Surface water supplies are supplemented with the conjunctive use of groundwater pumping from private and agency-owned wells.

The Advanced Metering Infrastructure Project includes the installation of 433 magnetic meters (magmeters) with real-time telemetry capability at irrigation turnouts. The area served by these meters covers 20,043 acres. Flowmeter sizes will range from 2 to 12 inches. These meters will be placed on turnouts that have a range of current metering capabilities including no meters, non-functional private meters, and various private meters. Some sites will require plumbing modifications. Pressure sensors will also be installed to alert the District of potential malfunctions or issues.

The telemetry will be integrated with the District's SCADA system. The telemetry will provide District staff and growers access to real time flow data for improved water management. The project will also be integrated with TruePoint, the District's water ordering and billing system.

The meters will be installed above-ground using a District standard detail and procedures used for other magmeters installed in the District. **Figure 3** is a typical magmeter installation in SSJID.



Figure 3: Example of Installed Magmeter in SSJID

(D) EVALUATION CRITERIA

The following performance measures will be used to evaluate the Project.

- Quantifiable Water Savings
- Renewable Energy
- Other Project Benefits
- Disadvantaged Communities and Tribal Benefits
- Complementing On-Farm Irrigation Improvements
- Readiness to Proceed
- Collaboration
- Nexus to Reclamation

EVALUATION CRITERION A – QUANTIFIABLE WATER SAVINGS

Describe the amount of estimated water savings.

- *For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.*

The Project will install 433 magmeters to measure water deliveries to 20,043 acres within the District. Historical data from a 15-year period show that these parcels receive an average annual surface water delivery of 52,900 AF (2.6 AF/acre). The District's on-farm water management and reporting will be improved by the Project, resulting in the opportunity to conserve up to **2,645 AF/year** of surface water, assuming a 5% water savings based on similar projects ($52,900 \text{ AF} \times 5\% = 2,645 \text{ AF/yr}$).

The project is also expected to reduce operational spills by 3,900 AF/year, which is described later. Total water savings are therefore estimated to be $2,645 + 3,900 = \mathbf{6,545 \text{ AF/year}}$.

Describe current losses.

- *Explain where current losses are going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?*

Current losses primarily occur as tailwater, seepage, evaporation, and operational spills. These are all permanently lost to the SSJID delivery system.

Tailwater. Over application of water may result in tailwater that is generally not reusable.

Seepage. The majority of overapplied water is assumed to percolate past the root zone to the local groundwater aquifer.

Evaporation. Some of the overapplied water will pond on the fields or as tailwater and be permanently lost to the region as evaporation.

Operational Spills. Water released to the canal system that exceeds grower diversions spills into drains or out of the District.

- *If known, please explain how current losses are being used. For example, are current losses returning to the system for use by others? Are current losses entering an impaired groundwater table becoming unsuitable for future use?*

The majority of losses in the form of tailwater/spills are irrecoverable and are lost to the region. Losses in the form of seepage can potentially be reused by others within the District, though in some areas the groundwater will flow out of the District and no longer be available to growers. SSJID also has some areas with shallow aquifers and high groundwater conditions (5 to 10 feet to water from ground surface). Seepage in these specific areas is not beneficial and can be a nuisance.

- *Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?*

Yes, some portion of the losses will be reusable as groundwater. There are also some ecological benefits associated with current losses. Current losses (tailwater/spills and seepage) may eventually flow back into the Stanislaus River, supporting habitat conditions for fish and wildlife.

Describe the support/documentation of estimated water savings.

- *Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations.*

Over a 15-year period, surface water delivered to growers within the Project area was estimated to be 52,900 AF/yr. This estimate includes a current measurement accuracy of 11% or $\pm 5,820$ AF (SSJID Agricultural Water Management Plan, 2020). The installation of 433 magmeters throughout the 20,043-acre Project area within the District will result in a 5% water savings. This equates to **2,645 AF/year** of surface water ($5\% \times 52,900$ AF/year), or a total of **79,350 AF** over the equipment's 30-year life span.

Estimated Water Savings Support Documentation

In Nebraska, the Middle Republican Natural Resources District's (MRNRD) Remote Irrigation Meter and Irrigation Water Conservation Project installed real-time telemetry equipment on 691 irrigation flow meters for improved on-farm water management and reporting. In an April 2021 issue of the Irrigation Leader publication (<https://irrigationleadermagazine.com/volume-12-issue-4-april/>), the MRNRD Manager noted that the growers that used the telemetry system saw a 10% water savings after the first 2-3 years of implementation. A 5% water savings estimate is used for this Project and is recognized as a conservative approach to account for potential variations in performance and cropping. This 5% savings is also consistent with what SSJID has also observed with previous magmeter installations.

Estimated Equipment Service Life Documentation

A primary advantage of magmeters is that they have no moving parts. As a result, magmeters have an expected service life of 30 years¹. The service life can vary based on factors such as maintenance and water quality. Water quality will not be an issue for this Project, as the District's water quality is of excellent quality for irrigation. In addition, SSJID has extensive experience in installing and maintaining magmeters, which supports the expectation of a 30-year project lifespan.

Measurement Accuracy Documentation

Magmeters are highly accurate with a measurement accuracy of generally 0.5%¹. As described in the District's 2020 Agricultural Water Management Plan, the magmeters installed in the Irrigation Enhancement Project area are laboratory certified to measure flows with $\pm 0.4\%$ accuracy. A more conservative estimate in meter accuracy of 0.5% is used for this Project to account for variability and to ensure that projected outcomes are not overstated. Farm deliveries without magnetic meters are currently measured by rated gates, or in some cases, by determining the difference in flow between stand structures. This method has an accuracy of only 11%. Hence, the measurement accuracy will improve from $\pm 5,817$ AF (11% uncertainty) to ± 264 AF (0.5% uncertainty).

- *How have the average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.*

The average surface water delivered to the 20,043 acre project area from 2005 to 2019 was 52,900 AF/year. As mentioned earlier, a conservative estimate of 5% water savings is assumed for the Project based on the results of similar projects and to account for variability in conditions across the District.

Total Estimated Average Annual Water Savings = Estimated Water Savings (5%) *
Surface Water Delivered to Project Area (52,900 AF/year)

Total Estimated Avg Annual Water Savings = 5% * 52,900 AF/year = **2,645 AF/year**

- *Have current operational losses been determined? If water savings are based on a reduction of spills, please provide support for the amount of water currently being lost to spills.*

SSJID releases water at the head of their system, and many canals systems have little or no control of the water before the end of the system reaches drains or flows out of the District. Currently, District operators must estimate how much water will be diverted and used, and anything released above grower diversions will create an imbalance between diverted and delivered water volumes, resulting in operational spills.

¹<https://www.processingmagazine.com/process-control-automation/instrumentation/flow-measurement/article/15581476/five-questions-to-ask-when-choosing-a-mag-meter>
<https://www.mccrometer.com/cms-view.jsa?page=/cms/guides/Reduce-the-risk-en.jsp>
<https://www.silverinstruments.com/support/technical-reference/flow-instruments/considerations-for-choosing-a-magnetic-flow-meter.html>

The project will help to reduce spills by providing operators with more accurate water demand information. This will allow operators to better plan water releases to the canal system, eliminating the common over-deliveries that result from having limited information on real-time and historical demands. The District measures flowrate at the head of their system, and with flows known at metered locations, they will also gain better knowledge on typical demands for unmetered flood-irrigation turnouts.

The proposed project will measure deliveries to 20,043 acres. The total irrigated acreage in SSJID is 50,862 acres, so the metered parcels cover $20,043/50,862 = 39\%$ of the irrigated area (20,043/50,862). Operational spills from 2005-2019 were estimated to be 20,096 AF/year in SSJID (2020 Agricultural Water Management Plan, Table 5-16). Using a ratio analysis, the spills from the water diverted for the project parcels are estimated to be 7,837 AF/year ($39\% \times 20,096$ AF). SSJID does not believe they can eliminate all operational spills through use of the new flow data, since other issues can impact spills, and there are significant challenges in achieving a 100% delivery efficiency. However, operations staff believe they can easily reduce spills by 50%, which would equate to 3,900 AF/year ($50\% \times 7,837$ AF).

- ***Are flows currently measured at proposed sites and if so, what is the accuracy of existing devices? How has the existing measurement accuracy been established?***

The District proposes to install 433 magmeters on turnouts that are either not equipped with meters, are equipped with non-functional private meters, or are equipped with a private meter with an unknown range of measurement accuracy. Surface water delivered to growers is currently being estimated with an accuracy of $\pm 11\%$. This uncertainty was established as a closure term in the District's water budget.

- ***Provide detailed descriptions of all proposed flow measurement devices, including accuracy and the basis for the accuracy.***

According to the District's 2020 Agriculture Water Management Plan, magmeters used in their previous Irrigation Enhancement Project are laboratory-certified to achieve an accuracy of $\pm 0.4\%$. This estimate is supported by a September 2013 article from the Processing Magazine that states accuracy can range from 0.25 to 0.5%. (<https://www.processingmagazine.com/process-control-automation/instrumentation/flow-measurement/article/15581476/five-questions-to-ask-when-choosing-a-mag-meter>). For this Project, a conservative accuracy estimate of 0.5% is used to account for variability and to ensure realistic outcome projections.

Each meter will be equipped with telemetry (operated by radio or cellular signals), to provide the District and growers real-time flow data to improve water management. SSJID has also researched several telemetry companies and will choose a system that best integrates with their current SCADA system and has the best monitoring interface for SSJID's needs.

- ***Will annual farm delivery volumes be reduced by more efficient and timely deliveries? If so, how has this reduction been estimated?***

Yes. Annual farm delivery volumes are expected to be reduced by 2,645 AF/year, or 79,350 AF over the 30-year project lifespan, through more efficient and timely water deliveries facilitated by the installation of magmeters and telemetry. This equipment will provide real-time flow data to growers and enable them to better align water deliveries with crop demands and optimize irrigation scheduling. The water savings will result from a reduction in tailwater and overapplication of water.

- ***How will actual water savings be verified upon completion of the project?***

The magmeters will be connected to the District's existing SCADA system to verify actual water savings. SSJID's SCADA system transmits water measurement data directly to the District Control Room, enhancing the ability to track and manage water flows across the distribution system and deliveries to growers. This system will allow the District to compare pre- and post-installation data to verify the actual water savings from the Project.

EVALUATION CRITERION B – RENEWABLE ENERGY

SUBCRITERION B.2 – INCREASING ENERGY EFFICIENCY IN WATER MANAGEMENT

- *Describe any energy efficiencies that are expected to result from implementation of the water conservation or water efficiency project (e.g., reduced pumping).*

The integration of telemetry-equipped magmeters with the District's SCADA system will enable real-time data collection and enhance the efficiency of surface water deliveries. This improvement will reduce the dependency on groundwater pumping, particularly during dry years when surface water supplies are limited. By aligning surface water deliveries more accurately with crop needs, the Project will decrease the need for supplemental groundwater use. This reduction in groundwater use will raise local groundwater levels and lower pumping lifts, leading to energy conservation, reduced greenhouse gas emissions, and cost savings related to groundwater extraction.

- *If quantifiable energy savings is expected to result from the project, please provide sufficient details and supporting calculations. If quantifying energy savings, please state the estimated amount in kilowatt hours per year.*

Project implementation will reduce groundwater pumping and raise local groundwater levels throughout the Project area. Reduced groundwater pumping will result in a total reduced energy use of **1,266,000 kWh/year** (based on 1.8 kWh per foot of lift). Approximately **14,030 AF** of groundwater are estimated to be pumped annually for agricultural use within the Project area. The average depth to water in fall 2023 was **90 feet** below ground surface² and water levels are expected to rise **4 feet/year** as a result of the reduced groundwater use. The energy use savings are presented in **Appendix A** and summarized in the following equations:

Energy Savings from Rising Groundwater Levels

206,200 kWh/year = 1.8 kWh/ft x 14,030 AF/year x 4 ft of annual groundwater rise x 2 years of benefit before water saved is pumped or flows out of the area

Energy Savings from Reduced Groundwater Pumping

1,060,300 kWh/year = 1.8 kWh/ft x 6,545 AF/year of Project water savings x 90 ft

Total Average Annual Energy Savings

1,266,500 kWh/year = 206,200 kWh/year + 1,060,300 kWh/year

Furthermore, cost savings from reduced pumping are estimated at \$161,000/yr (see **Appendix A**).

² <https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels>

- *How will the energy efficiency improvement combat/offset the impacts of climate change, including an expected reduction in greenhouse gas emissions.*

Reduced groundwater pumping and associated energy savings will also reduce greenhouse gases by **528 metric tons/year** (based on 4.17×10^{-4} metric tons CO₂ / kWh from 2024 EPA Greenhouse Gas Calculator, which is based on a typical mix of renewable and fossil fuel sources). The expected reduction in greenhouse gas emissions is presented in **Appendix A** and summarized in the following equations:

Reduced Greenhouse Gas Emissions from Rising Groundwater Levels

86 metric tons/year = 206,200 kWh/year x 0.000417 metric tons of CO₂/kWh

Reduced Greenhouse Gas Emissions from Reduced Groundwater Pumping

442 metric tons/year = 1,060,300 kWh/year x 0.000417 metric tons of CO₂/kWh

Total Average Annual Greenhouse Gas Reduction

528 metric tons/year = 86 metric tons/year + 442 metric tons/year

- *If the project will result in reduced pumping, please describe the current pumping requirements and the types of pumps (e.g., size) currently being used. How would the proposed project impact the current pumping requirements and energy usage?*

Most irrigation wells in SSJID are vertical turbine pumps powered by 70 horsepower electric (or similar) motors. Water savings through enhanced irrigation water management and reduced operational spills is expected to reduce groundwater pumping within the Project area by **6,545 AF** annually, which will have a commensurate reduction on energy usage of **1,266,500 kWh/year**.

- *Please indicate whether your energy savings estimate originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.*

All energy savings calculations are based on reduced energy at irrigation wells, which differs from the point of surface water diversion, but which would be found on the same parcels being served water through magmeters.

- *Does the calculation include any energy required to treat the water, if applicable?*

No. The Project does not involve water treatment.

- *Will the project result in reduced vehicle miles driven, in turn reducing greenhouse gas emissions? Please provide supporting details and calculations.*

Yes. SSJID staff regularly read and perform maintenance on existing flow meters and other measurement facilities. The District conservatively estimates that district staff drive 60,000 miles per year solely for water measurement. The District estimates that, upon the conclusion of this project, the miles driven will be reduced by at least 75% to 15,000 miles per year. This will be possible since they will not need to regularly visit each turnout for monitoring, inspection and measurement. This will conserve fuel, reduce air pollution and reduce greenhouse gas emissions.

- *Describe any renewable energy components that will result in minimal energy savings/production (e.g., installing small-scale solar as part of a SCADA system).*

The telemetry systems will have solar panels and a backup battery and will not require an electrical hookup.

EVALUATION CRITERIA C- OTHER PROJECT BENEFITS

Resilience and Sustainability Benefits

- *Describe recent, existing, or potential drought or water scarcity conditions in the project area.*

Drought and water scarcity conditions impact agricultural, urban and domestic water users in SSJID.

Urban. SSJID provides treated water to three Cities. A water supply assessment was performed for the SSJID 2020 Urban Water Management Plan (https://www.ssjid.com/wp-content/uploads/2020_UWMP_SSJID.pdf) and concluded the following:

1. *Water supply shortfalls are expected in single dry years through 2045, with shortages averaging 4,675 AF/year, and as high as 9,100 AF/year in some years.*
2. *Water shortages are expected in a multiple dry year period through 2045, with shortages averaging 4,675 AF/year in the third and fourth year of the drought.*
3. *A Drought Risk Assessment was conducted for 2021 through 2025 and predicted supply shortfalls in 2023 and 2024.*

Agriculture. All of the agriculture in SSJID is irrigated and therefore dependent on a reliable water supply. The primary crops grown in SSJID consist of almonds and other high-value permanent crops that supply increasing regional, national, and international food demands. Surface water comprises 70 to 80% of SSJID's supply in most years, hence a reduction in surface water can have important repercussions. Drought impacts could include: 1) Delaying the start of the irrigation season; 2) rationed surface water supplies; 3) higher costs for surface water; 4) groundwater overdraft; and 5) loss of permanent crops (trees and vines) that cannot be followed in dry years.

Rural. Domestic well users are found throughout the rural and agricultural areas of SSJID. They could suffer from reductions in well yields, wells going dry, and higher pumping costs from lowered groundwater levels.

- *Is the project in an area that is experiencing, or recently experienced, drought or water scarcity?*

Yes, this area has been significantly impacted by drought in recent years. Much of the project area in SSJID is currently or was recently designated as either severe, extreme, or exceptional drought by the Drought Monitor published by the National Drought Mitigation Center at the University of Nebraska-Lincoln. (See Figure below).

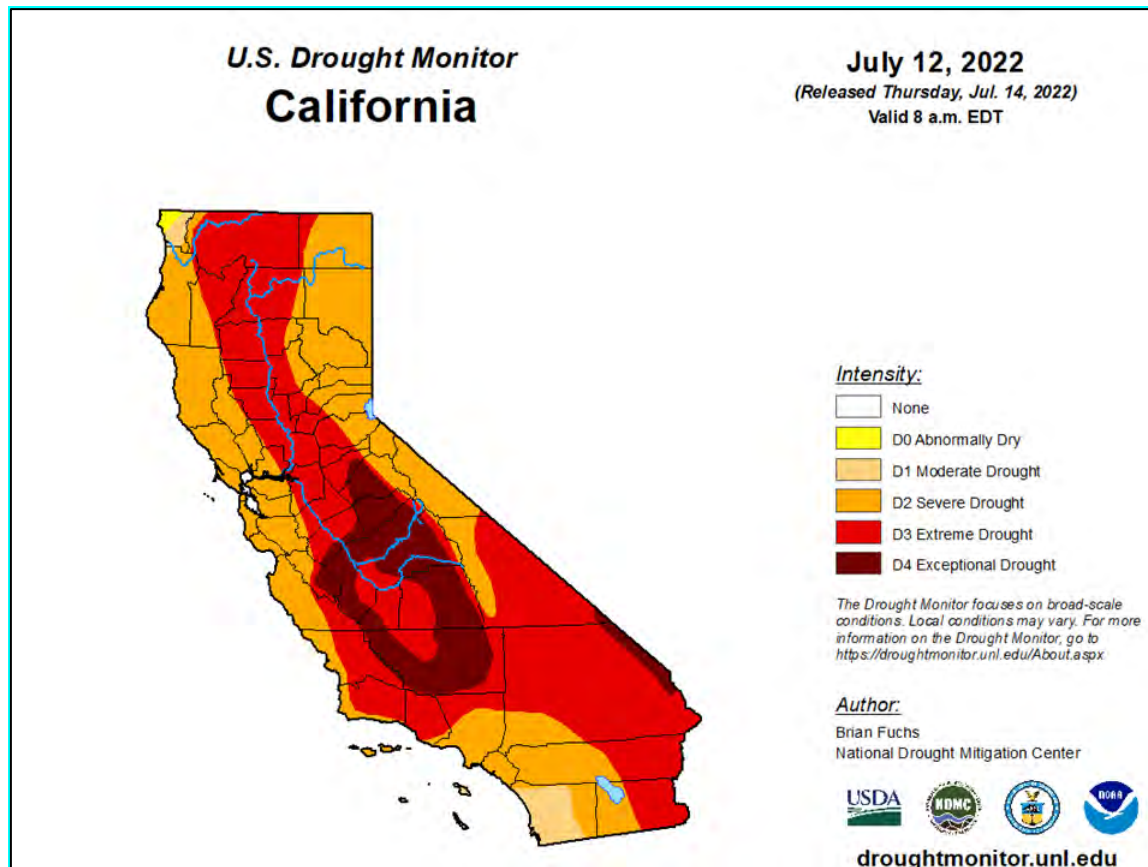


Figure 4: Drought Monitor Map

SSJID has reliable water supplies in normal and wet years, but serious issues can arise during droughts. SSJID experienced a severe multi-year drought from 2012 to 2016, and another significant dry year in 2022. Some highlights during the 2012-2016 drought included:

1. The Board of Directors declared a Drought Emergency
2. Surface water supplies were rationed to growers
3. Urban water deliveries were cut by 20%
4. SSJID released six 'Emergency Drought Bulletins' (see **Appendix B** for one of the bulletins), which conveyed the dismal water supply situation to customers with statements such as: *'New Melones Reservoir is running out of water', 'the picture for SSJID and our farmers is bleak' and "if the pattern of drought conditions continues, there is a very real possibility our [SSJID and agriculture users] water supply will not last through the end of the 2016 irrigation season."*
5. SSJID created a Drought Task Force to assist growers with drought related issues. The Task Force worked directly with more than 550 customers.

6. Several new management measures had to be adopted to address the water shortages, including allowing intra-district transfers of surface water allotments, use of district facilities to transfer water from private wells, and new rules and regulations regarding water theft.

Appendix C includes figures from the US Drought Monitor website that show the historical severity of droughts in SSJID and California (<https://droughtmonitor.unl.edu>). They show that SSJID has experienced 'Extreme' and 'Exceptional' droughts. **Appendix C** also includes a figure showing that the majority of California has experienced some level drought since 2001.

- *Describe any projected increases to the severity or duration of drought or water scarcity in the project area. Provide support for your response (e.g., reference a recent climate informed analysis, if available).*

The District's 2020 Agricultural Management Plan (AWMP) (Section 6.2) included a detailed assessment of climate change impacts on the District based on published climate change studies. The AWMP states that *"climate change is expected to bring more frequent and more severe droughts in the future."* (pg 6-16)

The shift from less snow to more rainfall could impact supplies due to limited storage capacity. The AWMP states: *"The shift in runoff toward the winter period and projected reduction in total runoff have the potential to impact surface water supply in the future if sufficient storage is not available to retain winter runoff".* (6-15)

Water demands could also increase due to higher evapotranspiration rates. The AWMP states that *"Projected NIWR (net irrigation water demand) increases range from 1.5 to 3.2 percent during the 2020s period, 1.8 to 4.7 percent during the 2050s period, and 2.2 to 5.4 percent during the 2080s period."* (pg 6-16). These higher demands would exacerbate drought conditions.

SSJID also participated in the Eastern San Joaquin Water Resources Model as part of the development of their Groundwater Sustainability Plan. When projected climate change impacts were added to the model *"the Subbasin remains in overdraft conditions, indicating that additional Projects and Management Actions will be required in the future to address climate change impacts on the groundwater basin"* (pg ES-7). In other words, new projects, such as the proposed Advanced Metering Infrastructure Project, are needed to adapt to climate change.

- *Explain and provide detail of the specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service.*

Growers in SSJID generally use surface water first then pump groundwater to meet remaining demands. The project will conserve surface water, which will in turn offset

groundwater pumping. As shown in **Appendix A**, this will reduce energy usage by 1,266,500 kw-hr/year. Specific issues are discussed below:

Regional Power Outages. California has had issues for years with both planned and unplanned power outages due to high energy demands. These often occur during the irrigation season, when temperatures are high and air conditioning results in peak demands. The proposed project will help to reduce demands during these peak periods.

Forest Fire Impacts on Energy Reliability. California has also had to shut off power during forest fires and to reduce the risk of powerlines triggering forest fires. This has impacted energy supplies throughout the electric grid, but energy conservation can help to alleviate the impact.

Statewide Energy Security. In a September 2022 article entitled “*California’s Latest Power Grid Problems are Just the Beginning*”, Politico discusses the energy security issues in California, how they are exacerbated by higher temperatures from climate change, long periods required for permitting new power projects, and the postponement in decommissioning nuclear power to ensure energy demands are met.

- *Please describe how the project will directly address the concern(s) stated above.*

Water Shortages and Droughts

The project will conserve an estimated 6,545 AF/year by improving irrigation efficiencies and reducing operational spills. Water savings will occur in all hydrologic year types. The conserved surface water will reduce groundwater pumping, which will allow groundwater storage to increase and create dry-year reserves.

Energy Reliability

The project will reduce energy usage by 1,266,500 kw-hr/year, primarily during the irrigation season when energy demands peak due to air conditioning use. This will help with regional and statewide energy reliability. Reductions in energy usage will consistently occur every year.

- *Will the project directly result in more efficient management of the water supply? For example, will the project provide greater flexibility to water managers, resulting in a more efficient use of water supplies?*

The project will result in more efficient water management in many ways, including:

Reduction in Operational Spills. SCADA systems provide water managers with real-time data on the flow rates and volumes of water at key points in a water delivery system. Access to such data allows water managers to make accurate and timely water releases, helping to reduce spillage. SSJID operators will be able to reduce operations spills by an estimated 3,900 AF/year. (See Criteria A for more details)

Measurement Accuracy. Good water management requires accurate and timely water measurement. The new magmeters will have measurement accuracy of +/- 0.5%, compared to just 11% with the previous method, which relied on estimating flows using various operational data. The new system will enable district billing based on flow meter data and provide real-time flow rates, flow totals and pump run status to district operations personnel and customers.

Water Budget Accuracy. The District-wide water budget currently estimates on-farm deliveries as a closure term with an 11% accuracy, since not all turnouts are metered. This project will be a significant step in improving the District-wide water budget, which is an important tool for water management, estimating losses, and managing water supplies.

Equitable Water Distribution. The project will facilitate more accurate and equitable distribution of water within a district. Each grower will receive and be billed for more equal quantities of water.

Response to Unanticipated Events. SCADA monitoring will improve detection and response to unanticipated events such as leaks, canal breaks, valve malfunction, etc, which will become evident with the real-time data.

Improved Irrigation Efficiencies. Knowing the exact quantity of water being used in real time will help growers to better match water usage to irrigation schedules, and reduce waste in the form of tailwater and over-deliveries. This can also help to improve crop yield.

- *Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

The conserved surface water will generally be beneficially used by agricultural or urban customers, which will offset groundwater pumping. Reductions in groundwater pumping has numerous benefits, including:

- Reduced pumping costs
- Reduced energy usage
- Reduced greenhouse gas emissions
- Preservation of groundwater for droughts
- Rise in groundwater levels
- Improvement in groundwater sustainability
- Increased well yield
- Reduction in wells going dry

Some of the surface water may go unused and be left in the Stanislaus River, which would help important fisheries habitat.

- *Indicate the quantity of conserved water that will be used for the intended purpose(s).*

All of the conserved water (6,545 AF/yr) will be available for use by growers or urban agencies. In certain years, based on demands, river flows, and reservoir storage, some water may be released to the Stanislaus River and benefit fisheries and riverine habitat.

- *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.*

The District's water allocation system will ensure the conserved water is put to its intended use. Water conserved under the project will remain in the district's distribution system to the benefit of all water users. If surplus water supplies are available the growers will be notified and encouraged to use the water in place of groundwater pumping, or offered to urban water users, or, as a backup, the water will be carried over in reservoir storage in both Woodward and New Melones Reservoirs.

- *Will the project assist States and water users in complying with interstate compacts?*

SSJID is not subject to an interstate compact as it does not border another state.

- *Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?*

SSJID is required to comply with California's Sustainable Groundwater Management Act (SGMA), which requires groundwater basins to gradually achieve sustainability by 2040. SSJID is located in the Eastern San Joaquin Groundwater Subbasin, which is considered '*critically overdrafted*' by the State of California. The project will make greater use of surface water when it's available, and conserve groundwater supplies to help meet sustainability goals.

The project has also garnered regional support from the Eastern San Joaquin Groundwater Authority (ESJGWA) which is a Joint Powers Authority comprised of all 16 Groundwater Sustainability Agencies (GSA) within the Eastern San Joaquin Subbasin. The ESJGWA was formed to collectively represent the common interests of all 16 GSAs in pursuit of compliance with SGMA. ESJGWA adopted a resolution identifying the Advanced Metering Infrastructure Project as a priority for the basin and for funding (see **Appendix E**).

SSJID is part of the greater South San Joaquin Groundwater Sustainability Agency. The local groundwater basin was identified as '*critically overdrafted*' by the State of California and experienced overdraft conditions for many years leading up to the development of the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan. **Figure 5** shows groundwater level decline in one of the South San Joaquin Representative Monitoring Sites.

The well shows a gradual decline in groundwater levels, resulting in less groundwater reserves for SSJID. At this site the groundwater level has also fallen below the Measurable Objective, which is the groundwater level goal established to achieve sustainable groundwater supplies. With multiple agencies using the same groundwater basin, achieving groundwater sustainability could lead to conflicts and tensions. Some groundwater basins have been put under probation by the State of California, and are at risk of having the State take over management of the local groundwater. SSJID and the local groundwater basin could similarly be under this risk if the groundwater is not managed sustainably.

The severe statewide drought of 2012-2016 and SGMA have both increased tensions for water in the region. SSJID developed a Drought Management Plan in 2015 and worked cooperatively with other local agencies to develop a Groundwater Sustainability Plan in 2020 to address these issues. As a result of these efforts, the District has identified numerous projects that could help improve water reliability, including the proposed Advanced Metering Infrastructure Project.

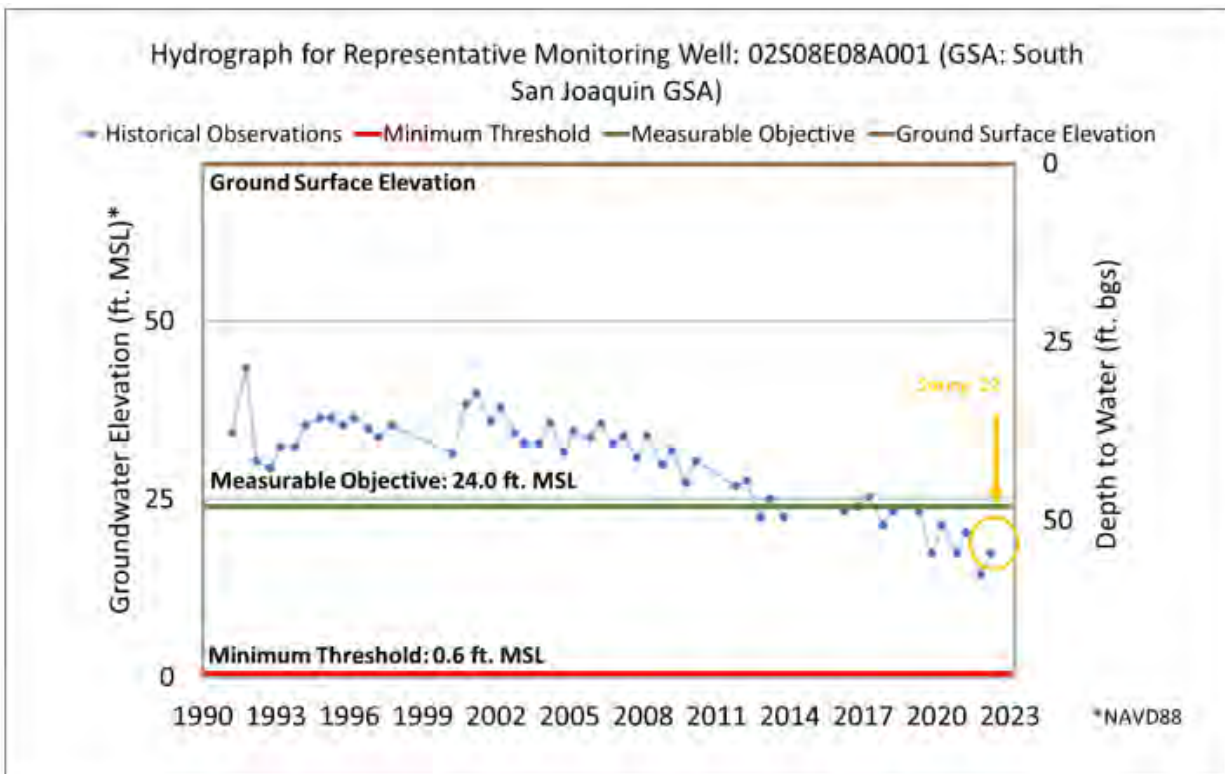


Figure 5: Groundwater Hydrograph in SSJID

Ecological Benefits.

- *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 describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).*

Yes. Since the project seeks to conserve surface water resources, this project will improve ecological resiliency for wildlife habitat of waterfowl, fish, and other species that live in or near New Melones Reservoir, the Stanislaus River, and its tributaries. Fish species are impacted by the USBR New Melones Dam, including the federally threatened Central Valley Steelhead Trout.

- *Will water remain in the system for longer periods of time? If so, provide details on current/future durations and any expected resulting benefits (e.g., maintaining water temperatures or water levels, recreational benefits, etc.).*

Yes. Surface water conserved will reduce groundwater pumping, which will remain in the local aquifer to maintain groundwater levels for other uses including municipal, industrial, and domestic as well as improve baseflow for surface water uses in the Stanislaus River.

Some conserved surface water may be stored for future use in both Woodward and New Melones Reservoirs. The District is able through the 1988 Agreement and Stipulation with the Bureau of Reclamation to store carryover water in a New Melones Conservation Account. The District along with Oakdale Irrigation District have historically made water available to Reclamation for release to the Stanislaus River to provide flow benefits for river reaches downstream of Goodwin Dam. Timing of release downstream of Goodwin can be coordinated to provide both attraction flows, winter instability flows, spring pulse flows, or meet temperature needs for anadromous fish.

- *Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?*

The project could help reduce demands on water supplies in the Stanislaus River in dry years, which support various aquatic and terrestrial endangered species. These demand reductions will potentially be available every year, even in dry years.

- *Please describe any other ecosystem benefits as a direct result of the project.*

With improved irrigation efficiency, there will be a reduced chance of leaching fertilizers and pesticides past the root zone and eventually into the aquifer. Since groundwater is the source of drinking water in SSJID, contaminant prevention will protect human health. Additionally, with proper irrigation, the opportunity for harmful compounds in runoff will be minimized. This will protect surface water, for fish and wildlife, and humans.

Climate Change.

- *Describe how the project addresses climate change and increases resiliency. For example, does the project help communities adapt to bolster drought resilience?*

The project will build long-term resilience to drought, which climate change is predicted to intensify, by improving irrigation efficiency, reducing groundwater pumping, and storing groundwater as a dry-year supply. The project benefits will be realized over the entire 72,000-acre District and within the three Cities that receive SSJID water, since new water supplies will increase the allocation for all water users. Additionally, the cities of Escalon and Ripon are exploring opportunities to connect to the District's Water Treatment Plant and reduce their groundwater reliance. The project is not intended to provide water supply for population growth or new cropping, but rather to help improve water reliability, especially in droughts.

- *Does the project seek to improve ecological resiliency to climate change?*

The project will reduce demand, or the timing of demands, from the Stanislaus River. This could beneficially impact many miles of riparian habitat along the Stanislaus River, and in New Melones Reservoir, which is important for fish, waterfowl, and their habitat.

- *Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution?*

Yes. Reduced pumping of groundwater (in response to improved water use efficiency) will result in lower production of greenhouse gases regardless of the energy source to pump the water. Since the energy source of the irrigation pumps is either electricity or internal combustion engines, and most electricity is generated from fossil fuels, reduced pumping for irrigation will have an effect of lowering greenhouse gases in the atmosphere.

The project will also reduce air pollution through a significant reduction in motor vehicle miles. With the new telemetry system, field staff will require significantly less trips to each site for monitoring and meter reading.

- *Does the proposed project include green or sustainable infrastructure to improve community climate resilience?*

Yes. The remote telemetry units will be powered by small solar panels with battery backup and will not require electric hookups. In addition, energy will be conserved by replacing pumped groundwater with gravity-fed surface water. This will also cause groundwater levels to slightly rise, lowering pumping lifts for the area surrounding the project.

- *Does the proposed project contribute to climate change resiliency in other ways not described above?*

Climate change is expected to result in more precipitation as rainfall and less as snowfall. Hence, the watershed will have a lower ability to serve as a reservoir for storing water.

The reduced groundwater pumping and increased groundwater storage will serve as an alternative way to store water, and provide water supplies in dry years.

EVALUATION CRITERIA D – DISADVANTAGED COMMUNITIES, INSULAR AREAS, AND TRIBAL BENEFITS

SUBCRITERION D.1 – DISADVANTAGED COMMUNITIES

- If applicable, describe how the proposed project will serve or benefit a disadvantaged community, identified using the tool. For example, will the project improve public health and safety by addressing water quality, add new water supplies, provide economic growth opportunities, or provide other benefits in a disadvantaged community?*

The project will provide regional benefits to the entire service area of SSJID by improving surface water efficiency and ultimately reducing groundwater pumping. Reducing groundwater pumping will improve the Subbasin's critically overdrafted groundwater conditions and make more groundwater available to underserved communities and other public water systems. SSJID supplies urban water to the following cities: Escalon, Lathrop, Manteca, and Tracy. SSJID also supplies raw water to the City of Ripon for non-potable use. **Figure 6** shows areas served by SSJID and US Census areas that are considered disadvantaged based on the Climate and Economic Justice Screening Tool.

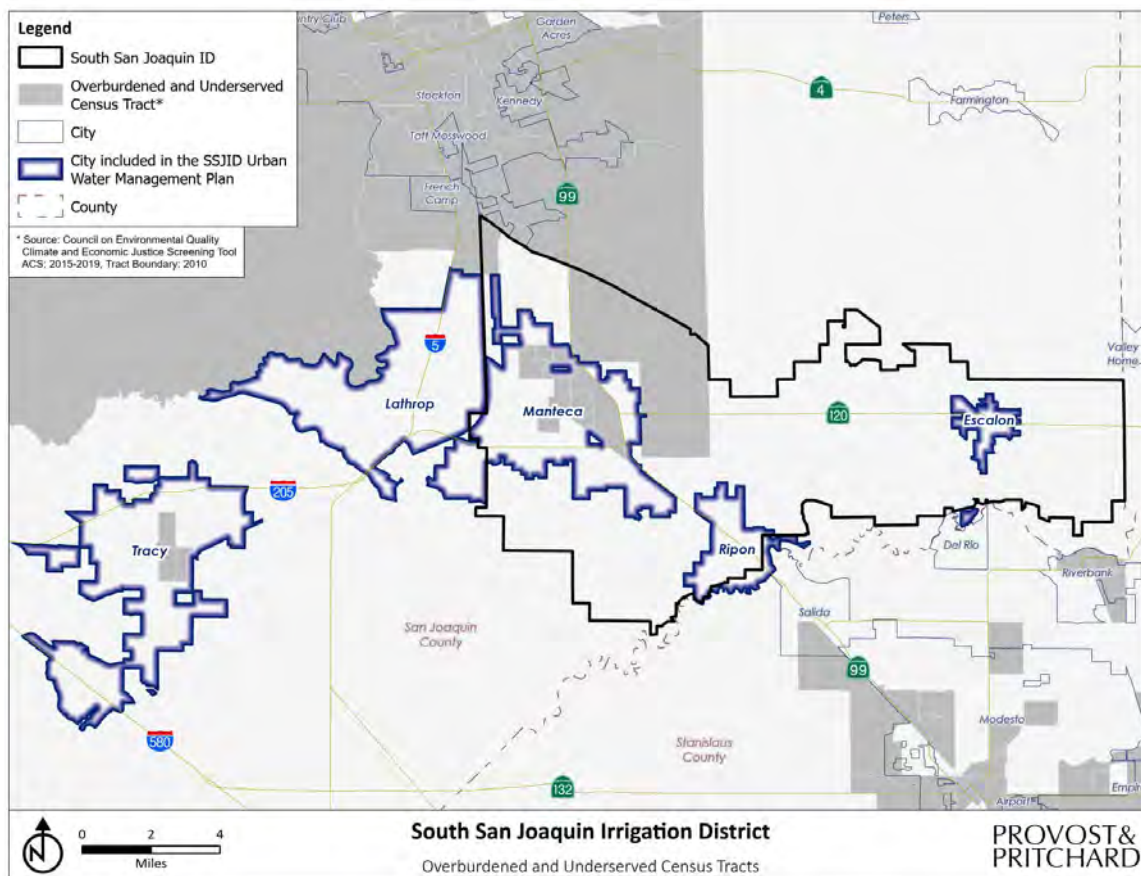


Figure 6: Overburdened and Underserved Census Tracts

The Cities of Manteca, Tracy, and rural areas within SSJID are disadvantaged. Based on the Tool, SSJID serves approximately 4,171 acres of disadvantaged City areas through the SCWSP and 8,560 acres of disadvantaged rural areas within SSJID, for a total disadvantaged area of 12,731 acres. Based on City land areas, the estimated disadvantaged population is 20,590.

Public Health Concerns: The primary public health concerns include water shortages for basic consumption, health and sanitation needs. SSJID delivers treated drinking water to the Cities of Manteca, Escalon, Lathrop, and Tracy through a regional urban water program. The goal of this Program is to “*protect and enhance the economic health of the region by providing reliable, safe supplemental water to cities*” (2020 Urban Water Management Plan, pg. 15). Consecutive dry years from 2012 to 2015 resulted in a 20% cut back of historical deliveries to these Cities in 2015. Public health concerns also include impacts to rural domestic wells found throughout SSJID rural areas. During droughts, shallow domestic wells are the most susceptible to going dry and may also experience water quality impacts such as elevated TDS or nitrates.

Social Concerns. SSJID and surrounding areas have a water-dependent economy, since agricultural is a major economic driver, and all agriculture is dependent on irrigation. The primary social concerns are therefore droughts and water shortages, and their impact on jobs and the economy, and the spread of poverty. Job security could be jeopardized for farmers, farm workers, as well as those working in agriculture management, food processing and agricultural equipment and supplies. SSJID also includes a disadvantaged population of about 20,000 residents.

The growers and urban residents both have groundwater as an alternate source in case of surface water reductions in dry years. The proposed project helps to strengthen and expand groundwater reserves.

General economic losses from current and future drought conditions can include reduced property values, lower tax revenue, and higher water costs for water users. For SSJID, a reduction in surface water during droughts results in the following losses:

1. Less water available to deliver to growers and cities.
2. Less hydropower generation at SSJID’s Tri-Dam power generation facilities
3. Higher energy costs associated with groundwater extraction

SSJID’s land area is largely agricultural, and virtually all of the agriculture is irrigated and dependent on reliable water supplies. According to the San Joaquin County Agricultural Commissioner’s Office, the County’s 2022 gross agricultural production was valued at \$3.2 billion.

The California Department of Food and Agriculture prepared a report in February 2022 entitled “*Economic Impacts of the 2021 Drought on California Agriculture*”. The report covers the entire State, but also has local information on specific hydrologic regions. A

copy of the report can be found at: https://www.wsm.ucmerced.edu/wp-content/uploads/2022/02/2021-Drought-Impact-Assessment_20210224.pdf. The report notes that the 2020-2021 water years were the second driest two-year period on record. It also states that the drought was marked by warmer temperatures, dry antecedent moisture conditions, higher evapotranspiration rates, and reduced crop yields. According to the report, the State has had the following impacts the previous two years:

- 395,100 acres of idled cropland
- Total economic losses of \$1.7 billion
- 14,634 jobs lost
- Surface water cutbacks of 1,048,000 AF in the San Joaquin River Hydrologic Region (where SSJID is located)

SUBCRITERION D.2 – TRIBAL BENEFITS

- ***Does the proposed project directly serve and/or benefit a Tribe?***

SSJID has entered into a long-term water transfer agreement with the Chicken Ranch Rancheria Me-Wuk Indians of California. While the water transfer is not a component of this project, the conserved water supplies will help to make this transfer more viable.

- ***Will the project increase water supply sustainability for an Indian Tribe?***

See above.

- ***Will the Project provide renewable energy for an Indian Tribe?***

No.

- ***Does the proposed project support Tribal led conservation and restoration priorities, and/or incorporate or benefit indigenous traditional knowledge and practices?***

The long-term water transfer agreement with the Chicken Ranch Rancheria Mi-Wuks Indians was entered into with the understanding that the Tribe would put this water to beneficial use in a manner that would preserve the cultural identity and future of its people. The Tribe expressed a desire to secure a perpetual right beyond the term of the agreement that would support multiple generations.

- ***Does the proposed project directly support tribal resilience to climate change and drought impacts or provide Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, increased renewable energy, or economic growth opportunities?***

The District and OID have jointly entered into a long-term water transfer agreement with the Chicken Ranch Rancheria Mi-Wuks Indians of California to provide up to 2,400 AF/yr. Conserved water will enable the District to meet its long-term obligations under the agreement.

EVALUATION CRITERION E – COMPLEMENTING ON-FARM IRRIGATION IMPROVEMENTS

- *Describe any planned or ongoing projects by farmers/ranchers that receive water from the applicant to improve on-farm efficiencies.*

Planned and on-going projects include converting flood irrigation to drip or sprinkler irrigation. This has been an on-going trend for many years in SSJID to improve water efficiency.

SSJID previously had their own program for funding on-farm improvements. Active from 2011 through 2014, the On-farm Water Conservation Program offered an 80% cost share to growers for installing flow meters and irrigation system conversions. The program resulted in the installation of 116 magmeters. Although the program was successful, continued implementation would require additional external funding.

In a recent effort to fund on-farm improvements, in 2023, Stockton East Water District, North San Joaquin Water Conservation District and SSJID partnered to secure a \$5 million SWEEP Block Grant from the California Department of Food and Agriculture (CDFA). The State Water Efficiency and Enhancement Program (SWEEP) provides financial assistance to growers for on-farm irrigation system improvements that reduce GHG emissions and save water. In 2024, SSJID awarded four applicants totaling \$462,518. Awarded projects include solar panels, converting pressurized on-farm systems to utilize both groundwater and District surface water, soil moisture sensors, high-efficiency pumps, and conversion to lower green-house-gas emission fuels.

The SWEEP grant will be ending soon and SSJID will be looking for a new funding source for on-farm improvements. In recognition of the EQIP WaterSMART Initiative (WSI), SSJID plans to apply for an EQIP block grant to assist with future funding of on-farm efficiency projects.

- *Provide a detailed description of the on-farm efficiency improvements.*

Installation of magmeters is expected to improve irrigation efficiencies by 5% since growers will be able to better match supplies to irrigation schedules. Converting to more efficient irrigation systems, such as drip or sprinkler systems, can further improve irrigation efficiency by an additional 10%. In fact, magmeters are a required component of on-farm improvements in SSJID. The 2022 SSJID Water Master Plan states “Continued installation of magnetic flowmeters is required for all new drip/sprinkler systems and system modifications requiring District permitting and oversight” (Section 4.4).

- *Have the farmers requested technical or financial assistance from NRCS for the on-farm efficiency projects, or do they plan to in the future?*

SSJID staff have begun conversations with NRCS on funding opportunities and are interested in securing an EQIP block grant to support local growers. Growers have requested assistance from SSJID through the SWEEP program, which operate similarly to EQIP. SSJID has also contacted other SWEEP applicants to let them know that individual NRCS On-Farm Conservation Funding applications are due on November 15, 2024, which are made possible through the EQIP and the Inflation Reduction Act. SSJID's investment in water meters, coupled with its aggressive pursuit of funding from State and private sources for on-farm improvements, makes SSJID an excellent candidate to leverage federal investments through the WaterSMART Water and Energy Efficiency Grant Program.

- *If available, provide documentation that the on-farm projects are eligible for NRCS assistance, that such assistance has or will be requested, and the number or percentage of farms that plan to participate in available NRCS programs.*

Growers have recently been requesting SWEEP funding, which illustrates local interests in on-farm improvements. According to the SSJID Water Master Plan (Jacobs Engineering, 2022), out of 55,971 acres, 20,767 acres, or 37% of the total acreage, uses flood irrigation. It is recognized that not all these parcels will convert to sprinkler or drip irrigation, and some crops may only be conducive to flood irrigation, but this represents the maximum potential demand for on-farm improvements.

- *Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*

Appendix E includes a letter of support from a local grower, R.L Kamp Farms. The letter offers their support for the proposed project, and explains the benefits they see from smart meters, including improved irrigation efficiency. This letter represent local grower interest in magmeters, telemetry and the associated on-farm works improvements.

- *Describe how the proposed WaterSMART project would complement any ongoing or planned on-farm improvement.*

The magmeters and telemetry will complement on-farm improvements such as conversion to sprinkler or drip irrigation. Conversion to drip, sprinkler or micro-irrigation generally requires metering and is significantly enhanced with real-time SCADA equipment. The real time flow data, and long-term flow history, will allow growers to match deliveries to their planned irrigation schedules, reduce over deliveries that are lost as tailwater and seepage, and could improve crop yield.

- *Will the proposed WaterSMART project directly facilitate the on-farm improvement? If so, how? For example, installing a pressurized pipe through WaterSMART can help support efficient on-farm irrigation practices, such as drip-irrigation.*

Conversion to drip, sprinkler or micro-irrigation generally requires metering for proper operation and is significantly enhanced with real-time SCADA equipment.

- ***Will the proposed WaterSMART project complement the on-farm project by maximizing efficiency in the area? If so, how?***

The magmeters and telemetry will improve irrigation efficiency by an estimated 5%.

- ***Describe the on-farm water conservation or water use efficiency benefits that are expected to result from any on-farm work.***

Conversion from flood irrigation to different irrigation systems can improve efficiency an additional 10%.

- ***Estimate the potential on-farm water savings that could result in acre-feet per year. Include support or backup documentation for any calculations or assumptions.***

On-farm savings could include the 5% documented in this application for accurate metering, and an assumed 10% for conversion from flood to sprinkler or drip irrigation. Currently, 20,767 acres use flood irrigation. Conversion to more efficient irrigation systems and magmeter installations could reduce water demands by 20,767 acres x 3.5 AF/acre x 15% = 10,900 AF.

- ***Please provide a map of your water service area boundaries. If your project is selected for funding under this NOFO, this information will help NRCS identify the irrigated lands.***

Below is a map of the SSJID service area, including the proposed parcels that would be served by new magmeters.

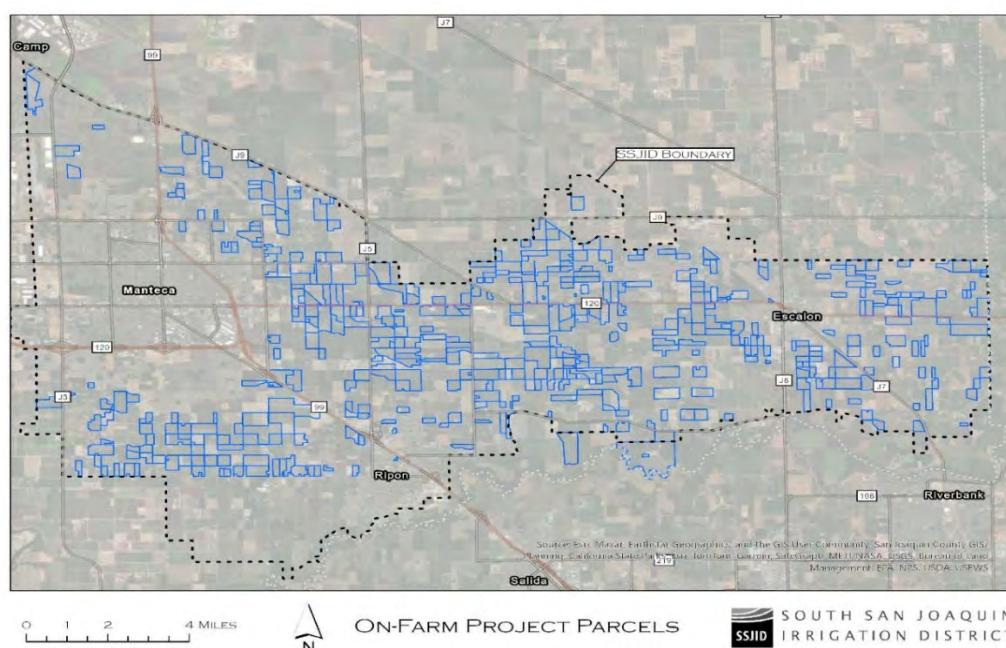


Figure 7: SSJID Service Area

EVALUATION CRITERION F – READINESS TO PROCEED

- *Identify and provide a summary description of the major tasks necessary to complete the project.*

The major tasks to complete the work include the following:

1. Environmental Review. Discuss proposed exemptions with USBR and file for CEQA Exemption and NEPA Exclusion.
2. Procure Equipment. Solicit bids from meter manufacturers and telemetry companies on equipment, review the bids and product features, and purchase the preferred equipment.
3. Install and Test Equipment. Install and test magmeters and telemetry equipment. This will also include SCADA integration.
4. Grant Administration. Perform contract management and required grant reporting.

SSJID is well-prepared for this project, with magmeters already in use, an extensive SCADA network, a full-time Telemetry Systems Manager and several support staff. They have the qualifications and experience to successfully complete this project.

- *Describe any permits that will be required, along with the process for obtaining such permits.*

No permits are required for the tasks performed under this project. SSJID has installed magmeters and SCADA equipment on their facilities before and no local, state or federal permits or approvals were needed. The meters will all be installed on District facilities so no special permission will be needed.

SSJID plans to apply for a CEQA Notice of Exemption and NEPA Categorical Exclusion. Refer to Section 3 – Environmental and Cultural Resources Compliance for discussions on why the approach is considered reasonable. SSJID will ensure USBR agrees with this approach before proceeding.

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

No design work is necessary for the project, but some planning work has been performed. These planning efforts have helped to validate the feasibility of the project, provided more detail on project features, operations, and project benefits, and provided sufficient information for a detailed cost estimate. These planning efforts include the following:

1. Equipment Research. Research on magmeters and telemetry equipment has been performed to identify potential suppliers, as well as the equipment features and options. This has included a review of specifications and the actual performance of similar equipment already installed in the District. This information will be used to identify which manufacturers can provide useful bids for the equipment.

2. Site Prioritization and Mapping. SSJID has identified and mapped high priority sites where meters will be installed. These are illustrated on **Figure 2**.

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

No new policies, rules & regulations, or other administrative actions are necessary for this project. SSJID will follow standard installation procedures used for magmeters in other locations within the District.

- *Describe the current design status of the project.*

SSJID has a standard detail for magmeter installation (see **Appendix D**). The District will install the new equipment using the standards and procedures they have used for other magmeter/telemetry installations throughout the District. No structural engineering or design work is necessary for this project. No excavation or construction is necessary for this project either. The project equipment will be a full-bore electromagnetic flow meter with cellular or radio communications technology. Meters will also be deployed with pipeline pressure sensors to alarm water managers of any potential issues.

- *Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Was the expected timeline for environmental and cultural compliance discussed with the local Reclamation regional office?*

It is assumed that the grant contract will be signed by November 1, 2025. It is estimated that all work will be completed by the end of June 2028, three months prior to the contractual deadline of October 2028. This provides a comfortable buffer in case of unforeseen delays. See the table below for a summary schedule.

Table 1: Project Schedule Summary

Task	Start Date	End Date
Contract Award (assumed)	Nov 2025	-
1 – Environmental Compliance	Nov 2025	Jan 2026
2 – Procure Equipment	Jan 2026	Mar 2028
3 – Install and Test Equipment	May 2025	May 2028
4 – Grant Administration	Nov 2025	Jun 2028
Contract Deadline	-	Oct 2028

Environmental compliance has not been discussed with Reclamation, but will be after award. Exemptions are being sought and three months has been reserved for this work.

It is anticipated that equipment will be purchased on a rolling basis due to the number of sites. According to the SSJID 2020 Agricultural Water Management Plan (pg A-15), as

of 2020, SSJID has already installed 310 magmeters in other areas. Staff are already trained in their installation, testing and operations, and can complete the project within the proposed timeline.

EVALUATION CRITERION G – COLLABORATION

- *Is there widespread support for the project? Please provide specific details regarding any support and/or partners involved in the project. What is the extent of their involvement in the process?*

The project benefits are described above, but the qualitative significance of the project benefits is best demonstrated by the numerous letters of support from stakeholders, which can be found in **Appendix E**. Several stakeholders provided letters of support including:

- City of Escalon
- City of Ripon
- Stockton East Water District
- US Congressman Josh Harder
- R.L. Kamps Farms
- Eastern San Joaquin Groundwater Authority Resolution R-24-03

The project has also garnered regional support from the Eastern San Joaquin Groundwater Authority (ESJGWA) which is a Joint Powers Authority comprised of all 16 Groundwater Sustainability Agencies (GSA) within the Eastern San Joaquin Subbasin. The ESJGWA is currently updating its Groundwater Sustainability Plan (GSP) which is due to the California Department of Water Resources (DWR) on January 31, 2025. On September 11, 2024, the ESJGWA Board of Directors adopted Resolution R-24-03 expanding the list of GSP projects to include the Advanced Metering Infrastructure Project and designates the project as regional priority for grant funding (see **Appendix E**). Water metering is a key strategy for GSAs to meet their sustainability goals under SGMA and to increase their water supply reliability.

The growers will be highly involved in the project implementation. Each participating grower that will be metered will receive education on the benefits and goals of the project, as well as guidance to access and use the flow data to improve their irrigation efficiency.

- *What is the significance of collaboration/support?*

The collaboration and support is significant since letters of support were provided by numerous stakeholder groups including District customers, cities that SSJID provides water to, neighboring water districts, and local legislators. There is no known opposition to the project. No letters of opposition have been received, and no opposition to the project has been voiced by any stakeholders.

Internally at SSJID, the Project will increase collaboration between watermasters and water users. The Project will provide real time water usage data that can be used by both District staff and water users to make informed decisions and better manage water deliveries.

In addition, the need for remote telemetry and measurement to improve water management has become evident in the SSJID. Many discussions have taken place with the SSJID Board of Directors, which is comprised of local landowners. They have individually voiced support for the project, and their intent to approve the resolution for this grant program.

- *Will this project increase the possibility/likelihood of future water conservation improvements by other water users?*

Yes. This innovative project will affect a very large portion of the Stanislaus River Basin. The successful implementation and completion of this project will have the potential to be replicated in other water management districts in the Central Valley of California, as well as other states.

- *Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?*

Water conserved due to improved surface water management will remain in the distribution system of SSJID for both agricultural and municipal water users. Conserved surface water will have the added benefit of offsetting groundwater pumping within the Project Area since water users will more likely use surface water than groundwater which has added pumping costs. Specific benefits to each water sector are described below:

Agricultural. SSJID provides agricultural water to over 50,000 irrigated acres. The project area will benefit from improved water management, more efficient use of surface water, reduction in groundwater use, and an increase in groundwater storage. The project will also reduce water fees for growers since they will use less water. This will also result in lower costs for other inputs, allow them to instead invest in other parts of their operation, and be more resilient when commodity prices decline.

Municipal. SSJID provides treated surface water to three Cities, and irrigation water to one City, including economically disadvantaged areas. Conserved agricultural water could leave more surface water for municipal use. The project could also result in less agricultural groundwater pumping, helping to reduce strain on the local aquifers, and improved groundwater conditions for the municipalities.

Domestic. Many rural residents and growers in the District have domestic wells. They will benefit from the reduction in groundwater use that could raise their groundwater levels, increase well yields, reduce the potential for wells going dry, and create reserves for use in droughts.

- *Please attach any relevant supporting documents (e.g., letters of support or memorandum of understanding).*

The letters of support, and resolution prioritizing the project from a regional water agency, are provided in **Appendix E**. The stakeholders submitting these letters were described above. None of the stakeholders are providing stakeholder contributions for the project.

EVALUATION CRITERION H – NEXUS TO RECLAMATION

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

SSJID has senior water rights on the Stanislaus River. After the USBR constructed the New Melones Reservoir on the Stanislaus River in 1979, the District entered into an agreement with the USBR describing how water was to be allocated between SSJID, the neighboring Oakdale Irrigation District (OID), and USBR. Consequently, SSJID has formal agreements with and shares major facilities with USBR including the 1988 Agreement and Stipulation between SSJID, OID and the Bureau of Reclamation.

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

Portions of SSJID and areas to the north, west and southwest of SSJID are within the USBR Central Valley Project (CVP) Place of Use, as shown in the figure below.

The Cities of Manteca, Lathrop and Tracy, which SSJID provides treated water to, are also within the CVP Place of Use. In addition, SSJID provides treated surface water to the City of Tracy, which also has a USBR Water Contract.

SSJID and OID jointly hold pre-1914 and post-1914 rights to the Stanislaus River. SSJID, OID and the Bureau of Reclamation entered into the 1988 Agreement and Stipulation which quantifies that the Districts are entitled to the first 600,000 AF of runoff into New Melones annually and how storage in New Melones would be allocated to the Districts when runoff is less than 600,000 AF. The 1988 Agreement and Stipulation details the Bureau of Reclamation's obligations in fulfillment of the District's senior water rights.

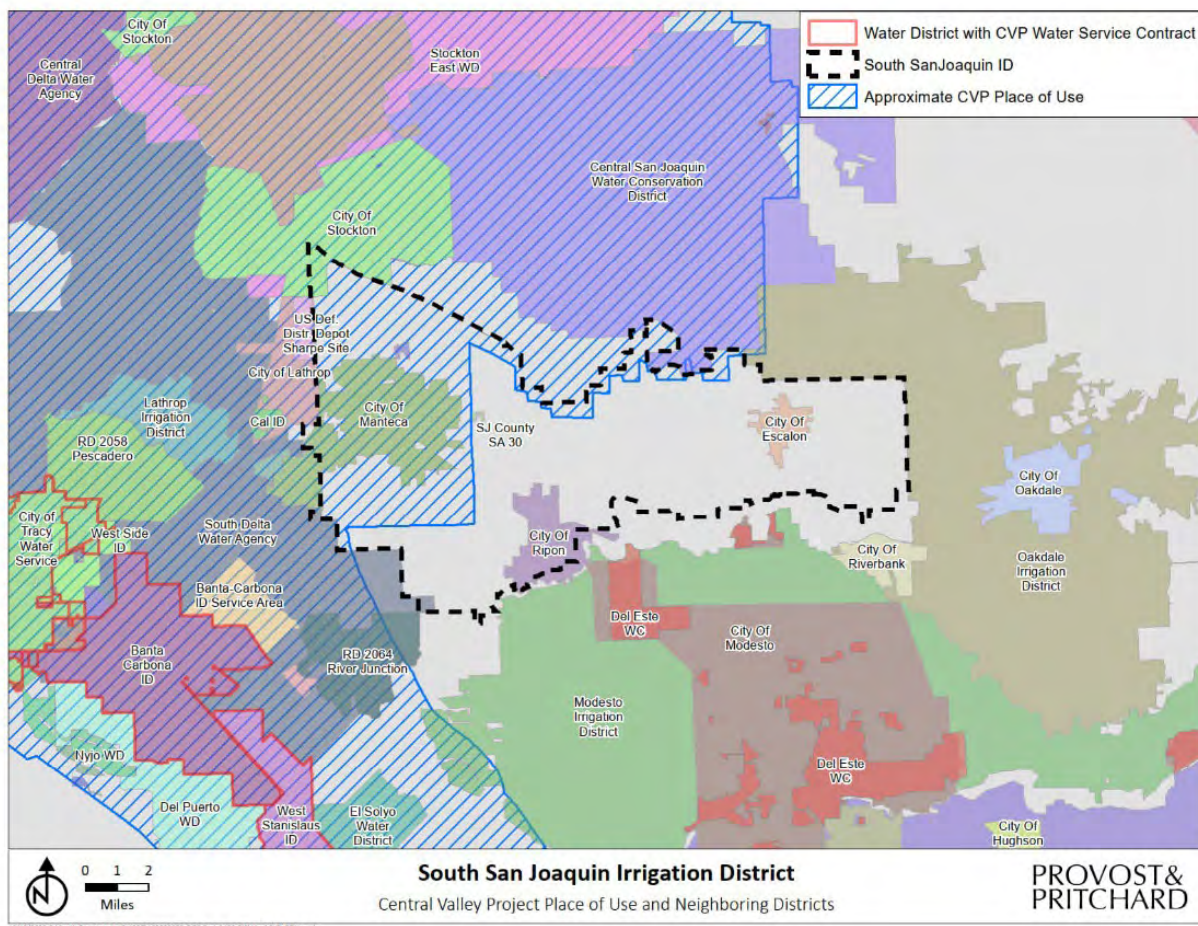


Figure 8: Central Valley Project Place of Use

- ***Will the proposed work benefit a Reclamation area or activity?***

The project and SSJID are located entirely within the San Joaquin River Basin, which was covered under the 2014 USBR Sacramento-San Joaquin Rivers Basin Study. As described above, parts of SSJID, and areas they serve urban water to or transfer water to, are within the CVP place of Use.

- ***Is the applicant a Tribe?***

No. The applicant is not a tribe.

(E) PERFORMANCE MEASURES

- *Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved or better managed, energy generated or saved).*

The performance measures to quantify project benefits will include the following:

Number of Growers Accessing Telemetry Flow Data. This will indicate how many growers are using the flow data to better manage their water supply to match irrigation scheduling/crop water demands.

Water Conserved. The water conserved can be measured in two ways. Water conserved is estimated as 5% of the flow through the meters based on studies in other areas. The pre-project and post-project deliveries can also be compared, though there will be challenges in comparing the data since current measurement methods are not very accurate, but trends may still be evident.

Energy Conservation. Reduction in energy usage, and greenhouse gas emissions, is directly proportional to the quantity of water conserved, since conserved water will supplant groundwater pumping.

Reductions in Operational Spills. The changes in historical spills will be tracked to determine if the project reduces operational spills.

Water Better Managed. All water flowing through the new meters will be better managed since it will be measured, and the data will be available to the growers and District in real time. The water will also be distributed more equitably to growers due to the more accurate measurement.

2 BUDGET NARRATIVE

FUNDING PLAN AND LETTERS OF COMMITMENT

SSJID believes this project is foundational to efficient water management and is therefore committed to providing the required funding. The District will pay all costs not covered by the USBR grant. There will be no third-party costs, no funding partners and no other funding requests have been made to federal or non-federal entities. SSJID has sufficient funds to meet their cost share and can provide cost share documentation on request. The project can be scaled by adjusting the number of new meter installations if only partial funding is available.

BUDGET PROPOSAL

Table 2: Total Project Cost by Funding Source

Funding Sources	Amount	Percentage
Costs to reimbursed with the requested Federal funding	\$2,000,000	49.7%
Costs to be paid by the applicant	\$2,024,263	50.3%
Value of third-party contributions	\$0	0%
Totals	\$4,024,263	100%

Table 3: Budget Proposal

Budget Item Description	Unit Cost
Personnel (SSJID)	\$207,904
Fringe Benefits (SSJID)	\$145,533
Travel	\$0
Equipment	
Magmeters	\$2,139,956
Telemetry Hardware	\$703,625
Supplies/Materials	\$514,495
Contractual	
Installation Contractor	\$240,750
Environmental Compliance	\$16,000
Grant Administration	\$30,000
Construction	\$0
Other	\$26,000
Total Direct Costs	\$4,024,263
Indirect Costs – 0.0%	\$0
Total Project Costs	\$4,024,263

Note: See **Appendix F** for a more detailed breakdown of the above costs

BUDGET NARRATIVE

- ***a. Personnel***

SSJID personnel will install the meters, except those with unknown pipe diameter which will require plumbing modifications and will be contracted.

SSJID staff will install 326 magmeters. The labor cost is based on two Water Meter Technicians working 8 hours at each site (16 hours total), and a wage of \$39.58/hr. This cost is based on installation of other magmeters in SSJID and is considered reasonable.

- ***b. Fringe Benefits***

Fringe benefits for Water Meter Technicians are 70% of their annual wages and cover all applicable payroll taxes and benefits. This is summarized in **Appendix F**.

- ***c. Travel***

There will be no travel costs. District staff will need to travel to turnout sites, but this will be no different than travel that occurs on a daily basis to these sites for monitoring, maintenance and operation of the distribution system, so there will be no added travel.

- ***d. Equipment***

Equipment costs will be for magmeters and telemetry. The unit costs and total equipment costs are shown in the cost estimate summary (**Appendix F**). These equipment costs are the result of pricing that SSJID received from several magmeter providers, including some that meet the Build America Act. SSJID may solicit additional bids for the equipment; if costs exceed the estimate provided then SSJID will cover the additional costs.

- ***e. Supplies***

Minor supply costs are included for installation materials at each magmeter site. Some supply costs will be needed for plumbing modifications.

- ***f. Contractual***

Sites with unknown flow meter sizes will require plumbing modifications since the pipe is not set up for a flow meter. The 107 “unknown” sites are estimated to be contracted out at \$225 per hour for 10 hours labor on average, for a total of \$2,250/site.

Other contractual costs include efforts for consultants to file a CEQA Categorical Exemption and NEPA Categorical Exclusion. Some costs were included to accommodate USBR review of these approaches. Overall costs are estimated to be \$16,000, but could be much less if USBR promptly concurs with the exemption approach.

Grant administration costs are estimated at \$30,000, or about 1.5% of the total project cost.

- ***g. Construction***

There will be no real construction work since the work includes installation of equipment. All costs are included in other categories.

- ***h. Other Direct Costs***

Other direct costs include integration with SSJID's existing SCADA system (\$10,000) and integration with the District's TruePoint water billing system (\$16,000) for a total of \$26,000.

- ***i. Total Direct Costs***

Total project costs are estimated to be \$4,024,263. Refer to **Appendix F** for a detailed breakdown.

- ***j. Indirect Costs***

The project will not have indirect costs.

3 ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

All questions within Section H.1 – Environmental and Cultural Resources considerations have been answered.

- *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.*

The project will have minimal impact on the surrounding environment. No earth-disturbing work will be required. Flowmeters will be installed on existing above-ground sections of pipelines (see **Figure 3**), and all telemetry will be placed above-ground. Installing the equipment will only involve foot traffic in previously disturbed areas, and vehicle traffic on paved and unpaved access roads.

SSJID is planning to apply for a California Environmental Quality Act (CEQA) Categorical Exemption and NEPA Categorical Exclusion for the project. These specific exemptions are listed below:

- *California Environmental Quality Act: Class 3: New Construction or Conversion of Small Structures, Class 6 – Information Collection*
- *NEPA: Categorical Exclusion C. Project Implementation Activities (3) Minor construction activities associated with authorized projects which correct unsatisfactory environmental conditions or which merely augment or supplement, or are enclosed within existing facilities.*

SSJID recognizes the importance of working closely with USBR on NEPA compliance, and will provide the necessary information needed to help ensure USBR agrees with this approach. No work will be performed until NEPA has been completed in cooperation with USBR.

- *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?*

There are no known threatened or endangered species or critical habitat in the project areas where equipment would be installed. It is very unlikely endangered species or habitat would be affected. Work will be performed in active and previously disturbed agricultural land. The work will be comprised of small above ground facilities that will not impact habitat or natural environment, and will not include any ground disturbing activities.

The project is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan.

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

There are no known wetlands or other surface water bodies in the areas where the equipment would be installed. Any other wetlands or water bodies within SSJID would not be impacted by the project.

- ***When was the water delivery system constructed?***

South San Joaquin Irrigation District was formed in 1909 to deliver water for agricultural production in southern San Joaquin County. Most of the District's delivery system was constructed in the early-1900s.

- ***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.***

The flowmeters will connect to existing above ground pipelines that are part of the irrigation system. Minor modifications to the pipelines will be needed at turnouts that have no meters. Pipelines that have existing grower-owned meters will require little to no modification. The pipelines were constructed some period in the last 40 years. The telemetry will not require modifications to any existing irrigation facilities.

- ***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. There are no known buildings, structures, or features within or near the vicinity of the project that are listed on the National Register of Historic Places.

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

There are no known archeological sites at the proposed meter locations. The project will also not include any ground disturbing work.

- ***Will the proposed project have a disproportionate and adverse effect on any communities with environmental justice concerns?***

The proposed project will not have a disproportionately high and adverse effect on low income or minority populations, or communities with Environmental Justice concerns. In fact, the service area of SSJID and the urban agencies served includes economically disadvantaged areas (see **Figure 6**). These areas will benefit from the project's water management, water sustainability and water supply benefits.

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

No. There are no known Tribal lands or ceremonial grounds in the project area. The project will also not include ground disturbing work.

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

No. The project will have no impact on weeds or invasive species.

4 REQUIRED PERMITS OR APPROVALS

No permits are required for the tasks performed under this project. SSJID has installed magmeters and SCADA equipment on their facilities before and no local, state or federal permits or approvals were needed. The meters will all be installed on District facilities so no special permission will be needed.

SSJID plans to apply for a CEQA Notice of Exemption and NEPA Categorical Exclusion. Refer to Section 3 – Environmental and Cultural Resources Compliance for discussions on why the approach is considered reasonable. SSJID will ensure USBR agrees with this approach before proceeding.

5 OVERLAP OR DUPLICATION OF EFFORT STATEMENT

SSJID does not have any projects that overlaps or duplicates the effort of the proposed project in terms of activities, costs, or commitment of key personnel. The proposed project has not been nor will be submitted for consideration to any other potential funding source – whether it be federal or non-federal. SSJID has staff and resources to complete the project.

6 CONFLICT OF INTEREST DISCLOSURE STATEMENT

SSJID is not aware of any actual or potential conflicts of interest that would impact either the grant application or the project if it is funded by USBR. SSJID will notify USBR promptly if a conflict of interest arises.

7 UNIFORM AUDIT REPORTING STATEMENT

SSJID was not required to file a Single Audit Report last year.

8 CERTIFICATION REGARDING LOBBYING

SSJID has not engaged in any federal lobbying, therefore form SF-LLL is not required.

9 LETTERS OF SUPPORT

The project benefits are described above, but the qualitative significance of the project benefits is best demonstrated by the numerous letters of support from stakeholders, which can be found in **Appendix E**. Several stakeholder groups provided letters including: cities that SSJID provides water to, water districts, local legislators and customers. Letters were received from the following:

- City of Escalon
- City of Ripon
- Stockton East Water District
- Congressman Josh Harder
- R.L. Kamps Farms Inc.
- Eastern San Joaquin Groundwater Authority Resolution R-24-03

On September 11, 2024, the ESJGWA Board of Directors adopted Resolution R-24-03 expanding the list of GSP projects to include the proposed metering project and also to declare the project as a regional priority for grant funding (See Resolution in **Appendix E**).

There is no known opposition to the project. No letters of opposition have been received, and no opposition to the project has been voiced by any stakeholders.

10 LETTER OF PARTNERSHIP

SSJID is a Category A applicant and has no project partnerships.

11 OFFICIAL RESOLUTION

A resolution will be provided if SSJID is selected for funding.

12 LETTERS OF FUNDING COMMITMENT

SSJID will provide all the cost share for the project, so no letters of funding commitment from other parties are needed.

13 UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT

SSJID is already registered with the System for Award Management and meets other requirements for award and implementation of a grant contract.

The District uses the following identifier:
Unique Entity Identifier: MGD1E55J5T95



City of Ripon

259 N. Wilma Avenue • Ripon, California 95366
Phone 209 599-2108 • Fax 209 599-2685
www.cityofripon.org

MAYOR

Leo Zuber

VICE MAYOR

Daniel de Graaf

COUNCIL MEMBERS

Gary Barton

Dean Uecker

Michael Restuccia

CITY ADMINISTRATOR/

CITY ENGINEER

Kevin Werner

CITY ATTORNEY

Thomas Terpstra

CITY CLERK/FINANCE DIRECTOR

Lisa Roos

DIRECTOR OF PLANNING & ECONOMIC DEVELOPMENT

Ken Zuidervart

DIRECTOR OF PUBLIC WORKS

James Pease

DIRECTOR OF RECREATION

Kye Stevens

October 30, 2024

Peter M. Rietkerk
General Manager
South San Joaquin Irrigation District
11011 E. Highway 120
Manteca, CA 95336

Subject: Letter of Support WaterSmart: Water and Energy Efficiency Grant for the South San Joaquin Irrigation District Advanced Metering Infrastructure Project – San Joaquin County, California

Dear Mr. Rietkerk:

I am writing to convey the City of Ripon's strong support for the for South San Joaquin Irrigation District (SSJID) Advanced Metering Infrastructure Project (AMI Project). SSJID is a trusted partner in the South San Joaquin Groundwater Sustainability Agency working side-by-side to ensure compliance with the Sustainable Groundwater Management Act (SGMA).

The SSJID AMI Project will provide many direct benefits for SSJID's agricultural customers by giving growers new real-time access to water delivery data using "smart-meters" connected to SSJID's communications network. Growers will have the ability call up this data on their smartphones and make decisions about irrigation operations leading to measurable savings in the amount of water diverted and applied. Additional benefits of the SSJID AMI Project water include increased crop quality, conservation of Stanislaus River supplies, and improved overall water management.

SSJID is taking a proactive approach with their AMI Project improving water use efficiency which is an important step towards managing both surface water and groundwater supplies. The City of Ripon (Escalon) strongly urges the Bureau of Reclamation's to select the SSJID AMI Project for a WaterSmart: Water and Energy Efficiency Grant.

Sincerely,

Leo Zuber
Mayor, City of Ripon



CITY OF ESCALON

CITY COUNCIL

2060 McHenry Avenue • Escalon, California 95320 • Office 209.691-7400 Fax 209.691.7439

October 24, 2024

Peter M. Rietkerk
General Manager
South San Joaquin Irrigation District
11011 E. Highway 120
Manteca, CA 95336

**Subject: Letter of Support for WaterSmart: Water and Energy Efficiency
Grant for the South San Joaquin Irrigation District Advanced
Metering Infrastructure Project – San Joaquin County, California**

Dear Mr. Rietkerk:

I am writing to convey the City of Escalon's strong support for the for South San Joaquin Irrigation District (SSJID) Advanced Metering Infrastructure Project (AMI Project). SSJID is a trusted partner in the South San Joaquin Groundwater Sustainability Agency working side-by-side to ensure compliance with the Sustainable Groundwater Management Act (SGMA).

The SSJID AMI Project will provide many direct benefits for SSJID's agricultural customers by giving growers new real-time access to water delivery data using "smart-meters" connected to SSJID's communications network. Growers will have the ability call up this data on their smartphones and make decisions about irrigation operations leading to measurable savings in the amount of water diverted and applied. Additional benefits of the SSJID AMI Project water include increased crop quality, conservation of Stanislaus River supplies, and improved overall water management.

SSJID is taking a proactive approach with their AMI Project improving water use efficiency which is an important step towards managing both surface water and groundwater supplies. The City of Escalon strongly urges the Bureau of Reclamation's to select the SSJID AMI Project for a WaterSmart: Water and Energy Efficiency Grant.

Sincerely,

David Bellinger
Mayor



**STOCKTON
EAST WATER
DISTRICT**

PROVIDING SERVICE SINCE 1948

www.sewd.net

DIRECTORS

Richard Atkins
President
Division 1

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6767 East Main Street
Stockton, CA 95215

Post Office Box 5157
Stockton, CA 95205

October 22, 2024

Peter M. Rietkerk
General Manager
South San Joaquin Irrigation District
11011 E. Highway 120
Manteca, CA 95336

Subject: Letter of Support WaterSmart: Water and Energy Efficiency Grant for the South San Joaquin Irrigation District Advanced Metering Infrastructure Project – San Joaquin County, California

Dear Mr. Rietkerk:

I am writing to convey Stockton East Water District's (SEWD) strong support for the South San Joaquin Irrigation District (SSJID) Advanced Metering Infrastructure Project (AMI Project). SSJID is a trusted partner in the Eastern San Joaquin Groundwater Subbasin, and our Districts work side-by-side to ensure compliance with the Sustainable Groundwater Management Act (SGMA).

The SSJID AMI Project will provide many direct benefits for SSJID's agricultural customers by giving growers new real-time access to water delivery data using "smart-meters" connected to SSJID's communications network. Growers will have the ability call up this data on their smartphones and make decisions about irrigation operations leading to measurable savings in the amount of water diverted and applied. Additional benefits of the SSJID AMI Project water include increased crop quality, conservation of Stanislaus River supplies, and improved overall water management.

SSJID is taking a proactive approach with their AMI Project improving water use efficiency which is an important step towards managing both surface water and groundwater supplies. SEWD strongly urges the Bureau of Reclamation's to select the SSJID AMI Project for a WaterSmart: Water and Energy Efficiency Grant.

Sincerely,

Thomas McGurk
Vice President

October 23, 2024

Peter M. Rietkerk
General Manager
South San Joaquin Irrigation District
11011 E. Highway 120
Manteca, CA 95336

RE: Support for the South San Joaquin Irrigation District (SSJID)'s WaterSMART Water and Energy Efficiency Grant Application for their Advanced Metering Infrastructure Project

Dear Mr. Rietkerk,

I write today in support of the South San Joaquin Irrigation District (SSJID)'s WaterSMART Water and Energy Efficiency Grant Application for their Advanced Metering Infrastructure Project (AMI Project). As a trusted South San Joaquin Groundwater Sustainability Agency partner, SSJID is working diligently to ensure compliance with the Sustainable Groundwater Management Act's goals of groundwater management and sustainability.

The SSJID AMI Project will provide many direct benefits for SSJID's agricultural customers by giving growers new real-time access to water delivery data using "smart-meters" connected to SSJID's communications network. Growers will have the ability to call up this data on their smartphones and make decisions about irrigation operations leading to measurable savings in the amount of water diverted and applied. Additional benefits of the SSJID AMI Project include increased crop quality, conservation of Stanislaus River supplies, and improved overall water management.

SSJID is taking a proactive approach with their AMI Project improving water use efficiency which is an important step towards managing both surface water and groundwater supplies. By funding SSJID's AMI Project, the region will experience a significant increase in water savings and conservation.

I'm very supportive of the South San Joaquin Irrigation District's Advanced Metering Infrastructure Project and the impact it will have on our community's groundwater balance and sustainability.

Sincerely,

A handwritten signature in black ink that reads "Josh Harder". The signature is written in a cursive, flowing style with a long horizontal stroke at the end of the word "Harder".

Josh Harder
Member of Congress

October 30 2024

Peter M. Rietkerk
General Manager
South San Joaquin Irrigation District
11011 E. Highway 120
Manteca, CA 95336

Subject: Letter of Support WaterSmart: Water and Energy Efficiency Grant for the South San Joaquin Irrigation District Advanced Metering Infrastructure Project - San Joaquin County, California

Dear Mr. Rietkerk:

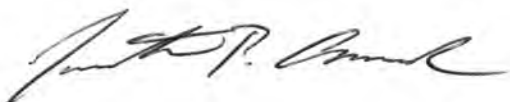
I am writing to convey my strong support for the for South San Joaquin Irrigation District (SSJID) Advanced Metering Infrastructure Project (AMI Project). I am a current SSJID irrigation customer and farm 400+ acres of almonds within the District.

The SSJID AMI Project will directly benefit my operation by providing me real-time access to water delivery data using "smart-meters" connected to SSJID's communications network. Having the ability to call-up data on my smartphone and being enabled to make timely decisions to improve irrigation operations will lead to significant savings. Not just in the amount of water I divert and apply, but the overall irrigation efficiency will help reduce power cost and labor costs. The "smart meter" data will also reduce the possibility of over or under irrigating a field. This gives us the opportunity to grow healthier more productive orchards.

I have personally been a SSJID customer for 13 years and this farm has been a customer for over 40 years. As a customer of 3 other surrounding water districts also, I can personally attest that SSJID consistently takes an proactive approach when it comes to improving water delivery to its customers more than others. The AMI Project is an important step towards improved management of both surface water and groundwater supplies. I appreciate SSJID's desire to be apart of this program and strongly urge the Bureau of Reclamation to select the SSJID AMI Project for a WaterSmart: Water and Energy Efficiency Grant.

Sincerely,

Jonathan Cloward
R.L. Kamps Farms Inc
SSJID Customer, Division 3,4, and 5.



**BEFORE THE BOARD OF DIRECTORS OF THE
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY**

RESOLUTION R-24-03

**RESOLUTION RECOGNIZING THE ADDITION OF PROJECTS AND MANAGEMENT
ACTIONS TO THE 2022 EASTERN SAN JOAQUIN GROUNDWATER SUBBASIN
GROUNDWATER SUSTAINABILITY PLAN**

WHEREAS, on August 29, 2014, the California Legislature passed, and on September 16, 2014, the Governor signed legislation creating the Sustainable Groundwater Management Act ("SGMA") "to provide local groundwater sustainability agencies with the authority and technical and financial assistance necessary to sustainably manage groundwater" (Wat. Code, § 10720, (d)); and

WHEREAS, SGMA requires sustainable management through the development of groundwater sustainability plans ("GSPs"), which can be a single plan developed by one or more groundwater sustainability agencies ("GSA") or multiple coordinate plans within a basin or subbasin (Wat. Code, § 10727); and

WHEREAS, Division 13 commencing with Section 21000 of the Public Resources Code (California Environmental Quality Act) does not apply to the preparation and adoption of GSPs (Wat. Code, § 10728.6); and,

WHEREAS, SGMA requires a GSA to manage groundwater in all basins designated by the Department of Water Resources ("DWR") as a medium or high priority, including the Eastern San Joaquin Subbasin (designated basin number 5-22.01); and

WHEREAS, the Eastern San Joaquin Groundwater Authority ("ESJGWA") formed as a Joint Powers Authority pursuant to Government Code § 6500 *et seq.* for the purpose developing a single GSP and coordinating sustainable groundwater management in the Eastern San Joaquin Subbasin (Wat. Code, § 10723.6(i)); and

WHEREAS, all 16 GSA Members adopted the ESJ GSP was submitted to the DWR and posted on DWR's SGMA portal on January 19, 2019, initiating the statutory public comment period and review by DWR; and,

WHEREAS, on January 28, 2022, the DWR issued a letter to the ESJGWA indicating that the submitted ESJ GSP was determined to be incomplete and directing the ESJGWA to address all identified deficiencies by July 27, 2022; and,

WHEREAS, the ESJGWA prepared significant revisions to the ESJ GSP supported by additional technical analysis and policy discussions which have been memorialized in several technical memoranda; and,

WHEREAS, by July 27, 2022, all 16 GSA Members adopted the Revised ESJ GSP which was subsequently submitted to DWR; and,

WHEREAS, on July 6, 2023, the ESJGWA received an Approved Determination Letter from the DWR for the Revised ESJ GSP; and,

WHEREAS, a number of GSAs have requested that their projects be added to the list of projects and management ahead of the 2025 Update to the ESJ GSP due to DWR by January 31, 2025.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the ESJGWA hereby approves as follows:

1. This list of projects is now added to the list of projects and management actions in the approved 2022 ESJ GSP:
 - a. Central San Joaquin Water Conservation District GSA – Mariposa Drain Water Delivery Improvement Project; and,
 - b. North San Joaquin Water Conservation District GSA – South System Pipeline Phase 4 Improvement Project; and,
 - c. South San Joaquin GSA – City of Escalon Alternative Water Supply – SSJID Water Treatment Plan Connection Project
 - d. South San Joaquin GSA – Q/Qc Conjunctive Use Project; and,
 - e. South San Joaquin GSA – SSJID Advanced Metering Infrastructure Project; and,
 - f. Stockton East Water District – Clements Road Pipeline Project
2. The projects listed are hereby deemed a priority for grant funding.
3. Further, the projects listed may be reprioritized in the future and are not explicitly endorsed by any Member GSA. A Member GSA retains the ability to individually oppose a project, or comment on its merits and impacts.

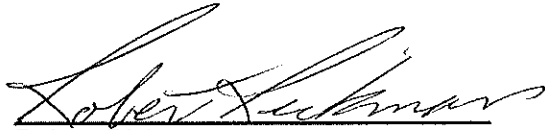
PASSED AND ADOPTED this 11th day of September 2024 by the following vote:

AYES: Jason Colombini, Mike Henry, Robert Holmes, Dante Nomellini, Christy McKinnon, Keith Bussman, Mitchell Maidrand, Mel Panizza, John Herrick, Myron Blanton, Eric Thorburn, Alan Nakanishi, and David Breitenbucher.

NAYS:

ABSTAIN:

ABSENT: George Biagi, Michael Blower, Paul Canepa, Anthony Carrasco, Kevin Jorgensen, Trais Kahrs, Mel Lytle, Scot Moody, Robert Rickman, Reid Roberts, Eric Schmid, Grant Thompson, Gary Tofanelli, Jose Valente, Andrew Watkins, and Dan Wright.



Robert Rickman
Chairman, Board of Directors
Eastern San Joaquin Groundwater
Authority



ATTEST: Fritz Buchman, C.E., P.E., CFM
Secretary, Board of Directors
Eastern San Joaquin Groundwater
Authority