

WaterSmart Grant:
Small-Scale Water Efficiency Projects

Grant Proposal
FOA No: BOR-DO-20-F006

Oleander Canal System
Flow Measurement & Management Project

Fresno Irrigation District
2907 S. Maple Avenue
Fresno, CA 93725
March 4, 2020

Prepared By
Laurence Kimura, P.E., Chief Engineer

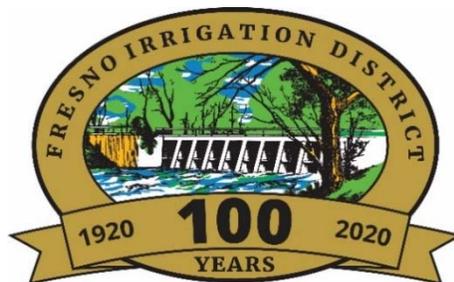


TABLE OF CONTENTS

TECHNICAL PROPOSAL & EVALUATION CRITERIA

1.0 EXECUTIVE SUMMARY

2.0 BACKGROUND DATA

3.0 TECHNICAL PROJECT DESCRIPTION AND MILESTONES

4.0 EVALUATION CRITERIA

PROJECT BUDGET

1.0 FUNDING PLAN & LETTERS OF COMMITMENT

2.0 BUDGET PROPOSAL

3.0 BUDGET NARRATIVE

ENVIRONMENTAL AND CULTURAL RESOURCE COMPLIANCE

REQUIRED PERMITS OR APPROVALS

LETTERS OF PROJECT SUPPORT

OFFICIAL RESOLUTION

TECHNICAL PROPOSAL

1.0 EXECUTIVE SUMMARY

Date: March 4, 2020

Applicant Name: Fresno Irrigation District

City: Fresno

County: Fresno

State: California

Fresno Irrigation District (FID or District), is pleased to submit this grant proposal for the Oleander No. 16 Canal Measurement Project (Project) to the United States Bureau of Reclamation (Reclamation) for the USBR WaterSMART Small-Scale Water Efficiency Project for Fiscal Year 2020 grant program.

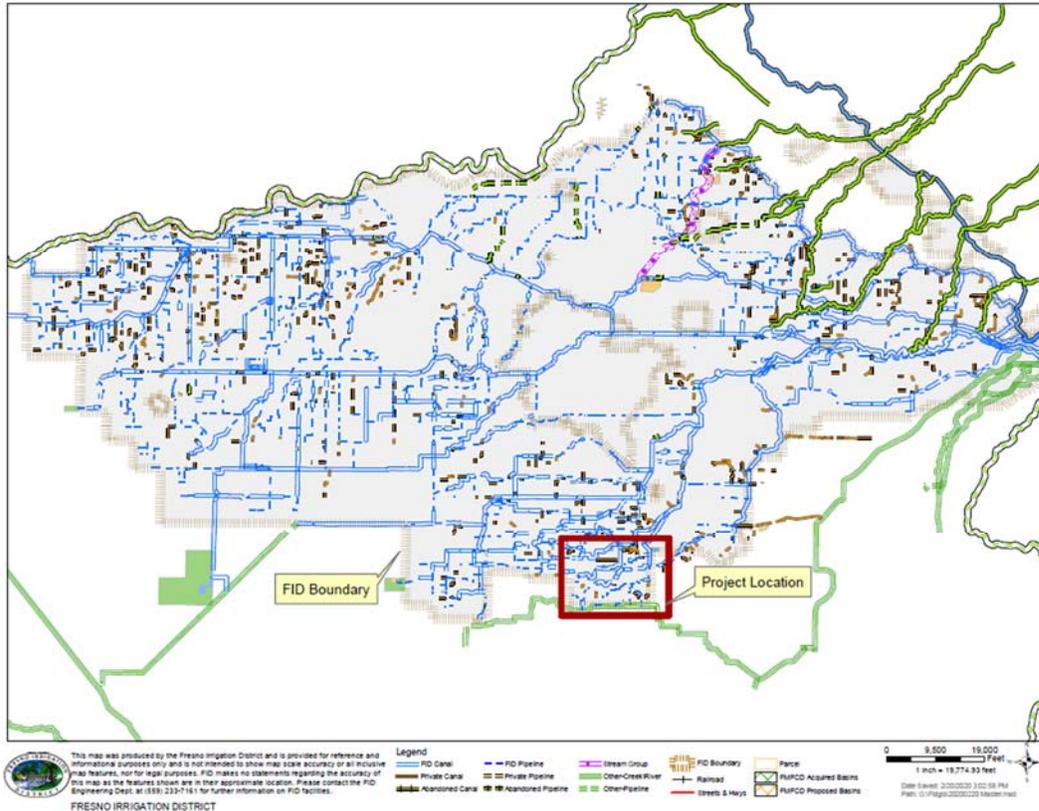
The purpose of the Oleander Basin, located at the southern portion of the District, was to regulate flows in the Oleander Canal system as well as to recharge groundwater. Currently, the Oleander Canal lacks flow measurement near this basin to manage flows to match downstream demands. As a result, spills occur at the downstream end of the Oleander Canal into the neighboring Consolidated Irrigation District's (CID) Wristen Canal, leaving the FID service area. The Fresno Irrigation District (District) proposes to install two flow meters in the Oleander Canal System, specifically at the divide of the Oleander No. 16 and Wilson No. 230 canals, just downstream of the Oleander Basin. Measurement at this location will allow the District to match downstream demands, and any surplus flows will automatically be diverted into the Oleander Basin for groundwater recharge within the District boundaries. This will eliminate spills into the CID system. Additionally, it will improve the reliability of water delivery to growers in the area, reduce reliance of growers on groundwater to fill in their water needs due to current lack of reliability in delivery, and reduce potential groundwater overdraft within and outside the area.

The District proposes to perform environmental studies (CEQA/NEPA) immediately upon notification of the grant award, procure two flow meters which best fits the proposed use/application upon completion of CEQA/NEPA, and install the flowmeters potentially as early as November of 2020 if the grants are awarded in June 2020. The District's construction crew will perform the field work to install the meters. It is highly unlikely that legal or financial troubles will delay the schedule as the work would take place within the District's canal facility.

2.0 BACKGROUND DATA

Project Location

The Fresno Irrigation District is located in the County of Fresno in the State of California, approximately 180 miles southeast of San Francisco. The project is located in the southern portion of the District's geographic boundaries at Latitude 36°38'49.5"N Longitude 119°44'16.5"W. See Vicinity Map below.



Distribution System

The Fresno Irrigation District was formed in 1920 as the successor to the Fresno Canal and Land Company. The District is a public irrigation district and is primarily agricultural but includes the growing metropolitan area of the cities of Fresno and Clovis. The District comprises approximately 245,000 acres and lies entirely within Fresno County, California. The District operates approximately 680 miles of canals and pipelines. FID has an extensive SCADA system with over 100 remote measurement, control, and automation locations.

Water Source

FID is a conjunctive-use District and utilizes surface water for groundwater recharge in high hydrologic years, which can be later recovered by groundwater well users in dry years. The primary water source for the District is the Kings River. The District is entitled to approximately 26 percent of the average annual runoff of the Kings River and has 143,000 acre-feet of storage behind Pine Flat Dam and upper storage reservoirs. The District also has a contract with the U.S. Bureau of Reclamation (USBR) for 75,000 acre-feet of Class 2 water allocations from the Friant Division of the Central Valley Project (CVP) that is generally received in above-normal years. The District and the City of Fresno have collaborative agreements that enable delivery of the City's 60,000 acre-feet of Class 1 water for beneficial uses such as Municipal and Industrial (M&I) uses, surface water treatment, and groundwater recharge.

Water Use

In a normal year, the District delivers approximately 500,000 acre-feet of water mostly to agricultural users. FID delivers water to its approximately 8,000 customers through 4,000 turnouts on a rotation and call-on demand system. The agricultural lands within the District boundaries are predominantly permanent crops. The major crops are almonds, grapes, and citrus fruits. The total irrigated area exceeds 130,000 acres. The District's mission is to protect and manage the surface and groundwater resources within the District for present and future use by the people and lands within its boundary. The District partners with the City of Fresno, the City of Clovis, the County of Fresno and the Fresno Metropolitan Flood Control District in a cooperative effort to develop and implement a surface as well as a groundwater management program.

Past Working Relationship with the Bureau of Reclamation

The District and the Bureau of Reclamation interact on a **regular basis** on water operations since the District is part of California's Central Valley Project, Friant Division.

The District has **banked water for Reclamation**. The District banked winter waters for Reclamation as part of the San Joaquin River Restoration Program and provided water to M&I districts when the demands occurred during a time when the Friant Division had zero water supply allocation during the recent drought in California.

The District has been successful in obtaining other **USBR grants in the past** including:

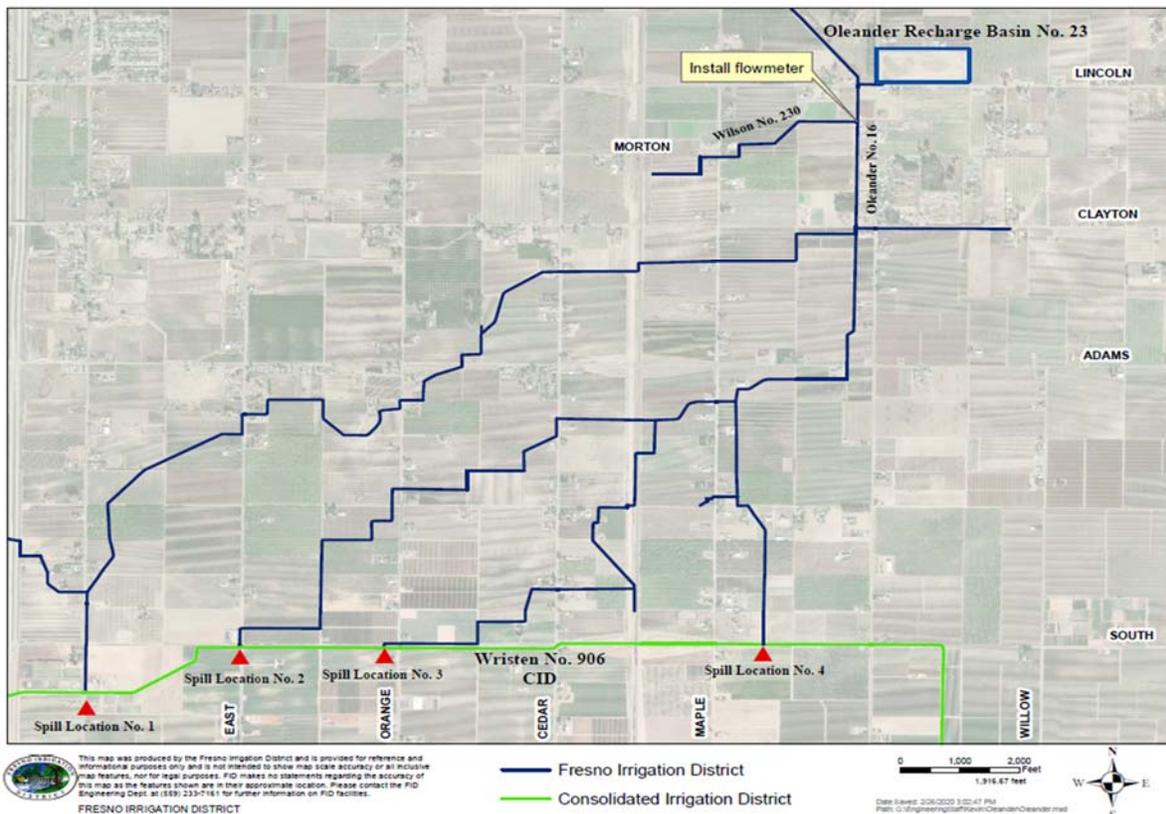
- \$300,000 for the *Serrato Intertie Facility (FY2016)* which involved construction of a pump station with a capacity of 200 cfs to transfer water from the Kings River through FID's canals to USBR's Friant-Kern Canal to improve the region's water supply reliability and operational flexibility.

- \$1,000,000 for the *Southwest Banking Facility (FY2014)* which involved construction of a 100-acre groundwater banking facility to provide flood protection, dry-year supply to improve drought preparedness for the region, and groundwater recharge.
- \$300,000 for *Oleander Basin (FY2009)* which involved construction of a 24-acre groundwater banking facility to provide water storage, a dry-year water supply, flood control, and reduce regional water conflicts by marketing banked water to other districts.
- FID also has been successful on the **smaller challenge grants** which range between \$25,000 and \$50,000 which were awarded annually. FID was awarded \$50,000 for the head-gate improvements on the Fresno Colony and American Colony Canals.

3.0 TECHNICAL PROJECT DESCRIPTION AND MILESTONES

Problem and Needs

Currently, the District does not have a good way to measure and regulate flows midway along the Oleander Canal system or near the Oleander Basin. This creates operational spills at the downstream end with water leaving the FID service area. See Location Map.



When the flows in the Oleander Canal System are higher than actual demands especially at night when growers unexpectedly turn off and do not contact FID water operators, the surplus water spills over to the neighboring CID's Wristen Canal to the South. These spills result in water loss from the FID system. The spills create water operation issues for the CID because it occurs without advance notice and without coordination between the two irrigation districts. Currently, the District's Operations staff rely on making manual adjustments to the spills *after they occur* to reduce the flow rate by trial and error methods, which are not accurate, with surplus flows remaining after the spills diverted to the upstream Oleander Basin. The process of manual adjustments leads some downstream FID customers to experience periods of low flows when canal water demands increase more than anticipated. This creates problems for growers and some may prefer to utilize groundwater wells to improve their water service reliability.

Use of groundwater within the District's boundaries reduces the availability of groundwater to areas such as the disadvantaged community of Easton that is geographically south and down-gradient of the District's groundwater recharge basin and relies entirely on groundwater for its water needs.

The District needs and requests USBR assistance to minimize water losses and conserve the District's surface water within its boundaries, improve the reliability and efficiency of surface water deliveries to growers, and reduce the need for growers to resort to groundwater to fill in their needs.

Problem and Needs Addressed

Availability of real-time flow measurement of the Oleander Canal just downstream of the Oleander Basin as well as modifying its SCADA system at the Oleander Basin site to automate the basin's turnout gate will enable the District to better regulate canal flow and minimize tail-end spills out of FID. The flow meter location was chosen as it is at the point of bifurcation to two of the District's canals systems, namely the Oleander and Wilson canals. Flow measurements at this location and automatic opening and closing of the basin's turnout gate will enable diversion of excess water to the upstream Oleander Recharge Basin for recharge purposes.

The District has determined that two 30-inch flow meters would meet the operational requirements. The District will program the two meters to become a single flow reading. The District proposes to specify remote reading of the flow meters as well as flow management within the Oleander Canal at the District's Control Room using SCADA software.

The District will specify that the flow meters need to exceed California's SBx7-7 measuring and data reporting requirements. The District proposes to use flow meters that use ultrasonic pulses to measure velocity of water from which quantity of flow are automatically computed by standard methods in real-time. The selected flow meter has very low head loss across it, does not require straight lengths of canal upstream or downstream, maintains accuracy in a wide range of conditions including turbulence, contaminants, and obstructions at meter entry, can be installed in existing structures without extensive or costly civil works, never requires calibration, requires minimal maintenance since there are no moving parts, and is operated in an energy-efficient manner using solar-charged battery system.

Expected Outcomes

Real-time flow measurement upstream of the FID-CID intertie will enable District staff to remotely adjust flows in the Oleander Canal System.

This will minimize spills to the CID system and conserve water within the District's boundaries which is an essential element of the Sustainable Groundwater Management Act (SGMA) of 2014. SGMA requires critically overdrafted groundwater basins to provide a Groundwater Sustainability Plan (GSP) by January 2020 and be sustainable by 2040.

The project will also increase the efficiency and reliability of water delivery to growers who will be less likely to switch from surface water to groundwater. The increased reliability of water delivery to growers will also result in positive impacts to crop production and their water use efficiency.

All of the excess water will be sent to the Oleander recharge basin located within the District. This will improve groundwater conditions and benefit the disadvantaged community of Easton which is located downstream of the basin and wholly relies on the use of groundwater for its needs.

4.0 EVALUATION CRITERIA

Evaluation Criteria A – Project Benefits (35 points)

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

Real-time flow measurement upstream of the FID-CID intertie will enable District staff to remotely adjust flows in the Oleander Canal System. The following are the benefits to FID's water supply and delivery system:

- The project will minimize spills to the neighboring CID system and conserve the water within FID's boundaries. The District estimates that the volume of spill would be approximately 500 acre-feet per year based on the spill records for 2016-2019 and the estimated reduction due to the project would be 50%.
- The project will lead to better operational control and consequently regulation of surface water in two irrigations districts.
- With the ability to adjust flows by a specific quantity, the reliability of water delivery to growers will be increased resulting in positive impacts to crop production. A more constant flow rate to the growers would also increase water use efficiency as the growers would be able to irrigate more effectively and efficiently with a constant supply.
- All of the excess water will be sent to the recharge basin and will be available within the FID service area in the future to minimize potential risks caused by groundwater overdraft during dry periods.

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

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

As stated above, the ability to have quantitative information in order to make quantitative flow rate changes would allow for FID to minimize or eliminate spills and retain the excess water within its service area by recharging the water at its regulation basin.

- **The expected geographic scope benefits from the proposed project (local, sub-basin, basin)**

- The most significant benefit would be in the local area as surplus surface water will be retained within the District's boundaries and be available for either recharge and future use as groundwater when needed. This strategy helps meet the goals and requirements of SGMA.
- The improved level of service in the Oleander Canal system would cover 2,500 acres. Local growers in this area will benefit from reliable water delivery.
- The disadvantaged community of Easton located approximately 3 miles south of the District's south boundary will benefit from potential groundwater overdraft impacting their sole source of water.
- It will reduce negative impacts to the neighboring CID's canal system.

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

The proposed project will minimize or avoid spillage into the neighboring Consolidated Irrigation District and help them better regulate flows in their

system. Flow measurement and management by FID upstream of the intertie will enable the District to share this information with CID in the future. This will greatly enhance collaboration, cooperation, and operational efficiency for both irrigation districts.

The Easton Community Service District (ECSD) is the primary public agency for the rural disadvantaged community of Easton located downgradient of FID's Oleander Basin. It is wholly dependent on the use of groundwater accessed through private wells for domestic purposes and is reliant on the recharge of surface water into the groundwater aquifer. Better water flow management tools will allow FID to retain more of its surface water supplies within its boundaries which will increase the groundwater supply reliability for Easton as well as neighboring domestic wells around Easton. Other projects such as that proposed or projects to increase groundwater recharge can be jointly performed by ECSD and FID if other opportunities arise in the future.

In addition to utilizing technology to build future drought resiliency, this project helps develop a collaborative relationship between FID, CID, and ECSD. Having been part of the SGMA activities to date, the three agencies recognize the importance of sound water management and water use efficiency projects, and the significant role the agencies play in stabilizing the local water supply.

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

Reducing spillage to outside the District and diverting water to a recharge basin for either recharge or future diversion back into the system enables the future use of the water when needed benefiting the area growers, residents and businesses by providing a more reliable groundwater supply for use in the time of need. This would allow the local area to continue to thrive in farming or live and conduct business in the area. Additionally, reliable water delivery to the growers, i.e., delivering correct flows at the correct time, will increase crop production and benefit the agricultural sector. Parks and schools would be able to continue providing green space in the area for recreation and education and waterfowl and environmental benefits would increase from having the additional water in Oleander basin.

- **Extent to which the project will complement work done in coordination with NRCS in the area (e.g., with a direct connection to the district's water supply). Describe any on-farm efficiency work that is currently being**

completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other programs)

While FID is not directly connected to any NRCS projects, many of its growers may have projects with the NRCS to improve their irrigation system infrastructure to provide greater reliability and increased on-farm efficiency.

Evaluation Criteria B – Planning Efforts Supporting the Project (35 points)

- **Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?**

The District’s mission and its primary planning efforts are directed toward protecting and managing the surface and groundwater resources within the District for present and future use by the people and lands within it’s boundary. By retaining more of its surface water supply within its boundaries and making it available for recharge and future use by growers during a dry season, the District is demonstrating that it will implement its stated mission.

FID is part of and within the boundaries of North Kings Groundwater Sustainability Agency (NKGSA), which recently submitted its Groundwater Sustainability Plan (GSP) that describes a framework for the NKGSA to achieve groundwater sustainability by 2040. Reducing spills outside the NKGSA and keeping this water within FID and the NKGSA will further support this existing planning effort to achieve sustainability. In addition, improving the level of service of canal flow deliveries to FID’s customers will encourage them to continue to utilize surface water instead of switching to groundwater, which is critical in the path to achieving groundwater sustainability.

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

The District has spent many years attempting to address and minimize Oleander Canal system spills into CID. FID recently completed the construction of flow measurement SCADA sites at each of the spill locations at CID’s Wristen Canal to be able quantify and reduce the spills and impact to CID. This project will further this effort by providing a mechanism to better regulate Oleander Canal system flows to achieve the goal of minimizing spills to CID. This project is high priority because it directly reduces losses of the existing water supply and retains the water within the FID service area. Eliminating/reducing water loss by flow measurement and management via this project complies with the District’s priority of protecting and managing it’s surface water allocation from the Bureau of Reclamation and the Kings River.

Evaluation Criteria C – Project Implementation (10 points)

- **Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.**

The following is the description of the implementation plan for the project upon determination of the grant:

Step 1 – Environmental: Special studies will be performed to support the CEQA/NEPA process. This would likely include a Notice of Exemption or a Notice of Determination of Non-Significance since there will be no land disturbance and the additional of flow meters within an existing conveyance system would not have any adverse impacts.

Step 2 – Procurement of Flow Meters: The District will prepare engineering specifications and bid documents and invite bids for procuring two flow meters.

Step 3 – Field Work: FID maintenance crews will install the flow meters during the next canal shutdown. A telemetry vendor will be hired to provide technical services for integrating the flow meters into FID’s telemetry (SCADA) system.

Assuming that the grant would be awarded in June 2020, the anticipated schedule is shown below.

OLEANDER CANAL SYSTEM FLOW MEASUREMENT AND MANAGEMENT

ACTIVITY	SCHEDULE									
	JUNE '20	JULY '20	AUG '20	SEPT '20	OCT '20	NOV '20	DEC '20	JAN '21	FEB '21	
PROJECT GRANT AWARD AND EXECUTION										
ENVIRONMENTAL STUDIES										
PROCURE FLOW METER										
FIELD CONSTRUCTION										
PROJECT CLOSEOUT										

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

The California Environmental Quality Act (CEQA) and the National Environmental Protection Act (NEPA) both require state and local agencies to determine, then mitigate or avoid environmental impacts caused by a project. Based on the absence of land area disturbance for this proposed project, the CEQA/NEPA process is not anticipated to be lengthy or difficult. Projects similar

to the proposed project are often handled as environmentally exempt projects and would not require a significant environmental compliance process.

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

Water Operations and Engineering staff identified the location where a proposed meter would need to be installed for a successful outcome to the stated goal of the project. Engineering staff contacted various flow meter companies to obtain technical information. The District also reached out to the Irrigation Training and Research Center (ITRC) at the California Polytechnic State University, San Luis Obispo, for their evaluation of different flow meters available and their recommendation for this project.

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

The District's existing policy is to improve overall water supply reliability by making more efficient use of water that is available. Elimination/reduction of spillage and management of surplus water, both stated goals of this project, comply with this existing policy. No additional policies or administrative actions would be required

- **Describe how environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation office?**

The California Environmental Quality Act (CEQA) process would be handled by FID Engineering staff and the National Environmental Protection Act (NEPA) would be addressed by Reclamation, or FID consultant if needed, as part of the grant process. While the local Reclamation office has not been contacted, Engineering staff has discussed this project with Reclamation's regional office staff. FID has worked with the local Reclamation office on many Environmental Assessments for water transfers and previously awarded grants and is familiar with the process and anticipated costs. Based on the absence of land area disturbed for this proposed project, the District anticipates that the project will require only a CEQA/NEPA Notice of Exemption, Negative Declaration, or Notice of Determination of Non-Significance.

Evaluation Criteria D – Nexus to Reclamation (10 points)

- **Is the proposed project connected to a Reclamation project or activity? If so, how? Please consider the following:**
 - **Does the applicant receive Reclamation project water?**

The nexus with Reclamation is very critical to the District for its source of water. The District receives up to 75,000 acre-feet of Class 2 water in above-normal years from the Friant Division of the Central Valley Project through the Friant-Kern Canal. As a Friant Division contractor, FID receives contract supplies as well as purchasing other available waters such as Section 215 water, Unreleased Restoration Flow (URF) water, water transfers, etc. FID also manages the 60,000 acre-feet Class 1 contract for the City of Fresno as the majority of the City of Fresno is located within the FID service area.

- **Is the project on Reclamation project lands or involving Reclamation facilities?**

The project is in the same basin as the Friant Division of the Central Valley Project in California.

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

FID is within Reclamation's Friant Division service area, is a Friant Division contractor, and is located within the place of use for Central Valley Project water allocations.

- **Will the proposed work contribute water to a basin where a Reclamation project is located?**

As noted just above, FID is a federal contractor and receives water from the Friant Division of the Central Valley Project.

- **Will the project benefit any tribe?**

Does not apply.

Evaluation Criteria E – Department of the Interior and Bureau of Reclamation Priorities (10 points)

(Criteria not included herein were determined to be non-applicable.)

- a. Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment**

The District's goal was to select a practice, or combination of practices, that will achieve sustainable water management and be technologically and economically effective, practicable, and based on best available science.

The District determined that measurement of flow and simultaneous flow management in real time was the best approach to solve the problem of spillage of surface water and lack of reliability in water delivery. In seeking innovative and cost-effective technologies, the District determined that use of the ultrasonic type flow meter utilized best available science. This type of flow meter typically

has very low head loss across it, does not require straight lengths of canal upstream or downstream, maintains accuracy in a wide range of conditions including turbulence, contaminants, and obstructions at meter entry, can be installed in existing structures with minimal alterations and without extensive or costly civil works, never requires calibration, requires minimal maintenance since there are no moving parts, and is operated in an energy-efficient manner using solar-charged battery system.

Restoring trust with local communities

a. Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands

In addition to utilizing technology to build future drought resiliency, this project helps develop a collaborative relationship between FID and neighboring CID and ECSD. Having been part of the SGMA activities to date, the District recognizes the importance of sound water management and water use efficiency projects, and the significant role of collaboration between the agencies in stabilizing the local water supply. By not adversely affecting the operation of CID's conveyance system if the spillage can be reduced or eliminated by the use of the proposed flow meters, the project would facilitate improved dialogue and relationship between FID and CID. This could result in potential collaboration of other projects between the parties. The benefits to ECSD would also facilitate the potential for more collaboration and dialogue between an disadvantage urban area and FID's agricultural interests.

Reclamation Priorities

1. Increase Water Supplies, Storage, and Reliability under WIIN and other Authorities

Flow measurement and management of surplus flow involves diverting the water that would otherwise spill to be rerouted to the Oleander Recharge Basin for groundwater recharge. This would increase the storage of water in the groundwater basin, making it available for future needs and providing greater reliability of the available water resources. Flow management in the Oleander Canal system would also increase reliability of water delivery for growers in the area with the improved operations within FID's conveyance system.

2. Leverage Science and Technology to Improve Water Supply Reliability to Communities

The District's goal was to select a practice, or combination of practices, that will achieve sustainable water management and be technologically and economically effective, practicable, and based on best available science.

The District determined that measurement of flow and simultaneous flow management in real time was the best approach to solve the problem of spillage of surface water and lack of reliability in water delivery to the customers located at the end of FID's conveyance system. In seeking innovative and cost-effective technologies, the District determined that use of the ultrasonic type flow meter utilized best available science. This type of flow meter typically has very low head loss across it, does not require straight lengths of canal upstream or downstream, provides greater accuracy and maintains accuracy in a wide range of conditions including flows with turbulence and contaminants, minimize obstructions at meter entry, can be installed in existing structures without costly civil works, never requires calibration, requires minimal maintenance since there are no moving parts, and is operated in an energy-efficient manner using solar-charged battery system.

3. Address Ongoing Drought

By diverting water to a recharge basin for either recharge or future diversion back into the system, the project enables the future use of the water when needed benefiting the area growers, residents and businesses by providing a more reliable groundwater supply for use in the time of need.

4. Improve Water Supplies for Tribal and Rural Communities

The Easton Community Service District (ECSD), a Rural Disadvantaged Community downgradient of FID's Oleander Basin, is wholly dependent on the use of groundwater accessed through private wells for domestic purposes and is reliant on the recharge of surface water into the groundwater aquifer. ECSD understands that better management tools will allow FID to retain more of its surface water supplies within its boundaries which will increase the supply reliability for Easton as well as neighboring domestic wells around Easton.

PROJECT BUDGET

1.0 FUNDING PLAN

The Project consists of purchasing two Flow Meters for installation in the Oleander Canal at the Wilson Divide and modifying its SCADA System at the Oleander Basin site to automate the basin’s turnout gate. FID is requesting \$25,000 federal funds to fund the Project. FID’s non-federal share amount is \$25,000 and will be obtained from FID’s Water Purchase Fund. This was approved under the District’s budget water year 2020 on February 18, 2020 at the District’s Board of Directors meeting. There will be no funding from third-party sources. FID will provide the engineering and installation labor to install the flow meters. The District is not requesting reimbursement or cost share for using its in-kind services, i.e., labor or equipment.

Table 1: Summary of Non- Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Fresno Irrigation District	\$25,000
Requested Reclamation Funding	\$25,000
Total Estimated Project Cost	\$50,000

2.0 BUDGET PROPOSAL

See Table 2, below.

Table 2: Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Construction/Installation				
SCADA System	\$15,000	1	ea.	\$15,000
Flow Meter	\$15,000	2	ea.	\$30,000
Construction Subtotal				\$45,000
Contractual Engineering/Permitting				
Environmental	\$5,000	1	ea.	\$5,000
Subtotal Permitting				\$5,000
PROJECT COST TOTAL				\$50,000

3.0 BUDGET NARRATIVE

Salaries and Wages

The District is not requesting reimbursement for using its in-kind services, i.e., labor or equipment, as cost share.

Contractual / Construction

Contractual costs include environmental costs estimated at \$5,000. FID will provide all construction activities outside of SCADA equipment installation.

Environmental and Regulatory Compliance Costs

The Environmental and Permitting costs associated with the proposed project are included in the Contractual/Construction costs. FID budgeted \$5,000 for environmental and regulatory compliance performed by Reclamation, or a consultant if necessary. The environmental review process is expected to start immediately after award of the grant or approximately in June 2020. FID anticipates permitting requirement for California Environmental Quality Act Negative Declaration and National Environmental Protect Act. Estimated environmental review and regulatory compliance costs are include as part of the project costs.

Indirect Costs

Indirect costs are anticipated to be minimal and are not quantified in this application.

Certification

FID labor costs will be absorbed by FID and are not included as project cost for reimbursement.

ENVIRONMENTAL AND CULTURAL RESOURCE CONSIDERATIONS

- **Will the proposed project impact the surrounding environment (e.g, soil (dust), air, water, 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 impact of such work on the surrounding environment and any steps that could be taken to minimize the impacts/**

The proposed project will not adversely impact the surrounding environment, e.g, soil (dust), air, water, animal habitat, since there will be no earth-moving activities. The flow meters will be installed within FID's existing conveyance system. The project will provide a benefit to the overall water supply availability within FID. Additionally, the telemetry (SCADA) system will utilize solar power and low power radio transmission so as to not affect the project area and surrounding environment.

- **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 species listed or proposed to be listed as a Federal threatened or endangered species or designated critical habitat in the project area or be affected by the project.

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

There are no wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States".

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

The Oleander Canal system was constructed in the late 1800's as an earthen canal system.

- **Will the proposed project result in any modification of or effects to individual features of an irrigation system (e.g, headgates, canals, 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 proposed project will result in modification to an existing check structure in the canal since the flow meter consist of frames that will be installed perpendicular to the flow direction. This is a standard practice and will not restrict the current flow through the canal. The long-crested weir check structure was constructed about 10 years ago.

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

There are no buildings, structures, or features at the project location or in the irrigation district listed or eligible for listing on the National Register of Historic Places.

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

There are no known archeological sites in the project area.

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

While the project will provide benefits to a neighboring disadvantaged community, the proposed project will not have a disproportionately high and adverse effect on low income or minority populations.

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

The proposed project will not limit access to and ceremonial use of Indian sacred sites or result in other impacts to tribal lands.

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

The proposed project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

REQUIRED PERMITS OR APPROVALS

No permits or approvals are needed since the project work will occur inside District facility and right-of-way. The project will not involve any earthwork activities, new electrical services, or relocation of non-FID utilities.

LETTERS OF PROJECT SUPPORT



OFFICERS
EARL HUDSON, President
PHILLIP G. DESATOFF, Manager/Treasurer
GAIL HOFFMAN, Secretary
SUMMERS Engineering, Engineer

2255 Chandler Street- PO Box 209 - Selma, California 93662
Phone (559) 896-1660 - Fax (559) 896-8488

DIRECTORS
THOMAS BENZLER, FRESNO
MITCHEL RITCHIE, SELMA
EARL HUDSON, DEL REY
TONY LEWIS, KINGSBURG
RAY MOLES, CARUTHERS

February 21, 2020

Fresno Irrigation District
Attn: Mr. Bill Stretch
2907 S Maple Avenue
Fresno, CA 93725

Re: Letter of Support
Fresno Irrigation District – WaterSMART Grant Application
Installation of Flow Meters in the Oleander No. 16 Canal

Dear Mr. Stretch:

The Consolidated Irrigation District (CID) supports the Fresno Irrigation District (FID) in their pursuit of a WaterSMART grant from the United States Bureau of Reclamation for the installation of two flow meters in the Oleander No. 16 Canal in Fresno, California. The installation of the flow meters in the FID canal will help FID better manage flows within its Oleander system and minimize the potential for spills into the CID canal system. The CID is a neighboring agency with its own distribution system to manage. These spills can create water regulation issues within CID's canal system, therefore, better water regulation by FID at the FID-CID system intertie will greatly benefit CID's ability to manage its own conveyance system.

The CID recognizes the importance of sound water management and water use efficiency projects, and the significant role they play in stabilizing the local water supply. The CID and the FID have a long history of working together on water management projects and programs aimed at better managing water supplies in the area. The CID strongly

encourages the Bureau of Reclamation to support the funding of FID's project in their pursuit of better water management and water use efficiency.

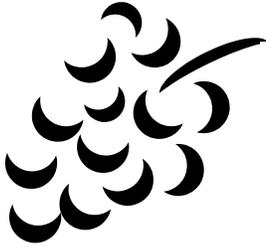
Sincerely,

A handwritten signature in blue ink that reads "Phillip G. Desatoff". The signature is written in a cursive style with a large initial "P" and a distinct "G" before the last name.

Phil Desatoff
General Manager

Easton Community Service District

LISTENING THINKING ACTING



February 26, 2020

Fresno Irrigation District
Attn: Mr. Bill Stretch
2907 S Maple Avenue
Fresno, CA 93725

BOARD MEMBERS

Sue Ruiz
President

Andrew Verhines
Vice President

Andrew Verhines
Treasurer

Michael Flores
Member

Anna Wimpey
Member

STAFF

Cark Clark
General Manager

CONTACTS

ECSD
5955 S Elm
Fresno, CA 93706

General Manager
Direct Phone:
(530) 333-9500

Re: Letter of Support
Fresno Irrigation District – WaterSMART Grant Application
Installation of Flow Meters in the Oleander No. 16 Canal

Dear Mr. Stretch:

The Easton Community Service District (ECSD) supports the Fresno Irrigation District (FID) in their pursuit of a WaterSMART grant from the United States Bureau of Reclamation for the installation of two flow meters in the Oleander No. 16 Canal in Fresno, California. The installation of the flow meters in the FID canal will help FID better manage flows within its Oleander system and minimize the potential for spills outside of FID. The reduction of spills from the Oleander system would result in a greater quantity of water being recharged in FID's Oleander Basin.

The ECSD is a rural disadvantaged community downgradient of FID's Oleander Basin, is wholly dependent on the use of groundwater accessed through private wells for domestic purposes, and is reliant on the recharge of surface water into our groundwater aquifer. ECSD understands that better management tools will allow FID to retain more of its surface water supplies within its boundaries which will increase the supply reliability for Easton as well as neighboring domestic wells around Easton.

In addition to utilizing technology to build future drought resiliency, this project helps develop a collaborative relationship between FID and ECSD. Having been part of the the Sustainable Groundwater Management Act (SGMA) activities to date, the ECSD understands that as SGMA implementation goes forth, there may be a need to increase FID fees to cover SGMA expenses or projects. Working together on local planning efforts to meet local needs now may help domestic well users understand and approve financial support for future ground water management projects. ECSD considers this an additional benefit of this project.

The ECSD recognizes the importance of sound water management and water use efficiency projects, and the significant role we play in stabilizing the local water supply. As we conclude another very dry winter with almost zero snow pack, it's imperative that partners like Easton and FID work together to increase the resiliency of domestic wells users for continued dry conditions. The ECSD strongly encourages the Bureau of Reclamation to support the funding of FID's project in their pursuit of better water management and water use efficiency.

Sincerely,

Sue Ruiz
Board President



February 24, 2020

Member Agencies

*Bakman Water Company
Biola Community Services District
City of Clovis
City of Fresno
City of Kerman
County of Fresno
Fresno Irrigation District
Fresno Metropolitan Flood Control District
Garfield Water District
International Water District*

Fresno Irrigation District
Attn: Mr. Bill Stretch
2907 S Maple Avenue
Fresno, CA 93725

Re: Letter of Support
Fresno Irrigation District – WaterSMART Grant Application
Installation of Flow Meters in the Oleander No. 16 Canal

Board of Directors

*Chairman Jerry Prieto, Jr.
Fresno Irrigation District
Vice-Chairman Brian Pacheco
County of Fresno
Steve Pickens
Bakman Water Company
Jose Flores
City of Clovis
Lee Brand
City of Fresno
Rhonda Armstrong
City of Kerman
Karl Kienow
Garfield Water District*

Dear Mr. Stretch:

As you know, the North Kings Groundwater Sustainability Agency (NKGSA) consists of member agencies including Fresno Irrigation District, the cities of Fresno, Clovis and Kerman, Fresno County, Bakman Water Company, Biola Community Services District, International Water District, Garfield Water District, and the Fresno Metropolitan Flood Control District. The NKGSA also consists of disadvantaged communities, private well owners, and other landowners. The NKGSA is one of the seven groundwater sustainability agencies (GSAs) within the Kings Subbasin.

Executive Officer

Kassy D. Chauhan, P.E.

Internet

www.NorthKingsGSA.org

Mail

*North Kings GSA
c/o Fresno Irrigation District
2907 S. Maple Ave.
Fresno, CA 93725*

Phone

559-233-7161

The NKGSA supports the Fresno Irrigation District (FID) in their pursuit of a WaterSMART grant from the United States Bureau of Reclamation for the installation of two flow meters in the Oleander No. 16 Canal in Fresno, California. The installation of the flow meters in the FID canal will help FID better manage flows within its Oleander system and minimize the potential for spills into the Consolidated Irrigation District (CID) canal system. The CID is a neighboring agency with its own distribution system to manage. These spills can create water regulation issues within CID's canal system, therefore, better water regulation by FID at the FID-CID system intertie will greatly benefit CID's ability to manage its own conveyance system and keep the available surface water resources within the FID boundary and the NKGSA boundary.

The NKGSA recognizes the importance of sound water management and water use efficiency projects, and the significant role they play in stabilizing the local water supply. The FID is a member agency of the NKGSA and work together on water management projects and programs aimed at better managing water supplies in the area. The NKGSA strongly encourages the

About NKGSA: The North Kings Groundwater Sustainability Agency is a Joint Powers Authority formed in December 2016. Composed of local public agencies and others engaged through binding agreements, the NKGSA is the governing body of a portion of the Kings Subbasin (DWR Bulletin 118, 5-22.08) in compliance with the Sustainable Groundwater Management Act of 2014. NKGSA members are Bakman Water Company, Biola Community Services District, City of Clovis, City of Fresno, City of Kerman, County of Fresno, Fresno Irrigation District, Fresno Metropolitan Flood Control District, Garfield Water District, and International Water District.

Mr. Stretch
February 24, 2020
Page 2

Bureau of Reclamation to support the funding of FID's project in their pursuit of better water management and water use efficiency.

Sincerely,

A handwritten signature in blue ink that reads "Kassy D. Chauhan". The signature is written in a cursive, flowing style.

Kassy D. Chauhan
Executive Officer

OFFICIAL RESOLUTION

RESOLUTION NO. 2020-03

**A RESOLUTION BY THE BOARD OF DIRECTORS OF THE
FRESNO IRRIGATION DISTRICT
FOR A GRANT FROM THE UNITED STATES BUREAU OF RECLAMATION
WATERSMART: SMALL-SCALE WATER EFFICIENCY PROJECTS FOR FY 2020**

WHEREAS, the United States Bureau of Reclamation has made grants of up to seventy-five thousand (\$75,000) available for small-scale water efficiency projects through the WaterSMART: Small-Scale Water Efficiency Projects Grants program; and

WHEREAS, the District desires to prepare and submit a grant application for the Oleander Measurement Project; and

WHEREAS, the District will commit to the financial and legal obligations associated with receipt of financial assistance under the grant program;

WHEREAS, the District supports a proposed application being submitted and will review the proposed application being submitted for the Oleander Measurement Project;

WHEREAS, the District has the capability to provide the amount of funding specified in the funding plan;

WHEREAS, the District understands the importance of meeting the grant deadlines, and the importance of spending grant monies and their cost share as soon as feasible to help stimulate the economy;

WHEREAS, if selected for a grant, the District will work with United States Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

THEREFORE, BE IT RESOLVED by the Board of Directors of the Fresno Irrigation District that:

1. The Board of Directors and authorized staff support a proposed application being submitted and will review the application being submitted by this District under the United States Bureau of Reclamation WaterSMART: Small-Scale Water Efficiency Project Grants for FY 2020,
2. The Fresno Irrigation District is capable of providing the required funding and any in-kind contributions specified in the funding plan included in the application,
3. The General Manager and Assistant General Manager of the District is hereby authorized and directed to prepare the necessary data, sign, and file such application with the United States Bureau of Reclamation, and if selected are authorized to enter into an agreement with the United States Bureau of Reclamation, and

4. If selected for a WaterSMART: Small-Scale Water Efficiency Project Grant, the applicant will work with the United States Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

The above recitals are all true and correct.

PASSED AND ADOPTED this 18th day of February 2020.



Ryan Jacobsen, President

I, BILL STRETCH, Secretary of the Fresno Irrigation District hereby certify that the Board of Directors at a regular meeting on February 18, 2020, adopted the foregoing Resolution by the following roll call vote:

	<u>Aye</u>	<u>Nay</u>	<u>Absent</u>	<u>Abstain</u>
President Jacobsen	<input checked="" type="checkbox"/>	_____	_____	_____
Vice-President Prieto, Jr.	<input checked="" type="checkbox"/>	_____	_____	_____
Director Porter	<input checked="" type="checkbox"/>	_____	_____	_____
Director Beberian	<input checked="" type="checkbox"/>	_____	_____	_____
Director Woolf	<input checked="" type="checkbox"/>	_____	_____	_____



Bill Stretch, Secretary