



## Advanced Metering Infrastructure: Full Deployment

WaterSMART Water and Energy Efficiency Grants for Fiscal Year 2021

BOR-DO-21-F001

U.S. Department of the Interior, Bureau of Reclamation, Policy and Administration

September 17, 2020

### **Applicant**

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|                |  |
|----------------|--|
| ACWD           | Alameda County Water District                              |
| AF             | Acre-feet  |
| AFY            | Acre-feet per year   |
| BAWSCA         | Bay Area Water Supply and Conservation Agency              |
| BMP            | Best Management Practices                                  |
| CCWD           | Contra Costa Water District                                |
| CEQA           | California Environmental Quality Act                       |
| CVP            | Central Valley Project Water                               |
| EPA            | U.S. Environmental Protection Agency                       |
| IRWMP          | Integrated Regional Water Management Plan                  |
| NEPA           | National Environmental Policy Act                          |
| NOAA Fisheries | National Oceanic Administration, National Marine Fisheries |
| SRF            | State Revolving Fund                                       |
| UWMP           | Urban Water Management Plan                                |

## 1 Technical Proposal and Evaluation Criteria

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### 1.1 EXECUTIVE SUMMARY

**Date:** September 17, 2020

**Applicant:** Alameda County Water District

**Applicant City, County, State:**

**Project Location:** Alameda County, CA

**Project Name:** Advanced Meter Infrastructure (AMI) Full Implementation

**Project Duration:** 30 months

**Estimated Project Completion (mm/yy):** 12/2023

**Funding Group:** Tier II

**Grant Funding Requested:** \$2,000,000

**Local Matching Funds:** \$34,621,985

**Project Summary:** ACWD currently records customer water consumption by reading water meters manually, typically every two months. In a move to be more efficient, provide enhanced customer service and reduce the environmental impact of our operations, ACWD is taking steps to transition to Advanced Metering Infrastructure, more commonly known as AMI.

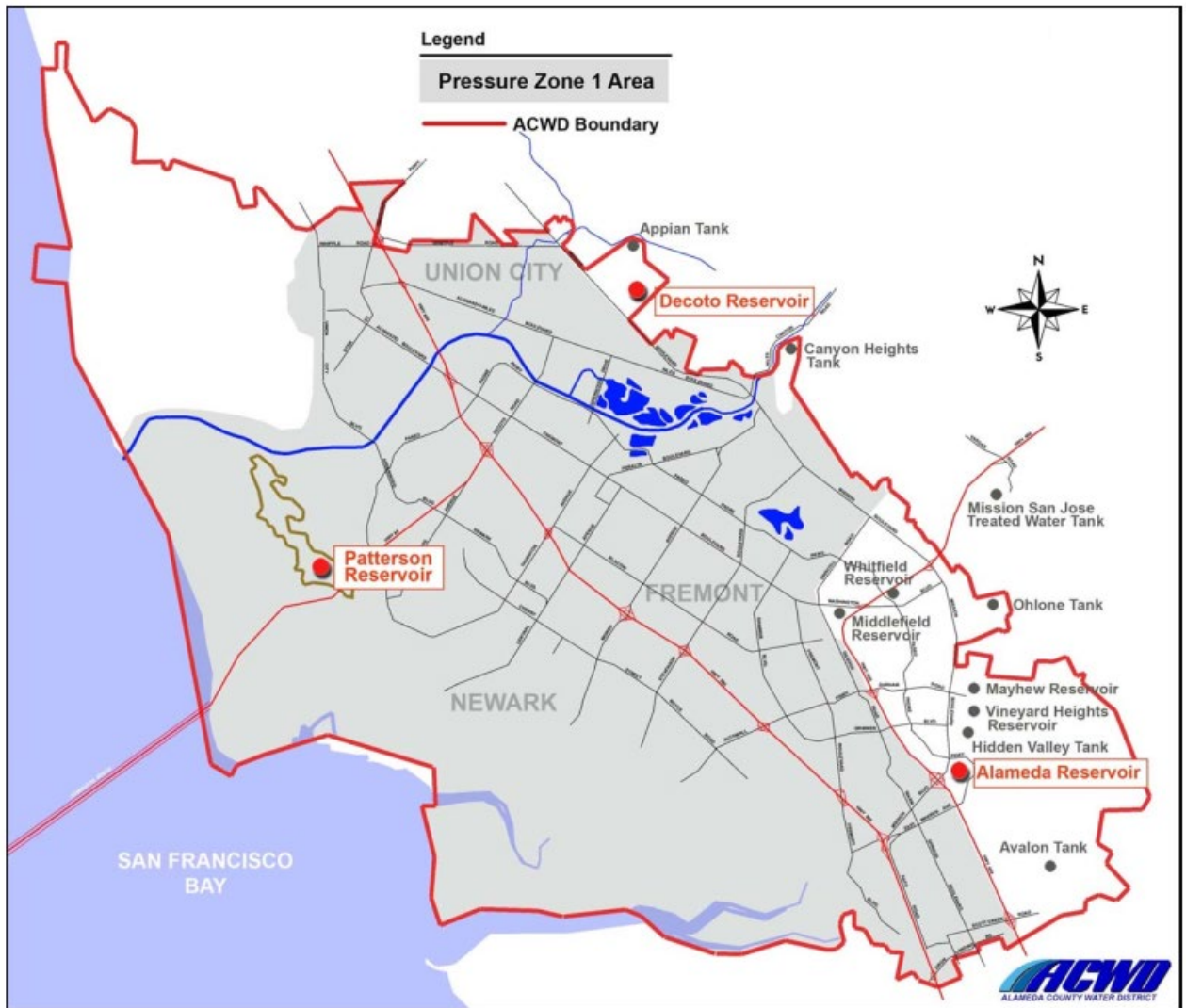
AMI allows water meters to be read remotely, and it increases customer engagement. With the capability of offering near real-time data, AMI will enable customers to view water usage at any time during the billing cycle and monitor use to identify water leaks more quickly. Additionally, the District is creating an online portal to integrate with the AMI software, so that customers will have the convenience of consumption data at their fingertips as well as the continued support from ACWD staff.

ACWD anticipates that this move from manual reads to AMI, along with the installation of state-of-the-art ultrasonic AMI compatible meters and the creation of the online portal, will result in increased operational efficiency and an anticipated water savings of roughly 5% of annual demand, or 1,913 AFY.

The proposed project is not located on a Federal Facility.

## 1.2 PROJECT LOCATION

The AMI Full Implementation Project (Project) is located within ACWD's service area and will be completed district-wide. ACWD's service area includes 104.8 square miles and includes the communities of Fremont, Newark and Union City. The ACWD administration building's latitude is 37° 30' 16.884" N and longitude is 121° 57' 39.096" W. Figure 1 shows ACWD's service area.



## 1.3 TECHNICAL PROJECT DESCRIPTION

### 1.3.1 Background

The Alameda County Water District is a retail water purveyor with a service area of approximately 100 square miles, generally encompassing the cities of Fremont, Newark, and Union City, providing water to more than 344,000 residents. ACWD was established in 1914 under the California County Water District Act and governed by a five-member Board of Directors. It was originally created to protect the groundwater basin, conserve the waters of the Alameda Creek Watershed, and develop supplemental water supplies, primarily for agricultural use. In 1930, urban distribution became an added function of the District. Today, ACWD provides water primarily to urban customers, with approximately 70% of supplies used by residential customers and 30% by commercial, industrial, institutional, and large landscape customers.

ACWD currently has three primary sources of water supply: 1) the State Water Project (SWP), 2) San Francisco's Regional Water System (RWS); and 3) local supplies. The SWP and the RWS supplies are imported to the district service area through the South Bay Aqueduct (SBA) and Hetch Hetchy Aqueduct, respectively. Local supplies include fresh groundwater from the Niles Cone Groundwater Basin, desalinated brackish groundwater from portions of the groundwater basin previously impacted by saltwater intrusion, and surface water from the Del Valle Reservoir.

In 1962, the District was the first state contractor to receive water from the State Water Project (SWP). The District's SWP water was originally used only to recharge the groundwater basin; as a result, groundwater levels rose and prevented additional saltwater intrusion. However, certain areas within the groundwater basin remain brackish due to past years of saltwater intrusion. The principle source of recharge to the basin is the westerly flowing Alameda Creek, which drains the 700 square-mile Alameda Creek Watershed to the east before it recharges the Niles Cone Basin. The reach of the Alameda Creek within the geographic area of the NCGB was reconstructed in the 1970s, becoming the Alameda Creek Flood Control Channel. The channel extends through the Above Hayward Fault (AHF) aquifer and the Below Hayward Fault (BHF) aquifer subbasins, before finally reaching the San Francisco Bay.

The District operates two surface water treatment plants that treat SWP and local surface water from Del Valle Reservoir. The Newark Desalination Facility treats brackish groundwater to remove salts and other impurities, and the Blending Facility blends San Francisco water with relatively high hardness groundwater to provide a blended water supply with lower overall hardness. Potable water is distributed to customers via nearly 900 miles of distribution pipelines, serving over 84,000 service connections.

ACWD has approximately 84,500 water meters. Currently, Meter Reader staff must visit each meter and manually enter the readings into a handheld device. ACWD bills

customers on a bi-monthly basis, so all meters must be read every two months. This meter reading and billing process is accomplished as follows:

- ACWD employs 7 full-time Meter Reader staff.
- All meter reading routes are assigned to one of 40 cycles.
- One cycle must be completed each workday (Monday-Friday, excluding holidays).
- Every November, and whenever readings fall behind due to holidays, vacation, staff call-outs, etc., staff must work overtime, usually on Saturdays.
- For most routes, staff drive a company vehicle to their route, park the vehicle, and walk the route.
- Some routes require driving to each meter. In this case, the vehicle is left in idle while staff read the meter.

During the course of reading, a Meter Reader will be alerted to any unusual consumption, such as especially high consumption that could indicate a leak or especially low consumption that could indicate a stuck meter, and the Meter Reader investigates the issue. These alerts only occur at the time of being read. All alerts are included in a report to a Customer Account Service Representative, who will determine if further investigation is needed. If further investigation is warranted, one of the ACWD's two Customer Account Field Representatives may re-visit the service address. On occasion, a meter may be inaccessible, and the reading skipped--- Possible reasons include overgrowth of vegetation or a dog on the property. In most of these cases, a Customer Service Field Representative or a Meter Reader must re-visit the site. When a Meter Reader encounters other issues such as a meter leak or a broken meter box, a service order request is produced for District Operations staff to address.

### **1.3.2 Detailed Scope of Work**

The Project includes the conversion of approximately 81,500 manual-read water meters into "smart" meters with advanced metering capabilities. ACWD is implementing a "turn-key" District-wide Advanced Metering Infrastructure (AMI) with District-wide coverage, the upgrade of water meters to be AMI compatible, water meter and water meter register supply and installation, the supply and installation of AMI radio transmitters for all District accounts, and provision of a fully-functional AMI meter data management software for reporting and analysis. The work to be done is located across the entire ACWD service area which includes the cities of Fremont, Union City, Newark and a small portion of the City of Hayward, California.

The Scope of Work includes:

- Program Management
- Overall project management services
- Business process updates
- KPI/Dashboard Reporting
- Deployment Management
- Advanced Metering Infrastructure (AMI) system including:



Cellular radio transmitters  
Meter data analytics (MDM) software  
Ongoing Support for software and network  
Supply of water meters  
Supply of water meters for project requirements including:  
Ultrasonic meters  
High resolution registers for meters that are not being replaced

The proposed AMI Project plans to upgrade 81,000 meters with AMI capability which will result in water savings benefits. The AMI system will have a useful life of 20 years. Full implementation includes an upgraded AMI meter and customer access to an online water use portal. The portal's features include leak detection and alerts, notification of abnormalities in water use patterns, real-time water use data, water conservation tips, and ACWD water conservation program information. While several aspects of the proposed AMI system will provide benefits to customers and ACWD there are two aspects of this project that research has proven will result in quantifiable water savings as a direct benefit from having an AMI meter and access to the customer portal: leak detection and end use water conservation from behavioral changes.

To quantify the measurable reduction in water use from AMI, ACWD has leveraged an existing tool called the Demand Side Management Least Cost Planning Decision Support System (DSS Model) developed by Maddaus Water Management Inc. ACWD has been planning for AMI and estimating savings potential as part of the Water Efficiency Master Planning (WEMP) effort. Savings estimates in the DSS Model are supported by studies that inform measure inputs. The WEMP project began in 2019 and will help the District determine water savings potential and water use efficiency programming for the future.

The DSS Model is an econometric model used to project short-term future demands based upon historical water use patterns and the projected future rebound in water demand associated with forecasts for economic recovery. It quantifies savings of select active water use efficiency measures. It is used to provide a rigorous and defensible modeling approach that is necessary for projects subject to regulatory or environmental review.

ACWD's proposed AMI Project (full deployment of meters and customer portal) is a customizable measure in the DSS Model. The DSS Model relies on several inputs from ACWD based on the Project as described above (life of system, number of accounts/meters, etc.) and end use assumptions. It also uses independent studies as background to quantify water savings from leak detection and end use behavior changes.

- Field supervision
- Water meter and AMI radio transmitter installations
- Customer service

- Public outreach implementation
- Data management
- Quality management
- Report - Review of Operations
- Operational Efficiency Analysis
- Water Use Efficiency Analysis

The selected AMI vendor was Badger Meter who will use cellular AMI technology and a Software as a Service (SaaS) Meter Data Management System and cellular endpoints, Badger ultrasonic meters, and Neptune registers. Badger’s proposal includes a cellular AMI network that provides full coverage of the District without any data collectors. ACWD currently uses some Badger meters. The selected SaaS Customer Portal vendor is Smart Energy Water, who will integrate the customer portal with ACWD’s payment provider.

The Project will deploy the AMI system throughout the remainder of the District’s service area in approximately 30 months following completion of the PoC Phase, currently in progress.

Past Working relationship with Reclamation

ACWD received a WaterSMART Drought Resiliency Project grant award under FOA BOR-DO-17-F010 for the construction of the ACWD Rubber Dam #3 Fish Ladder project. This project allows the District to increase stormwater capture to recharge and sustainably manage the Niles Cone Groundwater Basin by allowing the rubber dam to remain inflated during fish migration periods when rainfall events occur. This project was successfully completed, and the grant agreement was closed out on time.

**1.4 EVALUATION CRITERIA**

**1.4.1 Evaluation Criterion A - Quantifiable Water Savings**

**How has the estimated average annual water savings that will result from the project been determined?**

**Water Savings**

The proposed AMI Project plans to upgrade 81,000 meters with AMI capability which will result in water savings benefits. The AMI system will have a useful life of 20 years. Full implementation includes an upgraded AMI meter and customer access to an online water use portal. The portal’s features include leak detection and alerts, notification of abnormalities in water use patterns, real-time water use data, water conservation tips, and ACWD water conservation program information. While several aspects of the proposed AMI system will provide benefits to customers and ACWD there are two aspects of this project that research has proven will result in quantifiable water savings

as a direct benefit from having an AMI meter and access to the customer portal: leak detection and end use water conservation from behavioral changes.

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ACWD has chosen to enter more conservative estimates in the DSS by assuming 30% water savings from customers addressing leaks and 3% savings on end uses due to the implementation of the proposed AMI Project. ACWD can realistically achieve 30% water savings on leaks by providing resources that assist customers with identifying and fixing leaks, as well as expanding conservation staff ability to analyze customer use trends by looking up daily and fifteen-minute use data remotely while on the phone with customers. The number of full-time conservation staff has also played a factor in this conservative, 30% estimate. ACWD can realistically achieve 3% on saving on end uses because customers have shown a similar level of conservation when they have gained access to water use information in the past. The following table summarizes the assumptions used in the DSS Model for the ACWD AMI measure.

Assumptions used in Determining Quantifiable Water Savings Estimate

| Assumptions                                   | Value    |
|---|----------|
| ACWD Water Demand CY 2019 (AF)                | 41,576   |
| Number of Meters/Accounts                     | 81,000   |
| Accounts Impacted                             | 100%     |
| Life Expectancy of Meters/AMI System          | 20 years |
| Water savings estimate on leak identification | 30%      |

*NOTE: The percent of accounts impacted will be gradual as the AMI Project is rolled out over the service area. For the purposes of the overall water savings, ACWD has assumed full build out of the AMI system.*

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Once these assumptions were entered into the model, ACWD selected the end uses that would be affected by AMI. End uses selected include leakage (both internal and external), and end uses that will be impacted by behavior (showers, faucets, etc.). The purpose of using end use data is to enable a more accurate assessment of the impact of water efficiency programs on demand. Published data on average per-capita indoor water use and average per-capita end use are combined with the number of water users to calibrate the volume of water allocated to specific end uses in each customer category. ACWD then ran the model to find an estimated water savings of 1,913 AFY from the proposed AMI Project as seen in following table.

Water savings associated with proposed AMI Project

| Total Savings based on Proposed AMI Project      |  | AF     |
|--|--|--------|
| Water Savings per Year                           |  | 1,913  |
| Lifetime Water Savings (20 years)                |  | 38,260 |
| % of 2019 Water Demand ( 1,913 AFY / 41,576 AFY) |  | 5%     |

*NOTE: Upon completion of Phase III of the AMI Project, ACWD realistically expects to save closer to 3% of demand as customers gradually sign up for the portal and take action to change their end uses. 3% was estimated by reducing the number of accounts impacted in the DSS model to reflect the same rate of adoption ACWD has seen with their online Electronic Bill Presentment and Payment tool. 3% is expected to grow to 5% upon full adoption of AMI.*

**Water Efficiency Improvements**

Each year, ACWD submits a validated Water Loss Audit Report to the Department of Water Resources using California-Nevada Section of the AWWA (CA-NV

AWWA) free water audit software to comply with Senate Bill 555. The most recent Water Loss Audit revealed that potable water loss accounts for an estimated 8.5% of ACWD's water demand (3,534 AF).

$$8.5\% = 3,534 \text{ AF} / 41,576 \text{ AF}$$

Of this amount of potable water loss, associated meter inaccuracies from the AWWA Water Loss Audit were estimated to be 750.6 AF. Johnson Controls Inc. performed a study, "The Static Meter Research Project" on ultrasonic meters that showed 3% as the upper limit of additional registration from ultrasonic meters due to ultra-low flow precision of meters. The findings were based across various locations and utilities. 84% of meters are being replaced with brand new accurate ultrasonic meters and will not result in any water loss upon initial installation. Therefore, meters that are being replaced with ultrasonic AMI meters will be more efficient by 630.5 AF from water being accounted for from additional meter registration.

$$750.6 \text{ AF} \times 84\% = 630.5 \text{ AF}$$

The recovered water will not be conserved by customers, but it will reduce ACWD's water losses because this water is now being accounted for. This greatly improves ACWD water management and efficiency.

In the AWWA water loss software, water loss is the sum of real and apparent losses. Replacing old meters with ultrasonic AMI meters will reduce ACWD's losses from the customer metering accuracies portion of apparent losses by 630.5 AF. This will further reduce ACWD's overall water losses and make the real loss portion of the calculation clearer. This will aid ACWD in making investments to reduce real losses as they will become much more evident.

The water lost due to leaks is currently being lost by either percolating down into the ground or running off into the storm drain. The water conserved by customers as a result of the proposed AMI Project will improve ACWD's water management and help prepare for water shortages. Water loss due to meter inaccuracy will be accounted for by in meter registration and will be properly billed for.

Additionally, water wasted/lost due to leaks occurring on the customer side of the meter are not currently detected, they are presumed when high water use is recorded upon manually reading the meter.

### **Associated Energy Savings**

The proposed AMI Project also reduces greenhouse gas emissions. By replacing the meters that are read manually with smart technology ACWD Meter Reader employees will not be required to drive to 81,000 meters to record water usage data. It is conservatively assumed that Meter Readers drive 0.2 miles for each meter. Each meter

is read 6 times a year (bi-monthly). Therefore, it is estimated that there is 97,200 number of vehicle miles traveled to read meters.

$$81,000 \text{ meters} \times 0.2 \text{ miles/meter} \times 6/\text{year} = 97,200 \text{ miles/year}$$

The EPA website states the annual greenhouse gas emission per mile of the average passenger vehicle is  $4.03 \times 10^{-4}$  metric tons Carbon Dioxide Equivalent (CO<sub>2</sub>E)/mile. Using this assumption, 97,200 miles/year totals 39.2 metric tons CO<sub>2</sub>E/year mitigated by the proposed AMI Project. That reflects the same amount of CO<sub>2</sub>E emission from the following:

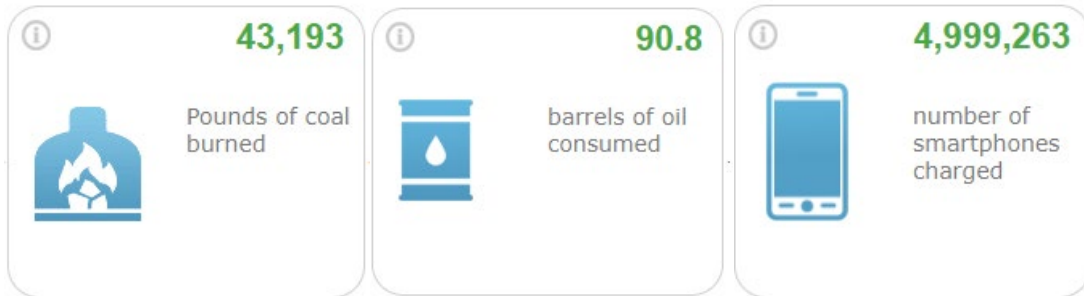


Figure 1 Estimated emissions from 39.2 metric tons of Carbon Dioxide Equivalent per year. Source: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

| Quantifiable Benefits of AMI                            | Savings                                 |
|---|---|
| <b>Water Savings</b>                                    |   |
| Improved Customer-side Leak Identification              | 1,913 AFY                               |
| Reduction in Water Consumption by Customers             |   |
| <b>Water Efficiency Improvements</b>                    |   |
| Reduction in Water Loss                                 | 630.5 AFY                               |
| <b>Associated Energy Savings</b>                        |   |
| Reduction of Greenhouse Gas from Vehicle Miles Traveled | 39.2 metric tons CO <sub>2</sub> E/year |

**Describe the amount of estimated water savings.**

ACWD will save approximately 1,913 AFY of potable water or 5% of the total demand of the service area as a direct result of the proposed AMI Project. In addition, the proposed AMI Project will achieve an annual greenhouse gas reduction of 39.2 metric tons CO<sub>2</sub>E/year.

**Describe current losses:**

The water lost due to leaks are currently being lost by either percolating down into the

ground or running off into the storm drain. The water conserved by customers as a result of the proposed AMI Project will allow ACWD the flexibility manage water and prepare for water shortages. Water loss due to meter inaccuracy will be accounted for by in meter registration and will be properly billed.)

***Describe the support/documentation of estimated water savings:***

**Municipal Metering:**

- San Francisco Public Utility Commission (SFPUC) and M Cubed Memos
- East Bay Municipal Utility District (EBMUD) Case Study “Advanced Metering Infrastructure Pilot Study Update” was used to determine 7% overall water saving from AMI.
  - Excerpt from report (Appendix F) “The analysis of conservation savings for participants was based on billed consumption in the 12 months after November 2013 (December 2013 to November 2014) and the three years prior usage (November 2011 to October 2013). EBMUD typically calculates average monthly consumption from its bimonthly meter reads. It usually takes 3-4 months to calculate monthly averages from billed data and at the time of this analysis, only data up to November 2014 was available. In the analysis, non-participants reduced their consumption by approximately 5%. By comparison, participants reduced their water usage by 12%. Therefore, we estimated the net savings from customers having the WaterSmart Toolbox was 7%. As noted this savings does not include additional savings realized from conservation staff working directly with customers. EBMUD hopes to have more data on those savings in the following year.”
- SFPUC Case Study presented by Julie Ortiz at the 2019 CalWEP Peer-to-Peer Conference *AMI: Everything You Need To Know To Run A Successful Program*
- ACWD CY 2019 Water Loss Audit (DRAFT)
- East Bay Municipal Utility District (EBMUD) Case Study “Advanced Metering Infrastructure Pilot Study Update.”

**Leak Detection Studies:** The first study is a leak alert program effectiveness analysis conducted by the San Francisco Public Utility Commission (SFPUC) and M Cubed. The data used was from 27,000 Multifamily (MF) meters and 109,000 Single Family (SF) homes in San Francisco, California. SFPUC conducted an AMI-based Leak Alert Pilot Program from March 2015 to August 2017. Afterwards, SF customer leak alerts occurred from September 2017 to February 2019, alerting approximately 6% of SF homes. **This study found that AMI-based leak alerts reduced SF leak volumes by 46% and MF leak volumes by 54% (50% on average).** The study’s results were presented at the 2019 CalWEP Peer-to-Peer Conference in a presentation called *AMI: Everything You Need To Know To Run A Successful Program* presented by Julie Ortiz. The results from the SFPUC study showed these end use savings percentages equate to roughly 7.3% total

account water savings in SF, 6.8% on MF, 7.0% on business, 5.3% on industrial, and 6.8% on irrigation accounts, or **5.9% system-wide**.

Water savings associated with proposed AMI Project at full adoption second study by East Bay Municipal Utility District (EBMUD), “Water Conservation Through Automatic Meter Reading Evaluation Report.” Study findings proved that implementation of **AMI saves** approximately **7% on average**. This was a result of a comparison between average monthly consumption from bimonthly meter reads from participants with AMI and non-participants in a control group.

These studies represent local examples by comparable agencies and therefore are used to estimate a 50% leak volume reduction from customer with AMI and an estimated 6-7% overall system-wide savings as potential inputs in the DSS model for the ACWD AMI measure.

**End Use Behavior Changes Studies: End use Behavior Changes Studies:** ACWD entered into a professional service agreement with WaterSmart Software, Inc. from May 2014 to July 2017 to perform the task of sending home water use report to ACWD customers. WaterSmart Software is a leading behavioral water efficiency solution provider, helping water utilities educate and engage their customers to save water. During the initial roll out of the home water reports, ACWD sent reports to 69,976 households, all of the SF customers in the ACWD service area, encouraging them to opt-in to receive home water reports online. The online customer web portal allowed customers to see historic water use trends, targeted water savings recommendations, seasonal use comparisons, and estimated end uses. ACWD sent 288,538 single-family home water reports, either via mail or email. WaterSmart **estimated water savings from the ACWD program to be 3.4% from end-users**. WaterSmart uses regression analysis to calculate water savings. The 3.4% savings estimate was determined in 2015, prior to WaterSmart making the software upgrade on “detecting leaks with non AMI” for ACWD and therefore is not double counting savings due to leak detection. Customers were surveyed about their water use savings and end-use behavior. Several survey responses are listed below as examples of the behavior changes that customers made after gaining information about their water use:

- I save my grey water when washing dishes and taking a shower in tubs & pails. I then use the water in my plants.
- Reduced frequency of using washing machine and try to use it at full load rather than use it for few clothes
- Learned my neighbors were doing better; water lawns 2x a week instead of 4x.
- Checked the water meter for leaks.
- Shorter showers recycle cold water from shower, while it heats up and use for washing machine. Built rain barrels.
- Reduced the duration of running the sprinklers for my lawn.



These actions are often enabled through customer access to more accurate and timely water use information, historical water use, water budgeting, driving customers to website and rebates, and overall water use awareness that comes with using a cloud-based portal with tools to interpret water usage.

There were several BAWSCA agencies that chose to partner with WaterSmart as well for home water use reports. A similar **WaterSmart program analysis estimated a water savings of 4% for residential customers in 2017**. This analysis was done for all BAWSCA agencies participating in the WaterSmart program and is an average across the 85% of accounts targeted.

Results of the end use behavior changes studies suggest that when end users gain access to information about their water use, they gain insightful knowledge that translates to reducing their water consumption. Simply by understanding their water use, customers will change their end use behavior by an estimated 3.4 - 4%. These estimates can justify end use water savings inputs in the DSS Model for the ACWD AMI measure.

**What types (manufacturer and model) of devices will be installed and what quantity of each?**

| Size Description               | Meter Type   | Manufacturer & Model            | Quantity |
|--------------------------------|--|---------------------------------|----------|
| 3/4" Short (7 1/2" lay length) | Ultrasonic   | Badger E-Series                 | 54,939   |
| 1"                             | Ultrasonic   | Badger E-Series                 | 7,750    |
| 1.5"                           | Ultrasonic   | Badger E-Series                 | 3,357    |
| 2"                             | Ultrasonic   | Badger E-Series                 | 2,336    |
| 3/4" - 10"                     | Existing positive displacement meters, upgraded with high-resolution registers | Neptune T-10 & Badger Recordall | 12,618   |
| TOTAL                          |  |                                 | 81,000   |

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

To verify water savings upon project completion, ACWD will analyze the total water production demand and compare it to service area wide consumption data. This be will done annually via the AWWA Water Loss Audit. The results of the proposed AMI project should reduce the apparent losses from meter inaccuracies in that report over time.

Improved meter accuracy will mean there is more water accounted for and a reduction in water loss.

Water savings achieved by customer-side leak identification and end-use water conservation will be verified by tracking consumption patterns both pre installation and post installation of meters. The analysis will compare the CY2019 gallons per capita per day (GPCD) baseline data (108.3 GPCD) to the CY2024 GPCD data after the project has been implemented.

#### **1.4.2 Evaluation Criterion B—Water Supply Reliability**

**Specific water reliability concerns. Please address the following:**

**Explain and provide detail of the specific issue(s) in the area that is impacting water reliability, such as shortages due to drought, increased demand, or reduced deliveries. Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)?**

**Indicate the quantity of conserved water that will be used for the intended purpose**  
-The water savings benefits of the proposed AMI project will improve water reliability and resiliency by reducing demands. Reducing demand is the quickest and most cost-effective method to improve water supply reliability. ACWD is facing increasing challenges to its water supply, as discussed below.

**Increasing Delta Flow Requirements** – The State Water Resources Control Board is currently in the process of establishing enhanced flow requirements for rivers flowing into and through the Sacramento-San Joaquin River Delta (Delta) under the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan (Bay-Delta Plan). Currently proposed criteria call for a total of 40% unimpaired flows during winter and spring months for rivers flowing into the Delta. These new flow criteria will directly offset the available supply for ACWD to import from both the State Water Project and the San Francisco Public Utility Commission (SFPUC).

These impacts will be felt in normal years, but will also significantly deplete the surpluses needed to fill ACWD’s off-site groundwater bank in Semitropic. ACWD contracted with the Semitropic water bank in the 1990s for the purpose of storing wet year surpluses for use during dry years, a practice known as “conjunctive use” management. Conservation will increase the availability of surpluses for banking in Semitropic.

**Local Fisheries Restoration Flow Requirements** – Together with a team of NGOs, local, State and Federal government agencies, ACWD is working toward reestablishing a native steelhead fishery on Alameda Creek, which provides 40% of ACWD’s annual water supply. ACWD has taken a leadership role in this process and, as voluntary measures, has committed over \$70M toward projects to provide fish passage and protection measures for steelhead. ACWD also commit to providing additional stream flows needed to enhance migration success for steelhead and other salmonids. In total,

ACWD has committed over 10% of its supply from this source for environmental enhancements.

**Climate Change** – ACWD’s climate change analyses find that the known and anticipated effects of climate change will have significant impacts on our water supplies and our operations. Anticipated impacts include but are not limited to: reductions in annual snowpack, changes in precipitation, sea-level rise, saltwater intrusion in the Delta and our coastal aquifer, and increased temperature-dependent water demands. The SWP is anticipated to have operational challenges in the Delta stemming from sea level rise as a result of climate change, reducing the ability and quantity of water it is able to deliver. Reduction in snowpack and earlier snow melt in the Sierra Nevada mountain range poses a threat to both the SWP and SFPUC supplies. Sea-level rise will also reduce ACWD’s fresh water storage in the Niles Cone groundwater basin (Niles Cone).

**Net impact on water supply reliability and benefit of AMI** - The result of enhanced flow requirements in the Delta and on Alameda Creek combined with the anticipated impacts of climate change is a significant reduction in ACWD’s water supply reliability with a commensurate increase in shortages, both in magnitude and frequency. Whereas ACWD’s adopted reliability goal is to limit shortages of no more than 10% once in 30 years, in a Water Supply Planning Workshop with ACWD’s Board in July 2019, analyses conducted by ACWD show future single critical shortages of up to 35% and single year shortages occurring as frequently as once every five-years. That analysis found that an AMI-driven efficiency improvement, beyond non-AMI enabled conservation, could result in approximately 5% of additional conservation. A 5% additional demand reduction results in improved ability for ACWD to store wet year surpluses in our Semitropic bank. That 5% AMI-enabled conservation benefit, coupled with our existing conjunctive use program will result in single critical years shortage of only 25%, a 10% enhancement as compared to the without AMI scenario. We also see that single-year shortage frequency is cut in half, to once in only ten years vs. once in five years without AMI.

**Describe how the project will address the water reliability concern** - As previously discussed, AMI will increase reliability in two ways. First, it will directly offset single critical year shortages anticipated due to loss of supply and climate change. Second, AMI-enabled conservation savings in normal and wet years will increase surpluses for banking in ACWD’s Semitropic groundwater bank for return and use during droughts.

**Drought and Making Conservation a California Way of Life** – Assembly Bill 1668 and Senate Bill 606 were signed into law on May 31, 2018, and require the State Water Resources Control Board, in coordination with the Department of Water Resources, to adopt long-term standards for the efficient use of water as part of carrying out then Governor Brown’s Executive Order B-37-16 “Making Water Conservation a California Way of Life.” Each urban retail water supplier, including ACWD, are required to set new permanent water use targets for their service areas. The Bills require each urban retail water supplier to calculate and report an urban water use Objective no later than

November of 2023, and to compare actual urban water use to the calculated Objective each year thereafter.

To create each water provider's unique Objective, standards for indoor water use, outdoor water use, water loss, and commercial landscape water use will be added together. Agencies will then be tasked with meeting the sum of the four standards (not each one individually). The proposed AMI Project will substantially assist ACWD in meeting the finalized Objective for several reasons: 1) The remote leak detection capabilities to reduce customer side leaks and improved customer meter accuracy will reduce ACWD's water losses and 2) The more accurate and timely reads provide more granular data that both ACWD and customers can analyze to improve water savings.

**Will the project make water available to achieve multiple benefits or to benefit multiple water users?**

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

Yes, the proposed AMI Project will achieve multiple benefits for municipal and industrial uses including:

- Offsetting water supply shortages
- Drought resiliency
- Legislation compliance
- Water use transparency

Much of the anticipated shortages that AMI will help address are shortages resulting from actions taken to free up existing supplies for environmental benefits, particularly flows to enhance fisheries for threatened species. While some of those environmental flows are regulatory, flows provide by ACWD on Alameda Creek are the result of completely voluntary actions we have taken to help restore the historic steelhead fishery in our watershed.

**o Describe how the project will help to achieve these multiple 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.**

40% of ACWD's water supply comes from the Alameda Creek Watershed. In 1997, central coast steelhead (O. Mykiss) were listed as a threatened species under the Federal Endangered Species Act. O. Mykiss are a native species to the Alameda

Creek watershed, but their lifecycle was disrupted by numerous developments, most significantly by the construction of an Army Corps of Engineers flood control structure that created a permanent barrier to migration. Despite our separation from the critical issue of passage, ACWD took voluntary actions to modify our facilities and operations to be more 'fish-friendly' in anticipation of the Army Corps facility being addressed including a voluntary agreement to contribute 10% of our annual diversions from the stream to enhance migration flows for steelhead. ACWD will commence enhancing flows in 2023 according to our Biological Opinion (NMFS consultation No. SWR-2013-9696).

These voluntary environmental flows will contribute the substantial reduction in reliability that ACWD is facing and AMI will help reduce this shortfall.

- **Will the project benefit a larger initiative to address water reliability?** Yes. As mentioned previously, ACWD will be subject to complying with the new permanent water use targets for the service area as part of carrying out Executive Order B-37-16 "Making Water Conservation a California Way of Life." The proposed AMI Project will greatly assist in providing the water consumption granularity needed to define and achieve targets. The AMI system will help ACWD analyze and disaggregate water use from dedicated landscape meters, commercial customers and residential water use categories. This is helpful in meeting the State target because each of these customer types will have different standards and water use objectives. The proposed AMI Project will also assist in reducing water loss, another component of the legislation.
- **Will the project benefit Indian tribes?** There is no known benefit to Indian tribes from the proposed AMI Project.
- **Will the project benefit rural or economically disadvantaged communities?** Yes. While ACWD's service area is not rural, there many customers who struggle financially. There are approximately 1,000 homes that are enrolled in ACWD's bill assistance program and are qualified as low-income. Providing more transparency into these homes water use is a powerful tool that can be used to conserve and reduce water bills therefore assisting in reducing financial hardship.

**Does the project promote and encourage collaboration among parties in a way that helps increase the reliability of the water supply?**

Yes, as one of 26 agencies that make up BAWSCA, ACWD is required to report water use and project future water forecasts to BAWSCA so SFPUC, the water supplier, can make sure supplies meet demand. Data accuracy improvement from the Project will allow ACWD to report more accurately and make better predictions. This will help all the regional partners by making water supply assumptions more exact.

**Is there widespread support for the project?**

Yes, several other BAWSCA agencies have installed AMI. All service area cities, the ACWD Board, and the Union Sanitary District have been briefed on the project and have expressed support. ACWD has received Letters of Support from the City of Fremont and BAWSCA suggesting their awareness of the project benefits and indicating regional support for the proposed AMI Project.

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

The partner agencies, cities, and district have expressed support and in some cases written Letters of Support. BAWSCA and ACWD's collaboration has mutual benefits from the AMI project by increasing data reliability and refined forecasting. All service area cities' support is significant because they will be the end users.

**Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?**

Other agencies served by the District, including the three service area cities, will receive the benefits of the improved meter functionality and have access to more granular usage data, allowing them to better track water consumption. In the future, there are significant water conservation improvements possible for ACWD water conservation programming. When ACWD staff gains a better understanding of customer daily, rather than bi-monthly water use patterns, it will guide water conservation assistance and program development.

**Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?** By increasing efficiency and reducing overall water demands, the project will help to address any potential water shortages due to drought or other impacts of climate change.

**Describe the roles of any partners in the process.**

The District has applied for State Revolving Fund (SRF) funding – if awarded the State will become a financial partner of the project.

**Will the project address water supply reliability in other ways not described above?**

No, above is a thorough discussion.

**1.5 Evaluation Criterion C—Implementing Hydropower**

The proposed project does not include the implementation of hydropower; therefore, the questions associated with this criterion are not applicable.

## 1.6 Evaluation Criterion D—Complementing On-Farm Irrigation Improvements

The proposed project does not include improvements that complement on-farm irrigation improvements; therefore, the questions associated with this criterion are not applicable.

## 1.7 Evaluation Criterion E—Department of the Interior and Bureau of Reclamation Priorities

### Department Priorities

#### 1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt*

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

Advanced smart meter technologies have a proven track record in providing real-time water-consumption data by allowing for remote meter-reading from a central location through a radio frequency transmission network. ACWD plans to use this technology to more efficiently manage its limited water resources and streamline water conservation measures.

#### 2. *Utilizing our natural resources*

##### a. **Ensure American Energy is available to meet our security and economic needs-**

Energy savings achieved by implementing the AMI system, will be realized through reduced purchases of imported water, reduced process and distribution of water. In addition, there will be a significant reduction in vehicle miles travelled and fuel supplies needed as a result of the elimination for the need for routine manual meter reading. With less vehicle miles travelled, there will be a reduction of greenhouse gas will result in a cleaner environment and reduced energy spent dealing with its impacts. Energy savings achieved by implementing the AMI system, will be realized through reduced purchases of imported water, reduced process and distribution of water. In addition, there will be a significant reduction in vehicle miles travelled and fuel supplies needed as a result of the elimination for the need for routine manual meter reading. With less vehicle miles travelled, there will be a reduction of greenhouse gas will result in a cleaner environment and reduced energy spent dealing with its impacts.

#### 3. *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 -**

One of ACWD's top priorities with the Project is community engagement. Through development of a portal that will be rolled out to all District customers, the District will provide tools that provide targeted interactive consumption data to each customer in order to better educate and inform ratepayers of their water usage. Additionally, the District anticipates that this portal will also provide tools to drive efficient use of water and change consumption behavior during times of drought. The rollout of the customer portal is a key aspect of the Project will aid the District in communicating key information to customers and fostering an environment of transparency between customers and the District. Customers will

also benefit from early leak detection capabilities that will be realized through the integration of state-of-the-art ultrasonic meters with the new Customer Portal.

As a special district serving water to customers located in cities and unincorporated areas, the District communicates and partners with these other local governments to serve the communities. These data will foster greater communication regarding customers with respect to their water service.

This new AMI system will also improve reporting of customer water usage to the state.

## **5. Modernizing our infrastructure**

### **a. Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;**

Using a consultant to manage the development and deployment of the AMI project and a contractor to complete the meter installation with public funds supports the White House Public/Private Partnership Initiative

### **.b. Prioritize Department infrastructure needs to highlight:**

#### **1. Construction of infrastructure;**

#### **2. Cyclical maintenance;**

#### **3. Deferred maintenance.**

ACWD's AMI installation project is a direct example of construction of infrastructure that will replace manual-read meters that are past their life expectancy with advanced smart meters and therefore reducing the cyclical maintenance requirements. Installing an advanced automated metering system will provide real-time information for correcting water leaks and system discrepancies rather than having a deferred maintenance system for meter replacement.

## **Reclamation Priorities**

### **3. Leverage Science and Technology to Improve Water Supply Reliability to Communities**

- Advanced smart meter technologies have a proven track record in providing real-time water-consumption data by allowing for remote meter-reading from a central location through a radio frequency transmission network. ACWD plans to use this technology to more efficiently manage its limited water resources and streamline water conservation measures.

### **4. Address Ongoing Drought**

In times of drought, the water conservation benefits from this project will reduce water consumption, as well as prepare ACWD for future needs. In addition, implementation of the AMI system, will help educate the commercial, industrial, and residential customers



of ACWD on their water use patterns that will be very beneficial in achieving the water conservation goals of ACWD and the financial goals of the water customers.

AMI will allow the District to monitor water use much closer and the information obtained will allow the District to establish stricter conservation goals and/or drought period restrictions. It will also help the District identify violations of drought restrictions.

### **1.7.1 Evaluation Criterion F—Implementation and Results**

#### **1.7.1.1 Subcriterion F.1— Project Planning**

**Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place?**

**Provide the following information regarding project planning:**

- (1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan or other planning efforts done to determine the priority of this project in relation to other potential projects.**
- (2) Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).**

Specifically, all these Plans have identified water conservation as an effective strategy to manage resources. ACWD self-certifies that the proposed AMI Project is consistent with multiple local and regional plans, including the ACWD 2015-2020 Urban Water Management Plan (2015-2020 UWMP), the Water Efficiency Master Plan and Regional Demand Study, and 2018 ACWD Five Year Strategic Plan. Specifically, all these Plans have identified water conservation as an effective strategy to manage resources.

#### **2015-2020 Alameda County Water District Urban Water Management Plan:**

The Project is consistent with ACWD's 2015-2020 Urban Water Management Plan, Chapter 8 Water Conservation Bill of 2009 (SBX7-7). Chapter 8 establishes goals for ACWD's customer demand. ACWD has proactively reduced customer demand to comply with statewide SBX7-7 conservation targets. ACWD will continue to define and achieve additional savings targets in the 2020-2025 UWMP.

#### **Water Efficiency Master Plan and BAWSCA Regional Demand Study**

ACWD is in the process of developing a Water Efficiency Master Plan (WEMP) to identify a strategy to meet the District's short-term water use efficiency goals, as well as providing a foundation for identifying strategies to meet long-term water supply needs. AMI is a water use efficiency measure identified in the water efficiency master planning process and will assist in meeting the conservation targets outlined in the WEMP. ACWD's water efficiency master planning process informed the BAWSCA Regional Demand Study,

which developed water demand and conservation projections through 2045 for each BAWSCA agency, and the region as a whole. ACWD's water efficiency master planning process provided valuable insights on long-term water demand patterns and conservation savings potential for the BAWSCA agencies to support regional efforts.

### **2018 ACWD Five Year Strategic Plan**

The Project is consistent with ACWD's Five Year Strategic Plan, Strategic Goal 1.4 Invest in system improvements to increase customer water use efficiency and engagement and 2.3 Evaluate new and innovated water management concepts. Strategic Goal 1.4 specifically lists, "Implement Advance Metering Infrastructure (AMI)" as a way to increase customer water use efficiency and engagement. The goal's outcomes outlined in the Plan will be based on milestone completions by the AMI Planning and Design, Proof of Concept, and Implementation stages. 2.3. Evaluate new and innovative water management concepts, will be achieved by the development and implementation of the WEMP to leverage the benefits of AMI.

#### **1.7.1.2 Subcriterion F.2— Performance Measures**

ACWD proposes to use the following performance measures to quantify the benefits of the AMI system upon completion of the project:

Performance Measure No. 1: Improving Water Management through the implementation of monitoring tools

- The historical average amount of water utilized by a household or commercial entity as per meter data on file with ACWD
- Before and after water consumption data will be evaluated using at least one year of post project data.
- Before and after water supply (production) data will be evaluated using at least one-year of post project data
- Project total savings will be compared with historical water production data to identify trends in water use, evaluate future water needs, and estimate ACWD capacity

Performance Measure No. 2: Increasing Energy Efficiency in Water Management

- ACWD will be also be calculating the quantity of energy savings resulting from the water use data by comparing pre-and-post project energy billings for water production and distribution, taking into account changes in pricing structure that would affect the anticipated cost savings.
- Anticipated cost savings are based on reduction of energy usage for water production and distribution due to a reduced demand for water.

### 1.7.1.3 Subcriterion F.3— Readiness to Proceed

ACWD initiated the Project in July 2017. A vendor has been selected and the Project is currently in the integration development/Proof of Concept phase. A table indicating the major phases of the Project appears below.

| Estimated AMI Implementation Plan                           |                                  |            |         |
|---|----------------------------------|------------|---------|
| Task  | Phase                            | Start      | Finish  |
| <b>Phase 1: Design Phase</b>                                | Needs Assessment                 | Completed  |         |
|   | Design Study                     | Completed  |         |
|   | Financial Analysis               | Completed  | 3/2019  |
| <b>Phase 2A: Procurement and Vendor Selection</b>           | CEQA Study                       | Completed  |         |
|   | Procurement and Vendor Selection | Completed  |         |
|   | Contract Negotiation             | Completed  | 6/2020  |
| <b>Phase 2B: Interface Development and Proof of Concept</b> | Integration Development          | In Process | 2/2021  |
|   | Proof of Concept                 | 3/2021     | 6/2021  |
| <b>Phase 3: AMI Deployment</b>                              | AMI Full Deployment - 30%        | 7/2021     | 2/2022  |
|   | AMI Full Deployment – 60%        | 2/2022     | 10/2022 |
|   | AMI Full Deployment – 100%       | 10/2022    | 6/2023  |
| <b>Phase 4: Water Savings Analysis</b>                      | Water Savings Analysis           | 6/2023     | 12/2023 |

Prior to the proposed full AMI implementation shown above as Phase 3, two phases will be completed: The Start-Up Phase and a Proof of Concept phase (PoC Phase). During the Start-Up Phase, Badger will provide installation services and work with ACWD to plan, communicate, and place into operation the systems and processes to support the implementation of the AMI System. Additionally, ACWD will implement business practices, system interfaces, billing, and inventory system alterations to support the AMI solution.

During the PoC Phase, Badger will install meters and cellular radios across a defined subset of ACWD's service area that includes approximately 3,500 meters. This PoC Phase will serve to confirm the viability of the AMI system and integrations. During this installation process, ACWD will identify and troubleshoot technical, operational, and business process refinements to prepare for the full deployment. The PoC Phase is anticipated to be implemented over a 10-month period and includes an option for ACWD to opt-out of further deployment if deemed appropriate.

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

The Project will have minimal impacts outside of existing meter boxes. The project will require encroachment permits from the Cities of Fremont, Newark, Union City, and Hayward, as well as from Caltrans, as some of the meter boxes are located in their rights-of-way. ACWD has, in fact, already successfully obtained the needed encroachment permits from the Cities of Fremont, Union City, and Hayward, as well as from Caltrans. The final encroachment permit, from the City of Newark, will be obtained once the city can review the contractor's schedule. Obtaining encroachment permits for project implementation should have minimal impact on the project schedule and budget as most of these permits are already secured.

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

ACWD examined AMI as a technology to benefit the District and its customers. ACWD's AMI Design Report, completed in 2018, compiled the design criteria, evaluated alternatives, presented recommendations, and developed a project budget and schedule to form the basis of design for the Project.

ACWD awarded a contract to EMA to conduct a Needs Assessment and produce a Design Study and Financial Analysis in the early Phases of the Project. Consulting services also included development of a Public Outreach Plan, a CEQA study, and a meter survey to prepare for procurement of an AMI system and a Customer Portal.

The consultant worked with ACWD to create procurement documents, evaluation criteria, and contract negotiations. EMA is currently working with ACWD to design integrations with the CIS, MDM, and Customer Portal to prepare for Proof of Concept.

A Proof of Concept (POC) phase was completed in preparation of the full implementation of the AMI meter installations.

The goal of the POC phase is to prove that the Contractor's systems and installation processes can be successfully implemented with ACWD's systems to prove ACWD's systems and business processes are able to support the AMI system prior to ACWD issuing a second Notice to Proceed, which will allow the Contractor to proceed to the Production Phase. During this PoC phase the Contractor will:

- A. Install AMI data collection equipment that covers the PoC Areas that allows water meters to be read.
- B. Install water meters and AMI radio transmitters within the PoC Area.
- C. Upgrade and install more than 95% of the water meters provided as a part of the PoC.
- D. Successfully pass 100% of the installation information back to the District's existing billing system.
- E. All water meter accounts passed to the Contractor must be considered Complete, as determined by the District in its sole discretion, and all installed meters must pass the Read Success Rate.
- F. Customer Information System (CIS) (part of the District's Caventa billing system) system integrations will support the District's billing processes.
- G. CIS system integrations will support service order creation.
- H. Confirm over a full billing period (60 days) that all PiC meters can be properly billed.
- I. Perform Final User Acceptance Tests for the MIS and AMI software.
- J. Support the Initial User Acceptance Test for the Customer Portal.
- K. Support the implementation of the District's public outreach program.
- L. The Contractor shall document and submit to the District all deficiencies found during this phase within five working days and recommend any modifications required to resolve them. All deficiencies found in the Proof-of-Concept Phase shall be resolved before the District issues the second Notice to Proceed.
- M. The District will evaluate the results of the PoC. Part of the evaluation will include a review of the District's business drivers, reporting whether the AMI Solution is able to meet the District's project goals. The Contractor shall assume this evaluation will take up to 90 days including the initial 60-day billing period.

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

No new policies or administrative actions are required to implement the project.

## 1.8 Evaluation Criterion G— Nexus to Reclamation Project Activities

### Is the proposed project connected to Reclamation project activities? If so, how?

The proposed Project will contribute to water conservation in ACWD's service area. Currently supplies are being met with imports from the Delta. ACWD's dependence on the Delta, through its participation in the SWP, has connection to a reclamation project and reclamation activity in the following ways: 1) ACWD has previously used Reclamation water and Central Valley Project facilities to facilitate water transfers. Notably, during the critically dry year of 2014, ACWD received 5,000 acre-feet of water from Contra Costa Water District (CCWD); this transfer relied on water made available pursuant to CCWD's CVP contract to facilitate the exchanges needed to deliver water to ACWD. 2) CVP pumps are authorized to move SWP supply to optimize coordinated operation of the Delta and to minimize environmental impacts. CVP and SWP supplies comeingle in the project south of the Delta, notably in the coordinated operation of San Luis Reservoir. 3) ACWD is partnering in CCWD's Los Vaqueros Reservoir Expansion Project, for which Reclamation is the Federal lead. If implemented, the Los Vaqueros Reservoir and CCWD's existing intakes will be used to divert and store CVP water as well as state and local supplies. The Los Vaqueros Reservoir Expansion Project would allow for future exchanges of supplies which would result in even greater conjunctive use of the Niles Cone Groundwater Basin for improved regional water supply management for the benefit for all the partner agencies, including CVP contractors and CVPIA south-of-Delta wildlife refuges.

**o Does the applicant receive Reclamation project water?** Yes, ACWD has previously used Reclamation water and Central Valley Project facilities to facilitate water transfers. Notably, during the critically dry year of 2014, ACWD received 5,000 acre-feet of water from Contra Costa Water District (CCWD). As a State Water Project contractor, ACWD benefits from the Combined Place of Use of the CVP and SWP, as well as the Joint Point of Diversion (JPOD) decision.

**o Is the project on Reclamation project lands or involving Reclamation facilities?** No, the proposed project is not located on Reclamation lands or involve Reclamation facilities.

**o Is the project in the same basin as a Reclamation project or activity?** The project is not located within a basin that is subject to a Reclamation project or activity.

**o Will the proposed work contribute water to a basin where a Reclamation project is located?** Yes. By reducing water consumption by 1,913 AFY the proposed AMI Project will increase ACWD's local water supply reliability allowing flexibility in water management and import reliance on the on the Sacramento/San Joaquin Delta (Delta)The Delta is the predominant source of supply for Reclamation's Central Valley

Project. The proposed AMI Project therefore contributes to a basin where a Reclamation project is located.

○ **Will the project benefit any tribe(s)?**

ACWD is not aware of any tribes that would benefit from this project.

## 1.9 Evaluation Criterion H— Additional Non-Federal Funding

The cost of the Project will be \$36,621,985. ACWD applied Drinking Water State Revolving Fund (DWSRF) and Clean Water State Revolving Fund (CWSRF) loans for the total project, including pre-construction costs. This funding request is still under review. If the loan funds are approved, all of the non-federal cost share will be paid using these loan funds. If the loan funding is not secured, the District will use capital improvement funds for the non-Federal share.

The percentage of non-federal funding will be:

$$\frac{\text{Non – Federal Funding}}{\text{Total Project Cost}} = \frac{\$34,621,985}{\$36,621,985} = 95\% \text{ cost share}$$

## 2 Project Budget

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### 2.1 Funding Plan and Letters of Commitment

No other federal funds have been received as of the date of this proposal.

Non-Reclamation funds will be committed and secured prior to the execution of an agreement with Reclamation.

Loan funding requested from the California Drinking Water Program is under review. If the requested loan is not received, ACWD will use capital improvement funds for the District cost share.

**Table1: Total Project Cost Table**

| SOURCE   | AMOUNT              |
|--|---------------------|
| 1. Costs to be reimbursed with the requested Federal Funding | \$2,000,000         |
| 2. Costs to be paid by the applicant                         | \$34,621,985        |
| 3. Other:  |                     |
| <b>Non-Federal Subtotal</b>                                  | \$34,621,985        |
| <b>TOTAL PROJECT FUNDING</b>                                 | <b>\$36,621,985</b> |

## 2.2 Budget Proposal

| BUDGET ITEM                                    | COMPUTATION |          | Quantity | TOTAL               |
|--|-------------|----------|----------|---------------------|
|  | \$/Unit     | Quantity |          |                     |
| <b>Salaries and Wages</b>                      |             |          |          |                     |
| N/A  |             |          |          | \$0                 |
| <b>Fringe Benefits</b>                         |             |          |          |                     |
| N/A  |             |          |          | \$0                 |
| <b>Travel</b>                                  |             |          |          |                     |
| N/A  |             |          |          | \$0                 |
| <b>Equipment</b>                               |             |          |          |                     |
| N/A  |             |          |          | \$0                 |
| <b>Supplies and Materials</b>                  |             |          |          |                     |
| N/A  |             |          |          | \$0                 |
| <b>Contractual/Construction</b>                |             |          |          |                     |
| Consulting                                     |             |          |          | \$1,822,067         |
| Installation Labor                             |             |          |          | \$15,997,088        |
| Meter Supply                                   |             |          |          | \$12,527,054        |
| Radio Supply                                   |             |          |          | \$6,273,776         |
|  |             |          |          |                     |
|  |             |          |          |                     |
| <b>Environmental and Regulatory Compliance</b> |             |          |          |                     |
| Reclamation Environmental Review               |             |          |          | \$2,000             |
|  |             |          |          |                     |
| <b>Total Direct Costs</b>                      |             |          |          | <b>\$36,621,985</b> |
| <b>Indirect Costs</b>                          |             |          |          |                     |
| N/A  | Percentage  | \$base   |          | \$0                 |
| <b>TOTAL ESTIMATED PROJECT COSTS</b>           |             |          |          | <b>\$36,621,985</b> |



## 2.3 Budget Narrative

### **Salaries and Wages**

ACWD Salaries and Wages are not considered in budget representations for the Project. Although some District personnel are supporting the Project, the Project will be primarily managed by EMA, Inc.

### **Fringe Benefits**

ACWD Fringe Benefits are not considered in budget representations for the project. Although some District personnel are supporting the project, the Project will be primarily managed by EMA, Inc.

### **Travel**

Staff serving the ACWD are local, so no travel required.

### **Equipment**

Equipment is not considered in budget representations for the Project. The Project will be primarily managed by EMA, Inc.

### **Materials and Supplies**

Materials and supplies are not considered in budget representations for the Project. The Project will be primarily managed by EMA, Inc.

### **Contractual/Construction**

When Deployment begins, EMA will manage the installations, Public Outreach, excavations that may be required, installation data quality, audit installations, and provide all contract management.

After deployments are complete, EMA will provide a Review of Operations to ensure ACWD is taking advantage of all benefits that can be achieved by the AMI system.

Installation labor is inclusive of all meter, radio, and register installations as well as excavation work that may be required during the Project. Installation labor also includes mobilization and setup fees which include items like warehousing, setting up a call center, testing, and public outreach printing, and mailing.

Meter Supply ACWD will install the following equipment quantities.

#### **Meter Supply Equipment**

| Equipment                 | Quantity | Extended Price      |
|---------------------------|----------|---------------------|
| Ultrasonic 3/4"           | 54,939   | \$7,295,924         |
| Ultrasonic 1"             | 7,750    | \$1,275,830         |
| Ultrasonic 1.5"           | 3,357    | \$998,575           |
| Ultrasonic 2"             | 2,240    | \$983,458           |
| Neptune ProCoder Register | 12,342   | \$1,429,736         |
| Badger HR-E LCD Register  | 575      | \$29,921            |
| <b>Equipment Total</b>    |          | <b>\$12,013,445</b> |

ACWD will install radios to attach to every meter, regardless of whether the meter will be replaced.

| Radio Equipment        |          |                    |
|------------------------|----------|--------------------|
| Equipment              | Quantity | Extended Price     |
| Cellular Radios        | 81,649   | \$6,273,093        |
| <b>Equipment Total</b> |          | <b>\$6,273,093</b> |

The Scope of Work is inclusive of the scope described in Section 1.3.2 Detailed Scope of Work.

### **Third-Party In-kind contributions**

The District has submitted an application requesting 31,832,794 in loan funds from the California Drinking Water and Clean Water State Revolving Fund Programs for the implementation of the project. The funding request is under review and the funding decision is anticipated to over the next 4 to 6 months.

If these funds are not secured by the time a grant agreement is executed, the District will use capital improvement funds for the non-federal cost share.

### **Environmental and Regulatory Compliance Costs**

•**The cost incurred by Reclamation to determine the level of environmental compliance required for the project and review of environmental compliance documents prepared by a consultant.**

It is presumed that Reclamation’s environmental compliance review will be minimal since the work will be completed on existing infrastructure and may qualify for a

categorical exclusion. \$2,000 has been allocated for this task, subject to revision by Reclamation if grant funds are awarded.

**•The cost incurred to prepare any necessary environmental compliance documents or reports**

CEQA Mitigated Negative Declaration (MND) and a biological assessment was completed July 2019. The costs associated with these studies pre-date the eligible costs for this grant, so they are not included in the budget.

**•The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures•The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures**

**Other Expenses:** None

**Indirect Costs:** None

### 3 Environmental and Cultural Resources Compliance

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The environmental review for the Project is complete and no significant mitigation or monitoring is necessary. No other special requirements (land acquisition, formation of new governance, etc.) are required.

While most meter replacements in the Project will involve work only within existing meter boxes, ACWD anticipates encountering a small percentage of unexpected circumstances, such as a broken meter box or water line that would need replacement.

- **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 Final Initial Study & Mitigated Negative Declaration is included as an attachment. As discussed in Sections 3.1 through 3.18, the Project would have a less than significant effect on the environment.

#### Air Quality

Construction of the proposed Project would result in emissions of criteria air pollutants, primarily associated with use of off-road construction equipment, on-road vendor (material delivery) trucks, and worker vehicles. However, the construction does not exceed the BAAQMD Construction thresholds.

The AMI system itself does not generate air pollutants. The data collection system is primarily solar powered. Routine maintenance by ACWD staff will produce some vehicle trips with associated emissions. However, implementation of AMI would largely eliminate the need for manual meter reading, which would result in a net decrease in air emissions.

The Project emissions would be below applicable thresholds for criteria air pollutants and would not conflict with or obstruct implementation of the applicable air quality plan.

The Project would not exceed any emission threshold established by BAAQMD. The project would not generate substantial pollutant emissions. The Project would not generate objectionable odors that would generate a substantial number of people.

#### Animal Habitat

The Project would have a less than significant effect on animal habitat.

## Water Quality

The Project would not involve discharge to surface or groundwater. No Project activity would occur in or adjacent to a stream or river. Any required meter upgrade or replacement work would use existing meter sites and would not alter drainage. Installation of data collection poles would have a very small footprint (about the size of a light pole) and would not alter drainage patterns in a manner that could substantially increase erosion or siltation, exceed stormwater capacities or impede flood flows.

## Biological Resources

The biological resources analysis relies upon an assessment of federally listed species prepared for the Project (Appendix B) and the general plan EIRs prepared for the three cities that comprise the project area (Fremont 2011, Newark 2013, Union City 2002). The assessment considered Federally-listed species and critical habitat with the potential to occur in the Project area. The EIRs programmatically analyzed impacts to biological resource from all activities associated with development of the cities, including utility infrastructure. Potential effects to biological resources would be primarily related to the potential construction monopoles for the placement of data collection equipment. Colocation of data collection equipment and replacement of meter boxes would have no effect on biological resources.

- **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?**

The CEQA Declaration identified Habitats, Species, and Plants that are present in ACWD's coverage area. The database search and literature review conducted for the assessment of federal-listed species identified a total of 25 federally listed species (5 plant species and 20 wildlife species) as occurring, or potentially occurring, in the study area.

### **USFWS Critical Habitats**

Steelhead Habitats

Western Snowy Plover<sup>85</sup> Habitat

Contra Costa Goldfields Habitat<sup>82</sup>

Vernal Pool Tadpole Shrimp habitat

Alameda Whipsnake Habitat

California Red-legged Frog Habitat

Application of Siting Criteria described in the report along with implementation of listed BMP's will ensure that adverse effects on designated critical habitat for Contra Costa goldfields or vernal pool tadpole shrimp are avoided.

### **CNDDB Species Occurrences**

California tiger salamander  
California red-legged frog  
California Ridgway's rail  
Western snowy plover  
California least tern  
Western yellow-billed cuckoo  
Steelhead - central California coast DPS  
Salt-marsh harvest mouse  
Alameda whipsnake  
Vernal pool tadpole shrimp

The study area overlaps with areas of designated critical habitat for six federally listed species: Contra Costa goldfields, vernal pool tadpole shrimp, Alameda whipsnake, California red-legged frog, Western snowy plover and steelhead. Critical habitat for four of these species (Alameda whipsnake, California red-legged frog, Western snowy plover and steelhead) does not occur within ACWD's service area where project activities, including monopole installations, will occur.

Application of listed criteria, along with implementation of project specific BMPs, will protect sensitive resources, including areas of potentially suitable habitat for federally listed species, from adverse effects during project implementation.

### **Plants**

Contra Costa goldfields  
California seablite

Application of Siting Criteria described in the report along with implementation of listed BMP's will function to ensure project impacts to federally listed plants are avoided.

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

The Project area includes waters of the US, such as creeks, ponds, and lakes. Vernal pools also occur within the Project area, particularly in the transition between hills and flatlands, such as the Coyote Hills to the west, and the Fremont Hills to the east. Wetlands and other waters would not be suitable locations for data collection poles, and construction would not occur in these protected areas. MM-BIO-1 would further ensure that construction would not occur in these areas. MM-BIO-1 is the construction of data collector sites within the following open space and resource protection zoning districts shall require preliminary assessment by a qualified biologist: Open Space, Park, Resource Production, and Agriculture.

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

The existing meters range in age, with most 15 years old.

- **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.**

Not applicable.

- **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.**

The three cities that primarily comprise the Project area contain prehistoric and historic resources of major cultural and scientific significance. In the City of Fremont, five cultural resources are listed on the National Register of Historic Resources (NRHR), two additional resources are listed on the California Register of Historic Resources (CRHR), and 153 historic resources are officially recognized by the Fremont Register. The City of Fremont has also established two Historical Overlay Districts (HODs), in Niles and Mission San Jose, and two historic parks, Shinn Historic Park and Arboretum and the Vallejo Adobe. Over fifty archeological sites have been documented along the Bay Shore from Richmond to Newark. Although no historic resources in the City of Newark are included in the NRHR or CRHR, some may be eligible. Additionally, two buildings, St. Edward's Church and the James Graham residence, are officially listed on the City of Newark's list of historic resources, and 42 buildings in the City are considered to have historic merit. The Union City Landmark and Historic Preservation Overlay Zone includes 13 sites that have been designated as historic within the City.

Any meter upgrades or replacements would occur within the existing meter boxes or vaults and would not cause an adverse change to historic resources. The construction of data collectors has the potential to affect historic properties. This potentially significant impact would be reduced to less than significant with implementation of Mitigation Measure (MM-) CUL-1.

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

Over fifty archeological sites have been documented along the Bay Shore from Richmond to Newark. Within the City of Union City, past studies indicate that twelve Native American archaeological sites and one isolated resources from the prehistoric period have been discovered within the City.

Any meter upgrades or replacements would occur within the existing meter boxes or vaults and would not cause an adverse change to historic resources. The construction of data collectors has the potential to affect historic properties. This potentially significant impact would be reduced to less than significant with implementation of Mitigation Measure (MM-) CUL-1.

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

The Project will have no known 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 on tribal lands?**

Notification letters were sent to seven tribal representatives on May 1, 2019. To date, no requests for consultation have been received. A review of local General Plans has not identified any known tribal cultural resources. The potential exists to encounter previously unidentified cultural resources, including tribal cultural resources. Implementation of MM-CUL-2 would reduce this impact to a less-than-significant level.

- **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 Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.



#### 4 Required Permits or Approvals

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| Permit              | Issued by          | Status       |
|---------------------|--------------------|--------------|
| Encroachment Permit | City of Fremont    | Obtained     |
| Encroachment Permit | City of Union City | Obtained     |
| Encroachment Permit | City of Hayward    | Obtained     |
| Encroachment Permit | Caltrans           | Obtained     |
| Encroachment Permit | City of Newark     | Under Review |

The Project will have minimal impacts outside of existing meter boxes. The Project will require encroachment permits from the Cities of Fremont, Newark, Union City, and Hayward, as well as from Caltrans, as some of the meter boxes are located in their rights-of-way. ACWD has, in fact, already successfully obtained the needed encroachment permits from the Cities of Fremont, Union City, and Hayward, as well as from Caltrans. The final encroachment permit, from the City of Newark, will be obtained once the City can review the contractor's schedule. Obtaining encroachment permits for project implementation should have minimal impact on the project schedule and budget as most of these permits are already secured.

#### 5 Letters of Support

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ACWD received letters of support, included in Appendix A, from the following organizations:

- The City of Fremont
- Bay Area Water Supply and Conservation Agency
- The Alameda Creek Alliance

#### 6 Official Resolution

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An executed resolution is included with the application under Appendix B. The resolution was approved by the Alameda County Board of Directors on September 10<sup>th</sup>, 2020, authorizing the general manager to submit grant applications to and execute an agreement with Reclamation for the implement of the proposed project. The resolution agrees to use the funds identified in this funding plan for the proposed project.

## 7 References

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Alameda County Water District. 2018. AMI Design Report.

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## Appendix A

### **Letters of Support**



September 11, 2020

Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Mr. Ned Weakland  
Denver Federal Center  
Building 67, Room 581  
6th Avenue and Kipling Street  
Denver, CO 80225

**Subject: Letter of Support for Alameda County Water District's WaterSmart Grant Application for the AMI Full Implementation Project**

Dear Mr. Weakland:

The Bay Area Water Supply and Conservation Agency (BAWSCA) is writing in support of the Bureau of Reclamation (BOR) WaterSMART grant application submitted by the Alameda County Water District (ACWD) for the AMI Full Implementation Project. This project supports ACWD's ability to improve efficiency by eliminating the need for in-person meter reads, as well as increased leak detection and more accurate usage data. It therefore supports BAWSCA by enabling better management and use of water resources, and will enhance water conservation and water use efficiency programs.

BAWSCA is a special district that provides regional water supply planning, water resource development, and conservation program services to enhance the reliability of its 26 member agencies. Those 26 member agencies rely, either all or in part, on water supplies provided by the San Francisco Regional Water System to meet their water needs. Member agencies are comprised of 16 cities, 8 water districts, and 2 private water providers that collectively provide water to over 1.8 million people and 40,000 commercial, industrial and institutional accounts in Alameda, Santa Clara and San Mateo Counties. ACWD is a BAWSCA member agency.

For over 100 years, ACWD has been a reliable retail water purveyor for our community; a service area that includes the cities of Fremont, Newark and Union City. Since the early 1990s, ACWD has embraced water use efficiency as part of its long-term water supply planning and the AMI project will enhance their water efficiency efforts.

BAWSCA urges the BOR to provide grant funds to support ACWD's AMI Full Implementation Project. If you have any questions, please feel free to contact me at [NSandkulla@BAWSCA.org](mailto:NSandkulla@BAWSCA.org).

Sincerely,  
  
Nicole Sandkulla  
CEO/General Manager

cc: Megan Maurino, ACWD  
Stephanie Nevins, ACWD  
Ethan Burch, ACWD



**Public Works Department**

39550 Liberty Street, P.O. Box 5006, Fremont, CA 94537-5006  
42551 Osgood Road, Fremont, CA 94539 (Maintenance Center)  
www.fremont.gov

September 10, 2020

Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Mr. Ned Weakland  
P.O. Box 25007, MS 84-27815  
Denver, CO 80225

Subject: Letter of Support for Alameda County Water District application for grant funding for the AMI Full Implementation Project

Dear Mr. Weakland:

As the City Engineer for the City of Fremont, I am writing in support of the Bureau of Reclamation (BOR) WaterSMART grant application submitted by the Alameda County Water District (ACWD) for the AMI Full Implementation Project.

For over 100 years ACWD has been a reliable retail water purveyor for our community; a service area that includes the cities of Fremont, Newark, and Union City. Since the early 1990s, ACWD has embraced water use efficiency as part of its long-term water supply planning and the AMI project will enhance their water efficiency efforts.

This project will benefit our community by providing improved efficiency in metering and water delivery, allowing our customers to better understand their water usage and more effectively conserve. This also aligns with ACWD's goal of improving efficiency by eliminating the need for in-person meter reads, as well as increased leak detection and more accurate usage data. This project will be mutually beneficial to residents of the City of Fremont and ACWD, and we support it fully.

I hope BOR will join me in support of this project. If you have any questions, please feel free to contact me at 510-494-4768, or email me at [KBahmani@fremont.gov](mailto:KBahmani@fremont.gov).

Sincerely,  
DocuSigned by:

*Khandan Bahmani*

LA805877EC5B643E  
Khandan Bahmani, PE  
City Engineer



**Civic Facilities**

**Engineering**

**Maintenance Center**

**Transportation Engineering**

510 494-4700 / 510 494-4571 fax | 510 494-4700 / 510 494-4721 fax | 510 979-5700 / 510 979-5708 fax | 510 494-4745 / 510 494-4751



# Alameda Creek Alliance

P.O. Box 2626 • Niles, CA • 94536  
Phone: (510) 499-9185  
E-mail: [alamedacreek@hotmail.com](mailto:alamedacreek@hotmail.com)  
Web: [www.alamedacreek.org](http://www.alamedacreek.org)

September 17, 2020

Attn: Mr. Ned Weakland  
Bureau of Reclamation  
Financial Assistance Support Section  
P.O. Box 25007, MS 84-27815  
Denver, CO 80225

Re: **Support for ACWD grant application for AMI Full Implementation Project**

Dear Mr. Weakland:

As an active member of the Alameda Creek Fisheries Restoration Work Group, the Alameda Creek Alliance strongly supports the grant application submitted by the Alameda County Water District (ACWD) for the AMI Full Implementation Project. The Alameda Creek Alliance is a community watershed group with over 2,000 members, dedicated to protecting and restoring the Alameda Creek watershed, and specifically to restoring steelhead trout to Alameda Creek.

The Alameda Creek Fisheries Restoration Workgroup, comprised of local community organizations and environmental organizations, regulatory agencies, and local water supply, flood control, and recreation agencies, was formed in 1999 to coordinate steelhead trout restoration efforts in the watershed.

Steelhead inhabited the Alameda Creek watershed in significant numbers prior to the construction of dams and other development. Because large portions of the upper watershed remain undeveloped and it is the largest local tributary to San Francisco Bay, resource agencies have given the Alameda Creek watershed a high priority for steelhead restoration. The Fisheries Workgroup has developed technical studies and coordinated planning to support steelhead restoration activities, including a watershed assessment and a steelhead restoration action plan.

ACWD has taken the initiative to proactively support fisheries restoration in the watershed, elected to build multiple fish passage facilities, screened all of its water diversions, and committed to provide additional environmental bypass flows at its facilities to support fish migration. ACWD has also long embraced water use efficiency as part of its long-term water supply planning. The ACA supports the ACWD investments in AMI, a high-cost but effective water efficiency and conservation measure which will help offset the water supply ACWD will sacrifice to provide environmental flows in support of steelhead restoration.

The Alameda Creek Alliance strongly supports the WaterSMART grant application submitted by ACWD for the AMI Full Implementation Project.

Sincerely,

Jeff Miller, Director

## Appendix B

### Authorizing Resolution



RESOLUTION NO. 20-056

OF BOARD OF DIRECTORS OF ALAMEDA COUNTY WATER DISTRICT  
AUTHORIZING A WATERSMART WATER AND ENERGY EFFICIENCY  
GRANT APPLICATION TO THE BUREAU OF RECLAMATION

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BE IT RESOLVED, by the Alameda County Water District Board of Directors (“Board”) that the District General Manager or his/her designee is hereby authorized and directed to sign and file, for and on behalf of the Alameda County Water District (“District”), a WaterSMART Water and Energy Efficiency Grant Application for a grant from the U.S. Bureau of Reclamation in the amount not to exceed \$2,000,000; and

BE IT RESOLVED, the District General Manager, or his/her designee, is hereby authorized to acknowledge and approve of the application and the information submitted for consideration, and is further authorized to certify that the District has and will provide the amount of funding and/or in-kind contributions specified in the funding plan; and

BE IT RESOLVED, that the Board hereby agrees and further does authorize the aforementioned representative or his/her designee to certify that the District has and will comply with all statutory and regulatory requirements related to any grant funds, and

BE IT FURTHER RESOLVED, that the General Manager or his/her designee is hereby authorized to negotiate and execute a grant and any amendments or change order thereto on behalf of the District received and will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

PASSED AND ADOPTED this 10<sup>th</sup> day of September 2020, by the following vote:

AYES: Directors Akbari, Gunther, Sethy, Weed, and Huang

NOES: None

ABSENT: None

/s/ JUDY C. HUANG  
Judy C. Huang, President  
Board of Directors  
Alameda County Water District

ATTEST:

APPROVED AS TO FORM:

/s/ GINA MARKOU  
Gina Markou, District Secretary  
Alameda County Water District  
(Seal)

/s/ PATRICK T. MIYAKI  
Patrick T. Miyaki, General Counsel  
Alameda County Water District



September 11, 2020

Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Mr. Ned Weakland  
Denver Federal Center  
Building 67, Room 581  
6th Avenue and Kipling Street  
Denver, CO 80225

**Subject: Letter of Support for Alameda County Water District's WaterSmart Grant Application for the AMI Full Implementation Project**

Dear Mr. Weakland:

The Bay Area Water Supply and Conservation Agency (BAWSCA) is writing in support of the Bureau of Reclamation (BOR) WaterSMART grant application submitted by the Alameda County Water District (ACWD) for the AMI Full Implementation Project. This project supports ACWD's ability to improve efficiency by eliminating the need for in-person meter reads, as well as increased leak detection and more accurate usage data. It therefore supports BAWSCA by enabling better management and use of water resources, and will enhance water conservation and water use efficiency programs.

BAWSCA is a special district that provides regional water supply planning, water resource development, and conservation program services to enhance the reliability of its 26 member agencies. Those 26 member agencies rely, either all or in part, on water supplies provided by the San Francisco Regional Water System to meet their water needs. Member agencies are comprised of 16 cities, 8 water districts, and 2 private water providers that collectively provide water to over 1.8 million people and 40,000 commercial, industrial and institutional accounts in Alameda, Santa Clara and San Mateo Counties. ACWD is a BAWSCA member agency.

For over 100 years, ACWD has been a reliable retail water purveyor for our community; a service area that includes the cities of Fremont, Newark and Union City. Since the early 1990s, ACWD has embraced water use efficiency as part of its long-term water supply planning and the AMI project will enhance their water efficiency efforts.

BAWSCA urges the BOR to provide grant funds to support ACWD's AMI Full Implementation Project. If you have any questions, please feel free to contact me at [NSandkulla@BAWSCA.org](mailto:NSandkulla@BAWSCA.org).

Sincerely,

A handwritten signature in blue ink that reads "Nicole Sandkulla".

Nicole Sandkulla  
CEO/General Manager

cc: Megan Maurino, ACWD  
Stephanie Nevins, ACWD  
Ethan Burch, ACWD