



Crescenta Valley Water District

Large Meter Advanced Metering Infrastructure (AMI) Project

WaterSMART Grants: Small-Scale Water Efficiency Projects for Fiscal Year 2021

FOA No. R21AS00257

APPLICANT:

Crescenta Valley Water District
2700 Foothill Blvd.
La Crescenta, CA 91214

PREPARED BY:

David Gould, PE
Director of Engineering
Crescenta Valley Water District
2700 Foothill Blvd.
La Crescenta, CA 91214
dgould@cvwd.com
818-236-4119

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SECTION 1 – TECHNICAL PROPOSAL

A. Executive Summary

Date:	March 18, 2021	Grant Funding Request: \$75,000
Applicant Name:	Crescenta Valley Water District	Non-Federal Matching Funds: \$225,000
City:	La Crescenta	Total Project Costs: \$300,000
County:	Los Angeles County	Estimated Construction Start Date:
State:	California	October 1, 2021
Project Manager:		Estimate Completion Date:
David Gould, PE		March 31, 2022
Director of Engineering		Estimate Project Duration: 6 months
dgould@cvwd.com		Located on Federal Facility: Not Applicable
818-236-4119		

Project Name: Large Meter Advanced Metering Infrastructure (AMI) Project

Crescenta Valley Water District (CVWD) is requesting funding to expand its existing Advanced Metering Infrastructure (AMI) Project in order to further reduce 19.3 AFY of water loss via water use efficiency by replacing and upgrading their existing older large water meters with new “Smart Meters”, which will improve water system resilience. The project will save approximately 289 AFY of water during the 15 year life cycle of the large meter upgrades to “Smart Meters” which is an 8% water savings per meter on an annual basis.

CVWD has twenty-nine (29) 3-inch meters and two (2) 4-inch meters that are located at large apartment and condominium complexes, senior living apartments, and irrigation for parks and Caltrans. These meters were scheduled to be replaced in FY 23/24 at an estimated cost of \$300,000 that includes new meters with smart points, new meter boxes, new lids, and piping upgrades.

The work will be performed by an outside contractor. The USBR grant will allow CVWD to accelerate the large meter upgrades to “Smart Meter”, monitor water use and reduce the amount of unaccountable water (i.e., from low flows) through the older meters.

The proposed AMI project contributes to accomplishing the goals of the United States Bureau of Reclamation Small-Scale Water Efficiency Projects Grant by implementing a project that conserves and uses water more efficiently as well as accomplishes other benefits that contributes to water supply reliability in the western United States.

B. Background Data

Water Supply

CVWD's service area is located in the Crescenta Valley area of Los Angeles County in the foothills of the San Gabriel Mountains, between the San Fernando and San Gabriel valleys. CVWD provides water distribution and sewage collection within its four-square mile service area boundaries to the unincorporated communities of La Crescenta, Montrose, and Verdugo City as well as a small portion of the City of Glendale and City of La Cañada-Flintridge. The service area ranges in elevation from approximately 1,200 feet to almost 3,000 feet above sea level due to its location next to the San Gabriel Mountains and sloping terrain. Figure 1 on page 7 shows a map of CVWD's service boundaries. CVWD's water sources are 12 local groundwater wells, with an average depth of 200 feet, one mountain tunnel (gravity fed), and imported water supply through three separate Foothill

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Municipal Water District (FMWD), wholesaler to Metropolitan Water District of Southern California (MWD) connections and emergency inter-tie system with the City of Glendale.

From 2015 to Present, imported water represents approximately 60 percent of CVWD’s water. Groundwater from the Verdugo Basin provides approximately 40 percent of CVWD’s water. See Figure 2A. These percentages have switched over the last 15 years when CVWD was pumping 60 percent from groundwater supplies and only importing 40 percent. See Figure 2B. The recent drought and groundwater contamination have dramatically impacted CVWD who are looking to implement the AMI Program as a way to conserve water by reducing unaccountable water and thereby reducing the amount of imported water into the District. In the future due to drought CVWD anticipates increase imported water demand as represented in the 2020-2030 projections shown in Figure 2C.

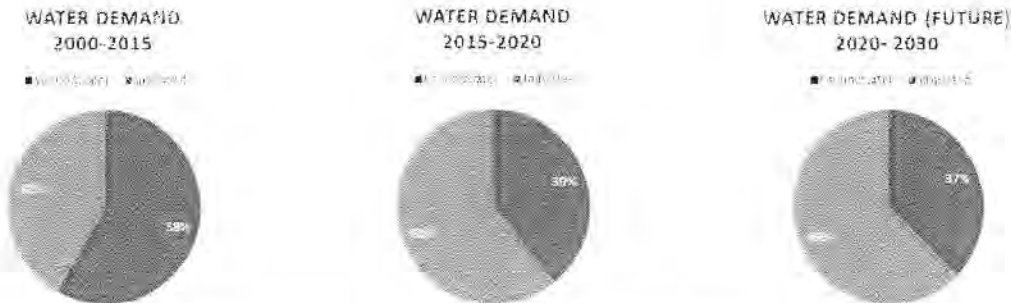


Figure 2A – CVWD Past Water Sources Figure 2B – CVWD Current Water Sources Figure 2C – CVWD Future Water Sources

Quantity of Water Supply Managed

CVWD manages and supplies about 3,470 AFY of water per year over the last five-years (2015 – 2019).

Water Rights Involved

On a long-term basis, approximately 40 percent of CVWD’s annual water demand is met by the local groundwater supply and 60 percent by imported water. This ratio does change depending on the water supply conditions, local weather, and water demand. CVWD operates 11 separate water pressure zones served by 14 pumping stations and 17 storage reservoirs totaling 17.5 million gallons.

According to 2019 CVWD billing data, CVWD serves a population of over 32,900 with 8,146 potable water accounts and has a five-year (2105 - 2019) average annual potable water demand of approximately 3,470 AFY. There is no recycled water within the service area and two recycled water feasibilities were previously conducted to determine if recycled water could be generated via a satellite treatment facility utilizing local sanitary sewer demands.

Densification of customer single-family to multi-family growth is steady although the Crescenta Valley area as the area is nearly built-out. Residential growth is occurring through increased housing density in the multiple-unit zoned areas (primarily Montrose Area) as well as limited in-fill housing developments on random parcels in La Crescenta.

Current Water Usage

The residential market comprises approximately 84 percent of CVWD connections and almost 66 percent of demand. Multi-Family customers are the next largest group with 9 percent of

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connections with almost 23 percent of demand which is the target of the Large Meter AMI Project.

Between these two sectors this makes up 89 percent of the overall demand within CVWD service area which has the greatest potential for water conservation. Commercial, industrial, institutional, and irrigation customers make up the remainder of the 11 percent water market demand. See Table 1 for details.

Table 1 – CVWD Water Usage by Sector

2015-2019 – Five Year Average					
Sector	Accounts	Percent	Use (AF)	Percent	Avg AF/Per Account
Single Family Resident	6,845	84%	2,228	64%	3.1
Multi Family Resident	692	9%	803	23%	0.9
Commercial, Industrial, Institution	513	6%	305	9%	1.7
Irrigation	69	1%	134	4%	0.5
Total	8,119	100%	3,470	100%	2.3

Projected Growth and Water Demand

According to the 2015 CVWD Urban Water Management Plan, the population within the CVWD is anticipated to grow less than 2.46% percent over the next 25 years. The service area population is projected to increase from 32,300 in 2019 to 36,686 in 2040 at a rate of 2.46 percent per annum. See Table 2 for details.

Table 2 – Projected Population Growth

Water Service Area Population	2020	2025	2030	2035	2040
	Population				
Water Service Area Population	33,203	34,041	34,901	35,782	36,686

The slight increase in population as well as housing and employment is expected to increase demand. See Table 3 for details.

Table 3 – Projected Demand - 2015-2019 Average

Water Sources	2020	2025	2030	2035	2040
	Demand				
Total Normal Demand (ac-ft)	4,091	4,194	4,300	4,409	4,520
% of 2015 – 2019 Avg. Demand (4,358 ac-ft)	93.8%	96.2%	98.7%	101.2%	103.7%

Since CVWD’s population is expected to increase via densification in the next 25 years, additional conservation measures are necessary to meet future growth. The timing is optimal for CVWD’s implementing AMI capital improvement plan to meet these future demands. The AMI program will

allow CVWD to conservatively save 285 AFY, and better manage the five-year average annual demand of 3,470 AFY of water.

Potential Shortfalls/Challenges in Water Supply

At present, CVWD is faced with several water supply challenges. With 60 percent of its water coming from the Colorado River and State Water Project, CVWD has seen a 12% increase in cost over the last five year, CVWD is keenly susceptible to the current drought situation facing California.

The State of California enacted the Water Conservation Act of 2009, which is also called SB X7-7 that calls for a 20% reduction in water use by the year 2020. CVWD's established a goal in 2009 for 20% reduction by 2020 of 5,150 ac-ft per year. As of FY 18/19, CVWD has met this challenge by reducing water demand by over 20% of CVWD's goal.

In May 2018, the Governor of California signed into law SB606 and AB1668 which are for Water Management Planning (WMP). The WMP law calls for the implementation of new urban efficiency standards for indoor and outdoor water use that factors local conditions and demographics to establish the amount of water needed in a specific service area for efficient indoor residential water use, outdoor residential water use, as well as commercial, industrial and institutional (CII) irrigation accounts with dedicated meters. The WMP law states that the State Water Resources Control Board (SWRCB) and Department of Water Resources (DWR) to adopt new standards regulation no later than June 30, 2022, which establishes an indoor water use goal per person per day is 1) 2022 to 2025: 55.0 gallons per capita per day (gpcd); 2) 2026 to 2030: 52.5 gpcd and 3) 2030 and beyond: 50.0 gpcd. The SWRCB established a water leaks standard pursuant to prior legislation (SB 555, 2015) in July 2020. In addition, the Department of Water Resources and the State Water Resources Control Board will work collaboratively to define performance measures for Commercial, Institutional, and Industrial (CII) water use by October 2021. The State Water Board will adopt the CII performance measures by June 2022.

Not only is the CVWD's imported water supply affected by these conditions, but so are local groundwater supplies (making up the remaining 40 percent of supply), which are greatly reduced as a result of recent drought conditions. These environmental factors and reduced supply from the State Water Project have forced Metropolitan Water District to tap into reserves in order to maintain deliveries to the CVWD via Foothill Municipal Water District and the rest of its 26-member agencies. CVWD is now under more pressure than ever to encourage the public to save water, and to implement water-conservation infrastructure.

Water Delivery Supply System

Total Length of Distribution Lines - The approximate length of CVWD distribution lines is 95.3 miles

Number and Sizes of Storage Tanks - CVWD had 17 steel and concrete reservoirs with a combined capacity of 17.5 million gallons.

Number of Pump Station and Capacities - CVWD operates 14 pump stations and 34 booster pump stations with a combined average capacity of 3,000 gallons per minute for each pressure zone.

Total Number of Connections - CVWD has 8,119 active service connections.

Other Relevant Information - CVWD pumps groundwater via 12 active groundwater wells and has a water supply system that contains up 11 different pressures zones.

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Past Working Relationship with Reclamation - CVWD receives imported water from the Bureau of Reclamation through water purchases from Metropolitan Water District via FMWD since 1958. CVWD and FMWD has and will continued to build relationships with the Southern California Area Office (SCAO) of the Bureau of Reclamation to discuss partnerships on possible upcoming projects relative to reducing CVWD's future demand on imported water.

C. Project Location

The Large Meter AMI project area is located mostly in the La Crescenta Area, which is in the unincorporated areas of Los Angeles County, California and is directly adjacent to the City of La Canada Flintridge on the east and the City of Glendale on the west. This Large Meter AMI project involves replacement of the existing large metering system within CVWD's water service area. See Figure 1 below for locations. Due to the scale of the map, CVWD would provide a series detailed maps with all project locations along with the grant completion report.

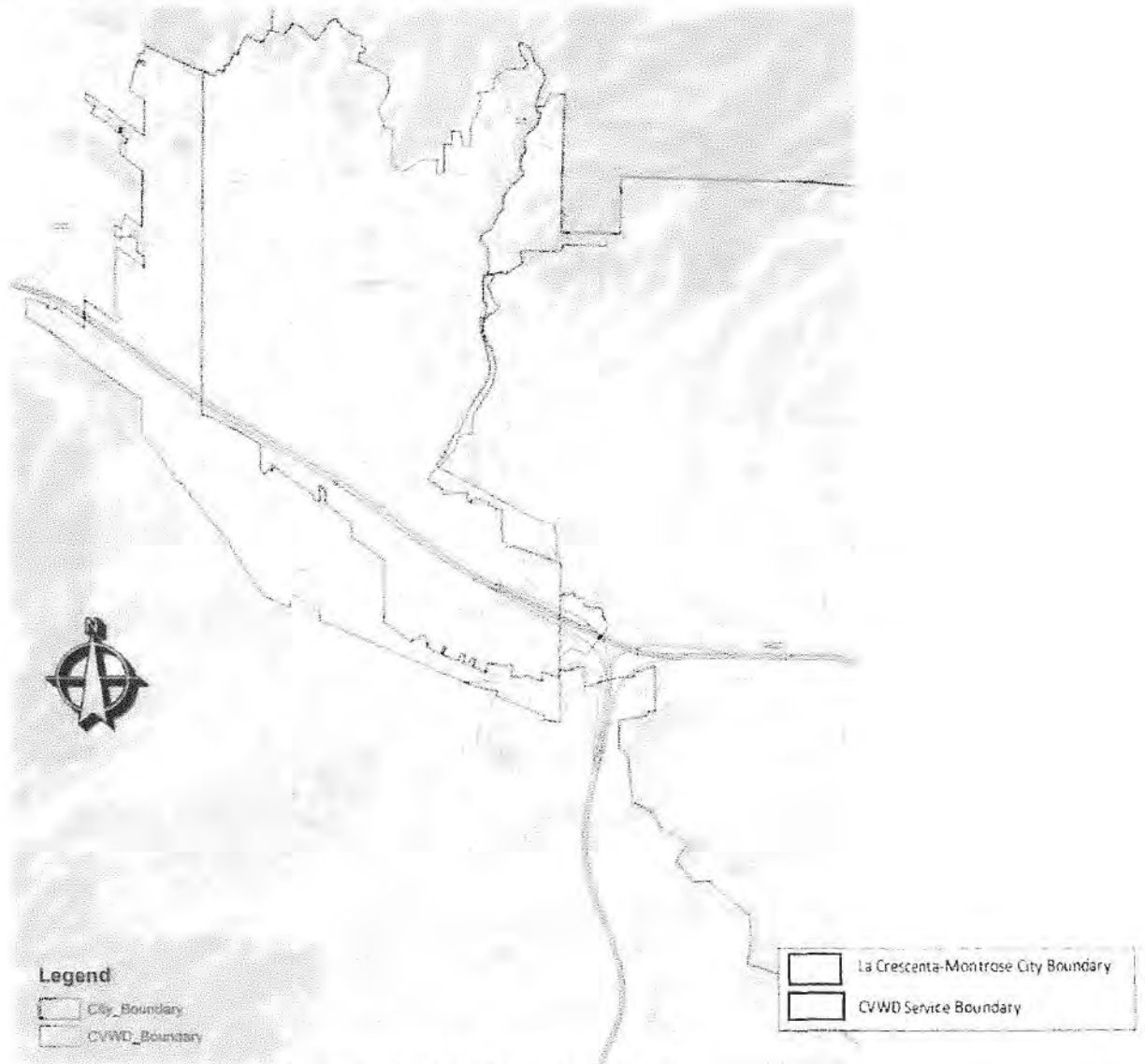


Figure 1 – Crescenta Valley Water District Boundary Map

D. Technical Project Description and Milestones

Problems and Needs

This project is a water conservation project that will directly improve CVWD's future water management, conservation, and water supply reliability efforts. Currently, meter-reading personnel must physically drive to each of the 8,119 metered locations within the CVWD service area to manually read water meters on a bi-monthly basis. This method is inefficient because it requires excessive field and office labor, vehicle maintenance costs, and contributes to Greenhouse Gas emissions from all the vehicle miles traveled.

This project involves replacement of 31 meters with AMI system such as smart meters that register low and high flows through electromagnetic flow meters, also called mag meters or magnetic meters, radio transceivers, and an AMI data collection system. CVWD proposes to manage the AMI program with an independent contractor to perform the field work and CVWD staff to provide project management. Currently, in order to attain water readings, employees must physically drive to each of these meter locations to manually read the meters. This method is costly and highly inefficient due to its necessary use of travel, labor, and time.

How the Project Address Problems and Needs

AMI is a transformational technology. This technology will provide CVWD with an excellent data collection platform, a bi-directional control network, automate a very expensive and at times challenging business function and providing a better platform for customer interaction. The deployment of the Large Meter AMI project will open the door to a wealth of water usage data and community trends previously unavailable to CVWD and its customers. In this proposed project, 31 of CVWD's existing water meters will be replaced with "Smart meters" that will be compatible with the existing AMI backhaul communication system, which is being installed in 2021. The AMI system, which will provide real-time data, as well as allow meters to be read remotely from a central location through a radio-frequency- based fixed communications network. Implementation of an AMI program will improve CVWD's water resource management, improve customer and CVWD communication and proactivity, streamline water conservation measures, and allow CVWD to modernize its existing water infrastructure through advanced technologies.

Esource was retained by CVWD to develop an AMI/MDM Assessment and Strategic Roadmap Report in 2018. All 8,191 meters are expected to be replaced with new AMI smart meters and radio transceivers to transmit information. All meter box lids (concrete and steel), which are not compatible with AMI are also expected to be replaced with AMI-compatible composite materials with radio transceivers. In conjunction with the AMI system to be installed in the field, a Meter Data Management System (MDMS) platform will be implemented that could potentially provide information on the following items water quality, pH changes, pressure, and tampering devices might be implemented.

The MDMS will be responsible for AMI data cleansing, calculating, providing data consistency, and disseminating metered consumption data. As a companion product to MDMS, the overall system will be connected to an interactive or customer engagement web portal to allow customers to view their water consumption, see if they have a leak on-site and provide information and recommendations to increase their water efficiency.

Project Effectiveness

Consumption trends and effectiveness of conservation programs can be verified using AMI/MDMS data. AMI will allow CVWD to proactively monitor water consumption activities and leaks and set thresholds to identify high users, which can be targeted for water audits and water efficiency suggestions. Customer portals also provide tools to help customers manage their monthly costs and provide alerts on increased demand and targeted messaging. A customer can set a specific budget and receive alerts when they are close to exceeding the limit.

The purpose of this project is to increase water conservation and household water efficiency through leak detection, education, and improved communication between CVWD and its large water meter customers. An interactive web portal for customers, detailing water consumption data and cost information, as well as implementation of economic incentives to meet targeted consumption rates, will provide the large water meters customers with the necessary tools to effective water conservation behavior.

With the implementation of AMI, CVWD's Water Operations Department can gain real-time insight into where water is flowing in the water distribution system during a certain period such as during morning hours before people head to work or school. The installation of AMI meters represents the first time that CVWD can observe how the demands in the distribution system compared to the volumetric treated water in real-time. Engineering design and capital improvement budgets as well as energy consumption can be planned more accurately as a result of this new dataset. In addition to the enhanced distribution system monitoring, the Water Operations Department can implement system alerts for backflow detection and prevention.

Project Implementation

This is an existing CVWD program, which is seeking grant funding to supplement the cost of accelerating and expanding CVWD's AMI program. CVWD staff implements all aspects of the project. The project implementation outlines the two steps in the project: 1) Installation of meters and appurtenances; 2) Installation of the data collection system and appurtenances. A third step that will be included with the entire AMI program will be the installation of a Meter Data Management System (MDMS). The following is a summary of those two steps of the work plan.

1. CVWD will obtain the necessary AMI equipment such as meters, meter boxes with AMI ready lids, radio transceivers and AMI collection systems.
2. CVWD will engage a consulting firm to assist in the implementation of the infrastructure, hardware and software for the AMI large meter replacement program.
3. CVWD will purchase, and a third-party contractor to install 31 AMI meters and new meter box lids
4. CVWD will purchase and a third-party contractor to install and attached "Smart Points" radio transceivers RT to all 31 meters.

This technology will allow CVWD to remotely manage metering assets and detect leaks immediately, and allow CVWD customers the ability to view water usage, set alerts, and gather reports about their home water system on an hour-by-hour basis through the wireless sensor network. This project is estimated to conservatively save the District approximately 19.3 AFY of water, and allow

the District to better manage 3,730 AFY of water on an annually.

The AMI Project to install/retrofit 31 meters is the proposed project and is very straightforward, involving the following tasks:

Task 1: Project Grant Agreement, Administration, and Reporting.

Task 2: Project Evaluation/Design/Engineering

Task 3: Environmental Documentation

Task 4: Permitting

Task 5: Project Implementation

Task 5.1: Kick-off Meeting

Task 5.2: Customer Outreach

Task 5.3: AMI Installation

Task 5.4 Monitor and Report

E. Evaluation Criteria

E.1.1. Evaluation Criterion A — Project Benefits (35 Points)

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

Water Savings.

As a direct result of updating existing large meters to AMI, CVWD's conservation estimate is to be 19.3 acre-feet per year based on EPA WaterSense Website, <http://www.epa.gov/WaterSense/pubs/fixleak.html>. With the installation of AMI, CVWD's assumption is that leaks on the customer's plumbing will now be addressed almost immediately due to the real-time notification at the District and customer level. Our water savings numbers are conservative as we have not considered the behavioral changes that will occur at the residential level due to new information being immediately available to customers who may overuse water resources.

Water Supply Reliability.

The challenges that CVWD faces are long-term as the amount of water available from local sources and FWMD varies from year to year. While there is sufficient groundwater to weather short-term droughts, it will not sustain the current population indefinitely due to the limited quantities of natural recharge. Continued water conservation is necessary to meet current and future water demands.

Water Management.

Advanced metering infrastructure improves water management through real time data measurement. The proposed project is estimated to **better manage** approximately 8 percent of the District's annual water supply (of meters to be replaced) for residences.

Geographic Scope.

Given CVWD's shared use of the Verdugo Basin, reductions in CVWD groundwater withdrawals related to water conservation can improve water quality and reduce the risk of overdraft and subsidence throughout the basin.

Increased Information Sharing.

CVWD actively collaborates with water resources management projects and shares information

with other water managers in the region include the Cities of Glendale and La Canada, Crescenta Valley Town Council, FMWD, MWD and ULARA Watermaster. Each of these partner organizations or agencies has an interest in solving the problem of high water-use and water loss. CVWD will share data from this project with other water managers throughout the region to inform them.

Increased Public Awareness.

CVWD will use the AMI project to educate its customers on the importance of water conservation and water efficiency including residential and commercial customers about how to be proactive in their water usage by taking advantage of the computerized interface and educational tools CVWD's AMI system will provide. The District will develop educational materials and training around the new AMI system and will reach out to residents through the customer portal and its website to actively engage them in taking part in water conservation strategies such as monitoring water usage, leak detection, reporting, and more. This will be accomplished via a customer portal, information posted to the website and bill stuffers.

As part of the District's large meter AMI project, the District will conduct public outreach to apartment and condominium complexes, senior living apartments, and irrigation for parks and Caltrans for which the 31 meters are associated. This will include an explanation of the AMI upgrade activity along with the benefits of the new "Smart Meter", and how customers will be able to access their water usage online through a customer portal. Communication materials will include e-mails, informational mailings, door-to-door direct communication, telephone outreach, public meetings, social media, website, and flyers in both English and Spanish.

Water Quality.

This project will allow CVWD to detect system leaks and monitor water consumption data, which can then be used to support water quality efforts.

Greenhouse Gas Emission Reduction.

This project via the conservation of approximately 290 AF of water throughout the life span of the project (15-year life span for the meters) avoids 9 tons of CO2 emission in GHGs from purchase and recharge of Bay-Delta water. In addition, imported water supplied by Metropolitan via FMWD which has an impact to the Bay-Delta via energy, Greenhouse Gas and higher carbon footprint. This conservation will allow CVWD to utilize groundwater supplies.

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

Regulation, cost of water & subsidies by the water utility

The 2015 CVWD Urban Water Management Plan was approved by the California Department of Water Resources (DWR) on September 24, 2018. CVWD's Best Management Practice (BMP) reports to CUWCC for retail units were approved on September 24, 2018. BMP reports for the 2017-2018 period was submitted October 31, 2018. The proposed AMI Project is in alignment with BMPs for metering in association with water conservation and water management as stated in the UWMP which is consistent with State/Local Water Plan. The AMI project is in direct alignment with the following plans:

- 1) **2015 CVWD Urban Water Management Plan (UWMP)** - Water reliability is one of the main objectives outlined in the region's 2015 UWMP. The proposed AMI project will assist the District and the region in reducing reliance on imported water from the State Water Project and Colorado River Water.
- 2) **2020 CVWD Strategic Plan** – The CVWD 2020 Strategic Plan utilized the effective utility (EUM) management framework created by the United States Environmental Protection Agency (USEPA) and the American Water Works Association (AWWA) for bench marking mission-efficacy for water utilities. The AMI project is a critical component of Strategic Plan Goal #3 - *Efficiency through Technology*.
- 3) **2015 Upper Los Angeles River Enhanced Watershed Management Program** - Reducing demand and improving operational efficiency are the top two adaptation strategies in the study that will be addressed by the AMI project.
- 4) **State of California Water Plan 2013 Update** - The State of California Water Plan outlines metering as a top Best Management Practice (BMP) in Section 3: Urban Water Use Efficiency.
- 5) **State of California 20 x 2020 Water Conservation Plan** - The water conservation strategies inherent in the project will assist CVWD in doing its part to help the State of California reach its goal of reducing per capita water consumption by 20 percent by the year 2020.
- 6) **Esource's AMI/MDM Assessment and Strategic Roadmap Report (2018)**
- 7) **State of California SB606 and AB1668 Water Management Planning (2018)** - The WMP law calls for the implementation of new urban efficiency standards for indoor and outdoor water use that factors local conditions and demographics to establish the amount of water needed in a specific service area for efficient indoor residential water use, outdoor residential water use, as well as commercial, industrial and institutional (CII) irrigation accounts with dedicated meters.

The above-mentioned planning documents all cite conservation as the simplest, most cost-effective way to remedy, or at least postpone, a myriad of resource management issues. The lack of local supplies and the difficulties associated with imported supplies have motivated CVWD to construct and operate one of the most efficient water delivery systems in California. The installation of smart meters furthers CVWD's effort. This proposed large meter AMR project conserves water through education, real time feedback to customers users, and financial incentives.

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

Implementation Plan

CVWD expects this project to span 6 months, from October 2021 to March 2022. Pework is expected to occur during a 2-month window. Installation is about 9-to-10-week window. The project will culminate with one month monitoring and reporting.

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Table 4. Implementation Plan

<i>Project Stage</i>	<i>Duration</i>	<i>Milestones</i>	<i>Start Date</i>	<i>Completion Date</i>
<i>Funding Award</i>	<i>4 to 8 Weeks</i>	<ul style="list-style-type: none"> • <i>Receive award letter</i> • <i>Respond to request for Information</i> • <i>Final signatures</i> 	<i>October 2021</i>	<i>December 2021</i>
<i>Kick off Meeting</i>	<i>1 week</i>	<ul style="list-style-type: none"> • <i>Kick off meeting with Contractor and Public</i> 	<i>December 2021</i>	<i>January 2022</i>
<i>Customer Outreach</i>	<i>2 weeks</i>	<ul style="list-style-type: none"> • <i>Door-to-Door Communications and door Hangers</i> • <i>Email Blasts</i> 	<i>January 2022</i>	<i>January 2022</i>
<i>Installation of Large AMI meters and supporting equipment</i>	<i>4 to 6 weeks</i>	<ul style="list-style-type: none"> • <i>Install and test smart meters</i> • <i>Test Radio transceivers</i> • <i>Project Completion verification</i> 	<i>February 2022</i>	<i>March 2022</i>
<i>Monitor and Report</i>	<i>4 weeks</i>	<ul style="list-style-type: none"> • <i>Submit progress & Final report</i> • <i>Monitor water savings</i> 	<i>April 2022</i>	<i>May 2022</i>

Required Permits

No permits will be required for the implementation of this project

Project Engineering & Design Work

No engineering or design work will be performed specifically in support of this projects

Policies & Administrative Actions

No new policies or administrative actions will be required to implement this project. CVWD will implement the proposed project following established policies and administrative procedures that have been in place.

Environmental Compliance Estimate

The project is considered a CEQA categorically exempt (CE) as the project will take place at 31 existing-metered locations, and other District owned properties.

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

Does the applicant propose a Reclamation project water?

Reclamation’s WaterSMART Program focuses in part on the uses of technology to balance future water supply and demand needs throughout California and the western United States. The proposed Project demonstrates the opportunities for significant water and energy conservation through satellite imaging, state-of-the-art software, and systems integration. Water conserved is directly related to the CALFED Bay-Delta Program which is a major ongoing Reclamation activity. CVWD has and continues to have a close working relationship with the Lower Colorado Regional and Southern California offices.

Is the project an eligible activity under the Reclamation project water?

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The large meter AMI Project focuses on municipal water delivery and distribution and does not directly involve Reclamation project lands or facilities.

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

No, there are not current Reclamation project or activities within the Verdugo Groundwater Basin.

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

No, the proposed work does not contribute water to a basin where a Reclamation project is located.

Will the project benefit any tribes?

The Project will not help Reclamation meet trust responsibilities to Tribes.

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.

CVWD has championed water conservation since the 1970's, recognizing early on the need to sustainably manage its limited water resources in a region prone to drought through season and climatic shortages. CVWD's goal is to continue to provide its customers with an adequate and reliable supply of high-quality water to meet present and future needs in an environmentally and economically responsible manner.

In order to help sustain its current population and support projected growth, CVWD relies on quantitatively evaluated best management water conservation practices. Conservation efforts are critical to reduce water demand over the long-term, and to reduce the pressure on the local groundwater supply in CVWD's service area. The majority of water use in CVWD's service area occurs outdoors, making water conservation one of several high-priority policies actively implemented within CVWD.

CVWD's water conservation related practices and programs are manifold, including: water-efficient landscaping, consumer education, utilization of new technologies such as advanced smart meter technologies or "smart" irrigation controllers, water audits for large-volume water customers, residential and landscape water audits, leak detection and repairs, water waste prevention ordinances and residential ultra-low flush toilet replacement.

The aforementioned practices and their implementation are guided by one primary planning document, CVWD 2015 Urban Water Management Plan. This planning document details water supply vulnerability, take a forward-looking approach to regional water management, formulate strategies and best management practices to achieve sustainable water management. By implementing these best practices, CVWD achieved the 2020 water use target set forth in its 2015 Urban Water Management Plan on schedule, reducing per capita water use.

In summary, CVWD's Large Meter AMI Project supports the DOI priority of conservation stewardship by employing a BM that empirically reduces water loss in the short and long term and is essential to aiding CVWD in adapting to climate variability.

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2. Utilizing our natural resources

a. Increase Sustainable Energy Investments to meet our sustainability needs

Locally, CVWD utilize energy from Southern California Edison and City of Glendale, who have a high percentage (over 40%) of their power generated from green energy. CVWD will utilizing this energy via groundwater pumping and treatment thus allowing more energy to be available for the State of California. CVWD anticipates saving in energy costs by not pumping the conserved 19.3 AFY from the Bay-Delta area. Via this AMI program, CVWD will be reducing energy use with the importing water to CVWD which eliminate pumping from the Bay-Delta. As noted previously, CVWD receives 60 percent of its imported water from the State Water Project.

1. Restoring Trust with Local Communities

CVWD’s large water meter replacement project invites and educates the community to be a part of the solution with respect to water conservation. When the community has the ability to participate in and benefit from the project there is more buy-in and long-term commitment. This also leads to stronger awareness of CVWD’s strong commitment to protecting the region’s valuable local water resource. The availability and potential acceleration of the project, also has the benefit of being a highly visible demonstration of CVWD’s commitment to water conservation and sustainability. This technology will help CVWD streamline water conservation and water supply management measures and adapt to changes in the environment.

5. Modernizing our infrastructure

a. Support the White House Public-Private Partnership Initiative to modernize U.S. infrastructure.

Implementation of AMI will modernize CVWD’s aging water infrastructure by replacing antiquated and under registering manual-read meters, as well as aging meter boxes and lids. This project embraces advanced smart meter technologies and, consequently, modernizes CVWD procedures.

Reclamation Priorities

1. Address Ongoing Drought

Drought is a recurring characteristic in Southern California and specifically the Los Angeles region. According to California’s Department of Water Resources, Los Angeles arid climate is likely to become drier due to climate change, which could lead to an increase in both the duration and frequency of drought conditions.

Drought can accelerate aquifer overdraft, causing subsidence, the permanent loss of groundwater storage capacity, and result in degraded water quality. The Verdugo Basin has periodically seen low water levels since the 1970’s, particularly during times of drought.

While CVWD expects to have local groundwater to deal with short-term droughts, it will not be able to sustain the current population during long droughts without shortfalls that will negatively impact providing adequate water service. Additionally, CVWD’s reliance on imported water from FMWD makes CVWD susceptible to supply and delivery uncertainty due to environmental and climatic challenges.

SECTION 2 - PROJECT BUDGET

Standard Form 424 Budget Information C

Submitted separately with all other relevant SF-424 forms.

A. Funding Plan and Letters of Commitment

The total project cost is estimated at \$300,000 for FY2021-2022 (July 1, 2021 through June 30, 2022). The WaterSMART Small-Scale Water Efficiency Project Grant request is for \$75,000. CVWD has authorized financing for the remaining \$225,000 needed to complete this project.

CVWD will finance all Project costs not funded by Reclamation. The funding plan anticipates that WaterSMART Small-Scale Water Efficiency Project Grant will be used to install the equipment as outlined below in Table 5 – Total Project Cost Table and Table 6 – Budget Proposal Table outlined below. The majority of CVWD’s commitment to funding is through material and equipment to install the 31 large AMI meters as well as labor for the installation of the material and supplies and construction management.

Non-Reclamation funding will be provided solely by CVWD and therefore letters of commitment from third parties are not required.

B. Budget Proposal

Table 5 – Total Project Cost Table	
SOURCE (1)(2)(3)(4)(5)	AMOUNT
Cost to be reimbursed with the requested Federal Funding	\$ 75,000
Cost to be paid by CVWD	\$ 225,000
Value of third-party contributions	\$ 0
TOTAL PROJECT COST	\$ 300,000

- (1) It is the intention of CVWD to fund the deployment of AMI for the 31 large meters which are located throughout the service area by using existing water fund reserves or through debt financing. The annual debt service will be paid for through the CVWD water funds, which are supported through rate revenue. This project is included in the CVWD annual water capital improvement project (CIP) budget.
- (2) No costs incurred before the anticipated Project start date are included in the Project budget.
- (3) There are no funding partners associated with the proposed Project.
- (4) There are no funding requests from other Federal partners. All local funds will come from rate payers. No other Federal or State funds will be used.
- (5) CVWD has numerous funding requests working at various levels for operations & maintenance of CVWD’s water system. Those requests are independent of the proposed Project and will not affect or influence Reclamation’s commitment to this Project should it receive funding.

Crescenta Valley Water District
Large Meter Advanced Metering Infrastructure Project

Budget Proposal

Budget Item Description	Computation			Recipient Funding	Reclamation Funding	Total Cost
	\$/Unit	Unit	Quantity			
<i>Salaries and Wages</i>						
Brook Yared	\$50.79	50.7	Hour	\$2,575		\$2,575
<i>Fringe Benefits</i>						
Brook Yared	\$6.81	50.7	Hour	\$345		\$345
<i>Travel</i>						
Not Applicable						
<i>Supplies/ Materials</i>						
Not Applicable						
<i>Equipment (per unit cost greater than \$5,000)</i>						
New 3-inch & 4-inch meters	\$1,630	Each	31	\$50,530		\$50,530
New Large Meter Boxes with Lids	\$1,650	Each	31	\$51,150		\$51,150
Piping and Valve Upgrades	\$2,700	Each	31	\$83,700		\$83,700
New "Smart Points" AMI	\$410	Each	31	\$12,710		\$12,710
Stainless Steel bolts and gaskets	\$290	Each	31	\$8,990		\$8,990
<i>Contractual /Construction</i>						
Construction Manager	\$3,200	Lump Sum	1	\$3,200		\$3,200
AMI Water Meter, Meter Boxes, piping, valve upgrades and "Smart Points" Replacement (Labor)	\$2,800	Each	31	\$11,800	\$75,000	\$86,800
<i>Environmental</i>						
Not Applicable						
<i>Reporting</i>						
Not Applicable						
<i>Other Expenses</i>						
Not Applicable						
<i>Indirect Costs</i>						
Total Project Costs				\$225,000	\$75,000	\$300,000
Percentage Contribution by Funding Source				75.00%	25.00%	100%

C. Budget Narrative

Salaries and Wages

Salaries and Wages – Total salaries of \$2,575 are anticipated for the following staff:

Engineering Manager Staff – It is estimated that an engineering manager will spend 50.7 hours of his time to manage the project and vendor installation over the course of the 6-month project. Duties will include funding award, kick-off meeting, customer outreach, ordering of materials and supply, contractor and Construction Manager coordination. Anticipated cost: blended rate of \$50.79 per hour x 50.7 hours = \$2,575.

Fringe Benefits

Fringe benefits for the staff identified above are estimated at 12 percent of salary for a total cost. Fringe includes retirement, vacation, sick leave, health and life insurance, disability, workman's comp, etc.

1) Engineering Manager: \$6.81 per hour X 50.7 hours = \$345

Travel

Travel is not included in the budget proposal.

Supplies and Materials

Materials and supplies are not included in the budget proposal.

Equipment

New 3-inch & 4-inch meters, new large meter boxes with lids, piping and valve upgrades, new "Smart Points" for meters to be AMI meters and stainless-steel bolts and gaskets are all included as future equipment that needs to be purchased and installed as part of the Large Meter AMI Project. All the items are above \$5,000 so are not listed as supplies and materials.

Contractors/Construction

The labor to install the material and supplies listed above as equipment including the large AMI meters to be replaced (31), lid replacements (31) and endpoints to be installed (31) along with other equipment are included in this item. The cost estimate installing the materials and supplies is based on quotes provided to CVWD from the independent contractor who is anticipated to installing the equipment.

CVWD is hiring an independent Construction Management consultant to run the large meter AMI project for \$3,200

Environmental and Regulatory Compliance Costs

The Project is categorically exempt from the provisions of CEQA. A Notice of Exemption will be filed with the County of Los Angeles. These costs are considered minimal and therefore not included in the budget.

Crescenta Valley Water District
Advanced Metering Infrastructure Project

Reporting

CVWD is hiring an independent Construction Management consultant (to run the AMI program) who are part of the Contractual/Construction cost line item. CVWD Project Manager will be reporting to CVWD executive management, as well as completing the reports required by Reclamation.

Other Expenses

There are no other expenses.

Indirect Costs

These costs are included in Table 6, the Budget Proposal summary. These include the sales tax for the equipment listed under Contractual/Construction and contingency for the items listed under Contractual/Construction.

Total Costs

The total cost of the project is included in Table 6, the Budget Proposal summary.

Section 3 - Environmental and Cultural Resources Compliance

The project has been evaluated for both CEQA and NEPA compliance and it has been determined that the project is a Notice of Exemption for CEQA. A Notice of Exemption will be filed for this project as it falls under the categorical exemptions identified by the State Resources Agency as defined in the CEQA Guidelines (14 CCR Section 15300-15331). It has been determined that the project may have a significant effect on the environment. For CEQA we are referring our response to Article 6. Negative Declaration Process of Sections 15070 to 15075 (Title 14. California Code of Regulations Chapter 3. Guidelines for Implementation of the California Environmental Quality Act).

Will the proposed project impact the surrounding environment and soil quality or water quality and quantity, including riparian?

The project is not expected to involve earth-disturbing work or otherwise affect the surrounding environment as there will not be any excavation, only replacement of existing meters, meter boxes and meter vault covers.

Are there any known or suspected historic or prehistoric resources or other cultural resources in the project area?

There are no known species listed as a Federal threatened or endangered species in the project area.

Are there wetlands or other surface water bodies on or near the boundaries that are within the project area or within the riparian zone?

Yes, within the CVWD service area, the Verdugo Wash flows through portions of the CVWD services (Los Angeles River). However, this project only involves meter replacement and will not have any impacts on wetlands or surface water bodies. In fact, this project will allow CVWD to detect system leaks and monitor water consumption data, which can then be used to support water quality efforts.

Crescenta Valley Water District
Advanced Metering Infrastructure Project

When was the water delivery system constructed?

CVWD was founded in 1950 as a combination of two water companies, Crescenta Mutual Water Company and Mountain Water Company. CVWD has been diligently upgrading potable water infrastructure in order to provide safe and reliable potable water to CVWD's customers for the last 71 years.

Will the proposed project result in any modification of or effects to individual features of an irrigation system (e.g. headgates, canals, or flumes)?

The proposed project will not result in any modification of individual features of an irrigation system such as headgates, canals, or flumes. Only residential and business customer water meters fall within the service area, and the project will replace those meters with AMI and smart meter technologies.

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 you in answering this question.

The Rockhaven Sanitarium Historic District is located in the Crescenta Valley at 2713 Honolulu Avenue in what is now the City of Glendale, California. It was opened in 1923 by psychiatric nurse Agnes Richards as a private mental health institution for women with mild mental and nervous disorders as the brochure read. Rockhaven is listing on the National Register of Historic Places within this project area.

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

There are no known archeological sites in the proposed project area.

Will the proposed project have a disturbance within 100' and adverse effect on the prime or unique riparian populations?

No. In fact, the proposed project will have a highly positive effect on all customers of CVWD. The project will aid in water conservation measures and thereby decrease dependence on water imported from the State Water Project and Colorado Aqueduct at a cost higher than local water source. This strategy can help limit water rate increases during shortages.

Will the proposed project have any impacts on sacred sites or tribal lands as there are not sacred sites or tribal lands within the service area of CVWD.

No, the project will not have any impacts on sacred sites or tribal lands as there are not sacred sites or tribal lands within the service area of CVWD.

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

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

Section 4 - Required Permits and Approvals

CVWD (or contractor) will be required to obtain a street use permit for any work within the City of Glendale public right-of-way. If any water meter boxes or water services need to be replaced, CVWD will be required to obtain an encroachment permit from County of Los Angeles or City of Glendale. All “Smart Point” RT radio transceivers will be installed in existing CVWD water meter box locations.

Section 5 - Letters of Project Support

Stakeholder Support and Collaboration: The AMI project has widespread support from stakeholders throughout the region. CVWD currently does not have any letters of Support but if selected letters of Support will be provided.

- **U.S. Representative, 28th Congressional District, Adam Schiff** – The AMI Project will help CVWD manage federal water resources more efficiently through advancements in metering technology, ultimately leading to more efficient water use in the region.
- **California Assemblywoman, 43rd Assembly District, Laura Friedman** – Installing an AMI system will help the District achieve its State of California SB7x7 water conservation goal of reducing urban per capita water consumption by 20 percent by 2020. Assemblywoman Friedman was the sponsor of SB606 and AB1668 which outline above is the Water Management Plan (WMP).
- **California Senator, 25th State District, Anthony J. Portantino** – Installing an AMI system will help the District achieve its State of California SB7x7 water conservation goal of reducing urban per capita water consumption by 20 percent by 2020. State Senator Portantino was the sponsor of SB 1126 allowed Arroyo Seco and Flint Wash to be a part of the Upper Los Angeles River and Tributaries Working Group revitalization plan and sponsored SB 1133 allowing the Los Angeles Regional Water Quality Control Board to accept certain funds from the Los Angeles County Flood Control District and spend them to prepare a major revision to the Basin Plan for the Los Angeles Region.
- **Los Angeles County Board of Supervisors, Kathryn Barger** – Meeting state mandates for water conservation is a regional priority and currently an active part of planning activities for Los Angeles County supervisors. The AMI Project is in direct alignment with many regional water-use efficiencies activities and will help serve as a model for neighboring cities in the region.
- **Crescenta Valley Town Council.** – The AMI project will help the District to more effectively manage water demand and pave the way for better water efficiencies as the City continues to grow in the future.

Section 6 - Approved Official Resolution

Resolution 765 approved by CVWD’s Board of Directors on March 9, 2021 is on Pages 20 through 22.

Section 7 - Unique Entity Identifier

Crescenta Valley Water District is registered with SAM. Our DUNS Number is 083815456

RESOLUTION NO. 765

**RESOLUTION OF THE BOARD OF DIRECTORS OF
CRESCENTA VALLEY WATER DISTRICT**

**AUTHORIZING AND APPROVING SUBMISSION FOR A UNITED STATES BUREAU
OF RECLAMATION SMALL-SCALE WATER EFFICIENCY PROJECTS GRANT**

WHEREAS, the United States Department of the Interior provides financial assistance through WaterSMART; Small-Scale Water Efficiency Projects for entities to undertake projects that result in quantifiable and sustained water savings and support broader water reliability benefits; and

WHEREAS, the Board of Directors of Crescenta Valley Water District desires to submit an application for grant funds from said program; and

WHEREAS, the Bureau of Reclamation has been delegated the responsibility of the administration of this grant program and establishing necessary procedures; and

WHEREAS, said procedures established by the Bureau of Reclamation require the applicant to certify by resolution the identity of the official with legal authority to enter into an agreement; that the appropriate official or governing body has reviewed and supports the application submitted; the capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the application funding plan; and that the applicant will work with the Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement; and

NOW, THEREFORE, that the Board of Directors of the Crescenta Valley Water District resolves as follows:

Section 1. The Board of Directors of Crescenta Valley Water District appoints the General Manager, or his designee, to act as agent with legal authority to enter into grant or cooperative agreement, conduct all negotiations, execute and submit all documents for the Large Meter Advanced Metering Infrastructure Replacement Program, Project E-1031 including, but not limited to, applications, agreements, payment requests and any other grant required correspondence with may be necessary for the completion of the grant program.

Section 2. The Board of Directors of Crescenta Valley Water District has sufficient funds available to provide the amount of funding specified in the funding plan as matching funds/in-kind contributions.

Section 3. Crescenta Valley Water District will work with the US Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

Section 4. This Resolution shall take effect immediately upon its adoption by the Board, and the Secretary to the Board shall certify the vote adopting this Resolution.

Crescenta Valley Water District
Advanced Metering Infrastructure Project

PASSED, APPROVED, AND ADOPTED at a Regular Meeting of the Board of Directors of Crescenta Valley Water District held on March 9, 2021, Resolution No. 765 was adopted by the following vote:


AYES:

**Director Bodnar
Director Erickson
Director Putnam
Director Raghavachary
Director Tejeda**


NOES:

None

ATTEST:



**President, Board of Directors
Crescenta Valley Water District**



Secretary of the Board of Directors

