Crescenta Valley Water District

1½-INCH METER ENHANCEMENT ADVANCED METERING INFRASTRUCTURE (AMI) PROJECT

WaterSMART Grants:

Small-Scale Water Efficiency Projects for Fiscal Year 2022

FOA No. R22AS00195

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

PREPARED BY:
David S. Gould, P.E.
Director of Engineering & Operations
Crescenta Valley Water District
2700 Foothill Blvd.
La Crescenta, CA 91214
dgould@cvwd.com
818-236-4119

APRIL 26, 2022

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SECTION 1 – TECHNICAL PROPOSAL

A. Executive Summary

Date: **April 26, 2022**
Applicant Name: **Crescenta Valley Water District**
City: **La Crescenta**
County: **Los Angeles County**
State: **California**

Grant Funding Request: **$100,000.00**
Non-Federal Matching Funds: **$122,209.25**
Total Project Costs: **$222,209.25**
Estimated Construction Start Date: **October 1, 2022**
Estimate Completion Date: **March 31, 2024**
Estimate Project Duration: **18 months**
Located on Federal Facility: **Not Applicable**

Project Manager:
David S. Gould, P.E.
Director of Engineering & Operations
dgould@cvwd.com
818-236-4119

Project Name: 1½-Inch Meter Enhancement Advanced Metering Infrastructure (AMI) Project

Crescenta Valley Water District (CVWD) is requesting funding to expand and enhance its existing Advanced Metering Infrastructure (AMI) Project in order to further reduce 18.6 AFY of water loss via water use efficiency by replacing and upgrading their existing older medium size water meters (1½-inch meters) with new "Smart Meters", which will improve water system resilience. The project will save approximately 279 AFY of water during the 15-year life cycle of the medium size water meter upgrades to "Smart Meters" which is an 8.0% water savings per meter on an annual basis.

CVWD currently has one hundred fifty-two (152) 1½-inch meters that are located at large apartment and condominium complexes, restaurants, commercial buildings, senior living apartments, irrigation meters within CVWD service area. These meters were scheduled to be replaced in FY 22/23 and FY 23/24 at an estimated cost of $364,100 that includes new meters with smart points, new meter boxes, new lids, and piping upgrades.

For the proposed Project, CVWD proposes to replace eighty-five (85) 1½-inch meters that are located at commercial properties, manufacturers, and irrigation sites within CVWD service area. The work will be performed by an outside contractor. The USBR grant will allow CVWD to accelerate the medium size 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 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.

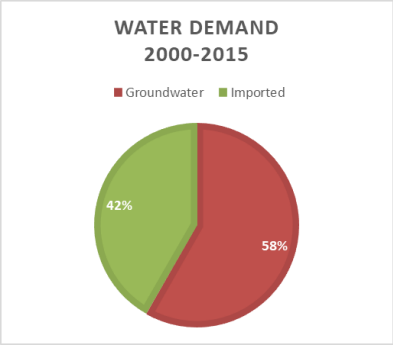

Figure 2A – CVWD Past Water Sources

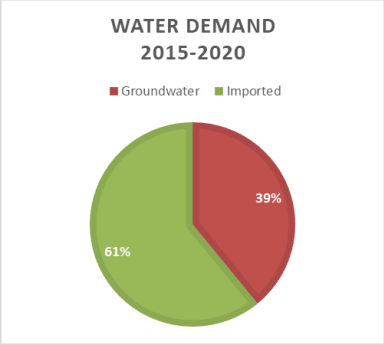

Figure 2B – CVWD Current Water Sources

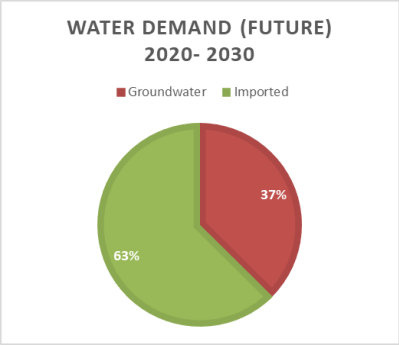

Figure 2C – CVWD Future Water Sources

Quantity of Water Supply Managed

CVWD manages and supplies about 3,913 AFY of water per year over the last five-years (2016 – 2020).

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 2020 CVWD billing data, CVWD serves a population of over 32,462 with 8,233 potable water accounts and has a five-year (2016 - 2020) average annual potable water demand of approximately 4,216 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. CVWD in April 2022 awarded a Consultant a contract to conduct a 2023 Wastewater Master Plan with the goal to determine potential long-term opportunities for CVWD to reallocate the wastewater for alternative groundwater recharge supply.

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.

2020 Actual Water Usage

The residential market comprises approximately 85 percent of CVWD connections and almost 59 percent of demand. Multi-Family customers are the next largest group with 9 percent of connections with almost 20 percent of demand which is the target of the Medium Size 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

2020 Actual Demand					
Sector	**Accounts**	**Percent**	**Use (AF)**	**Percent**	**Avg AF/Per Account**
Single Family Resident	6,955	85%	2,490	59%	2.8
Multi Family Resident	695	9%	836	20%	0.8
Commercial, Industrial, Institution	408	6%	279	7%	1.5
Irrigation	68	1%	234	6%	0.3
Fire	107	1%	376	9%	0.3
Total	8,233	100%	4,216	100%	2.0

Projected Growth and Water Demand

According to the 2020 CVWD Urban Water Management Plan, the population within the CVWD is anticipated to grow less than 3.00% percent over the next 25 years. The service area population is projected to increase from 32,462 in 2020 to 35,103 in 2045 at a rate of 3.00 percent per annum. See Table 2 for details.

Table 2 – Projected Population Growth

Water Service Area Population	2020	2025	2030	2035	2040	2045
Population						
Water Service Area Population	32,462	32,974	33,494	34,022	34,558	35,103

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 - 2025-2045 Average

Water Sources	2025	2030	2035	2040	2045
Demand					
Total Normal Demand (ac-ft)	**3,979**	**4,041**	**4,105**	**4,170**	**4,236**
% of 2020 Actual Demand (4,216 ac-ft)	94,4%	95.9%	97,4%	98.9%	100.5%

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 expanded implementation of AMI capital improvement plan to meet these future demands. The AMI program will allow CVWD to conservatively save 279 AFY, and better manage the five-year average annual demand of 3,913 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 October 2021, following the second driest year on record and with near record low storage in California's largest reservoirs, Governor Gavin Newsom issued a proclamation extending the drought emergency statewide and further urging Californians to step up their water conservation efforts as the western U.S. faces a potential third dry year. Bolstering conservation efforts, the proclamation enables the State Water Resources Control Board to ban wasteful water practices, including the use of potable water for washing sidewalks and driveways. The Governor issued an executive order in July calling on Californians to voluntarily reduce water use by 15 percent compared to 2020 to protect water reserves and complement local conservation mandates. The Governor's action today comes as the Board reports that in August, California reduced urban water use by 5 percent compared to 2020. The proclamation adds the eight counties not previously included in the drought state of emergency: Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Francisco, and Ventura. In addition, the proclamation requires local water suppliers to implement water shortage contingency plans that are responsive to local conditions and prepare for the possibility of a third dry year.

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 factor 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 leak 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 8,233 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.

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 1½-inch Meter Enhancement 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 1½-inch Meter Enhancement AMI project involves replacement of the existing 1½-inch 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.

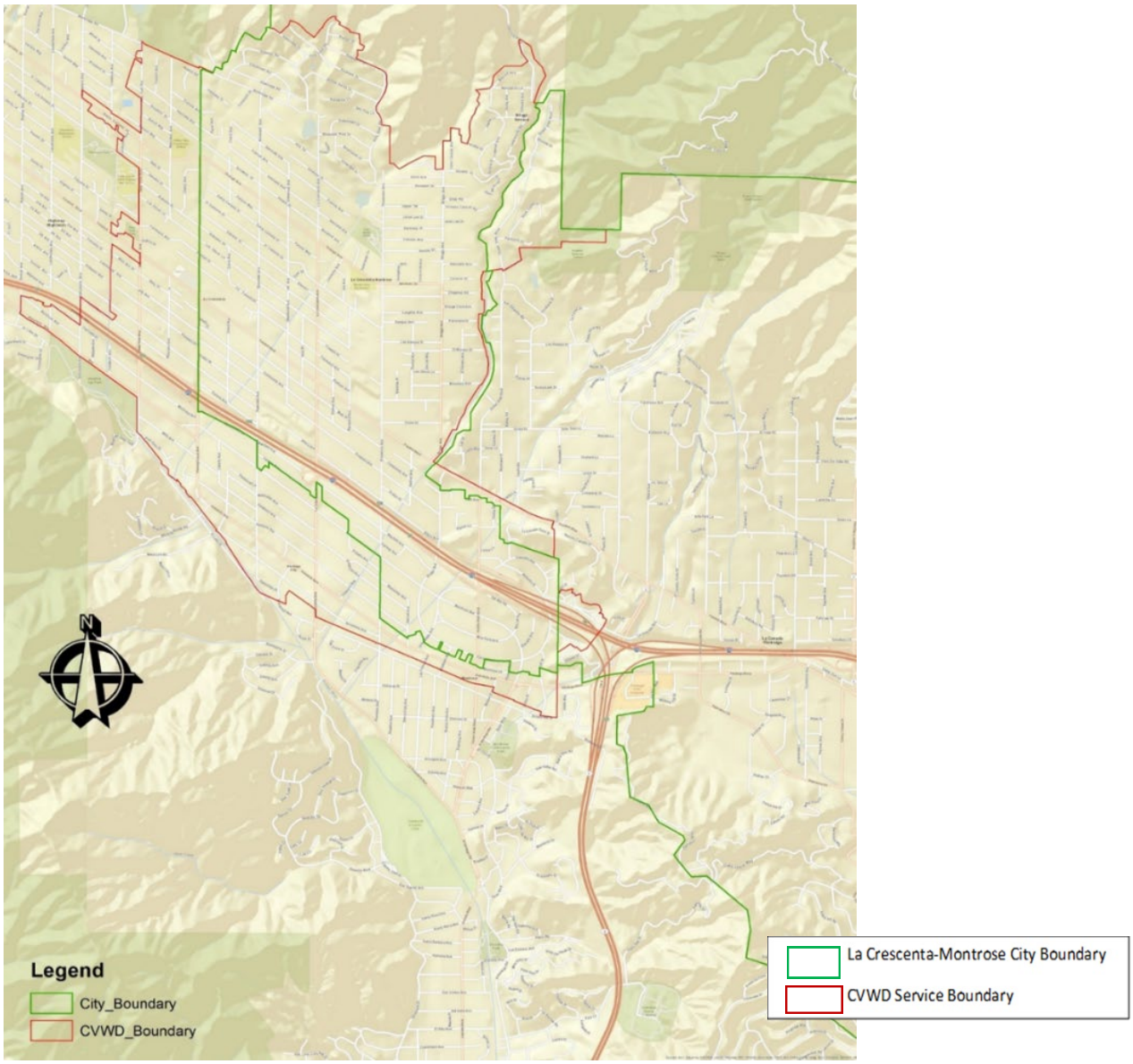

Figure 1 – Crescenta Valley Water District Boundary Map

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 8,233 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 85 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 1½-inch Meter Enhancement 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, 85 of CVWD's existing water meters will be replaced with "Smart meters" that will be compatible with the existing AMI backhaul communication system, which was 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 8,233 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/businesses water efficiency through leak detection, education, and improved communication between CVWD and its 1½-inch 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 medium sized 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, which has been completed was 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 in-house staff to implement the infrastructure, hardware, and software for CVWD's AMI water meter replacement program.
3. CVWD will purchase, and a third-party contractor to install 85 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 85 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 18.6 AFY of water and allow the District to better manage 3,913 AFY of water on an annually basis.

The 1-½-inch Meter AMI Project to install/retrofit 85 meters are 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 medium size water meters to AMI, CVWD's conservation estimate is to be 18.6 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 and businesses.

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 Flintridge, Los Angeles County, 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 1½-inch water meter 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 medium size water meter AMI project, the District will conduct public outreach to apartment and condominium complexes, senior living apartments, and irrigation customers for which the 85 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 279 AF of water throughout the life span of the project (15-year life span for the meters) avoids 10 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)

Describe how your project is supported by an existing Planning effort.

The 2020 CVWD Urban Water Management Plan was submitted to the California Department of Water Resources (DWR) on June 30, 2021, and they confirmed receipt on July 1, 2021. CVWD's Best Management Practice (BMP) reports to CalWEP (formally CUWCC) for retail units were approved on September 24, 2018. The 14 BMP reports for the 2017-2018 period were reduced to 5 BMPs will still be in effect for the 2020 UWMP. 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) **October 2021 – Proclamation of a State of Emergency** - Governor Gavin Newsom issued a proclamation extending the drought emergency statewide and further urging Californians to step up their water conservation efforts as the western U.S. faces a potential third dry year.

2) **2020 CVWD Urban Water Management Plan (UWMP)** - Water reliability is one of the main objectives outlined in the region's 2020 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.

3) **2020 CVWD Water Shortage Contingency Plan (WSCP)** - Recent water supply challenges throughout the American Southwest and the State of California have resulted in the development of a number of policy actions that water agencies would implement in the event of a water shortage. In Southern California, the development of such policies has occurred at

both the wholesale and retail level. This section addresses elements related to the urban water supplier's Water Shortage Contingency Plan (WSCP) describing new and existing policies that Metropolitan MWD, FMWD, and CVWD have in place to respond to water supply shortages, including a catastrophic interruption and greater than a 50 percent reduction in water supply.

4) **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*.

5) **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.

6) **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.

7) **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.

8) **Esource's AMI/MDM Assessment and Strategic Roadmap Report (2018)**

9) **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 factor into 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 medium size water 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 18 months, from October 2022 to March 2024. Prework is expected to occur during an approximate 3-month window. Installation is about 52-week window. The project will culminate with and approximate 2 to 3-month monitoring and reporting.

Table 4. Implementation Plan

Project Stage	*Duration*	*Milestones*	*Start Date*	*Completion Date*
Funding Award	*12 Weeks*	• *Receive award letter*	*October 2022*	*December 2022*

		• *Respond to request for Information* • *Final signatures*		
Kick off Meeting	*1 week*	• *Kick off meeting with Contractor and Public*	*January 2023*	*January 2023*
Customer Outreach	*Continues Every 2 weeks before construction*	• *Door-to-Door Communications and door Hangers* • *Email Blasts*	*January 2023*	*January 2024*
Installation of Medium Size AMI meters & supporting equipment	*52 weeks*	• *Install and test smart meters* • *Test Radio transceivers* • *Project Completion verification*	*January 2023*	*January 2024*
Monitor and Report	*8-12 weeks*	• *Submit progress & Final report* • *Monitor water savings*	*January 2024*	*March 2024*

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 85 existing-metered locations, and other District owned properties.

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

Does the applicant receive 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 on Reclamation project lands or involving Reclamation facilities?

The 1½-inch water 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 tribe(s)?

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 it 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 2020 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 1½-inch Meter Enhancement 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.

2. Utilizing our natural resources

a. Ensure American Energy is available to meet our security and economic 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 18.6 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.

3. Restoring Trust with Local Communities

CVWD's 1-½-inch 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

4. 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 dur 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 $222,209.25 for FY2022-2023 (July 1, 2022 through June 30, 2023) and FY 2023-2024 (July 1, 2023 through June 30, 2024). The WaterSMART Small-Scale Water Efficiency Project Grant request is for $100,000.00. CVWD has authorized financing for the

remaining $122,209.25 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 85 medium size 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.

Project Costs

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	**$ 100,000.00**
Cost to be paid by CVWD	**$ 122,209.25**
Value of third-party contributions	**$ 0**
TOTAL PROJECT COST	**$ 222,209.25**

(1) It is the intention of CVWD to fund the deployment of AMI for the 85 1½-inch size water 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.

Budget Proposal

Table 6 – Proposed Budget Summary						
	Computation			Recipient Funding	Reclamation Funding	Total Cost
Budget Item Description	**$/Unit**	**Unit**	**Quantity**			
Salaries and Wages						
Brook Yared	$46.25	74	Hour	$3,422.50		$3,422.50
Jennifer Bautista	$13.29	69	Hour	$917.01		$917.01
Fringe Benefits						
Brook Yared	$5.55	74	Hour	$410.70		$410.70
Jennifer **Bautista**	$1.59	69	Hour	$110.04		$110.04
Travel						
Not Applicable						
Supplies/ Materials						
Not Applicable						
Equipment (per unit cost greater than $5,000)						
New 1 ½" meters	$1,590	Each	85	$35,150	$100,000	$135,150
New Large Meter Boxes with Lids	$65	Each	85	$5,525		$5,525
Piping and Valve Upgrades	$60	Each	85	$5,100		$5,100
New "Smart Points" AMI	$215	Each	85	$18,275		$18,275
Contractual /Construction						
Construction Manager	$15,049	Lump Sum	1	$15,049		$15,049
AMI Water Meter, Meter Boxes, piping, valve upgrades and "Smart Points" Replacement (Labor)	$450	Each	85	$38,250		$38,250
Environmental						
Not Applicable						$ -
Reporting						
Not Applicable						$ -
Other Expenses						
Not Applicable						$ -
Indirect Costs						
Total Project Costs				**$122,209.25**	**$100,000.00**	**$222,209.25**
Percentage Contribution by Funding Source				**55.00%**	**45.00%**	**100.00%**

C. Budget Narrative

Salaries and Wages

Salaries and Wages – Total salaries of $4,339.51 are anticipated for the following staff:

Engineering Manager and Project Coordinator – It is estimated that an engineering manager and project coordinator will spend 74.0 and 69.0 hours, respectively to manage the project and vendor installation over the course of the 18-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 $46.25 per hour x 74.0 hours = $3,422.50 + $13.29 per hour X 69.0 hours = 917.01 for a total of $4,339.51

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: $5.55 per hour X 74.0 hours = $410.70
2) Project Coordinator: $1.59 per hour X 69.0 hours = $110.04

Total: = $520.74

Travel

Travel is not included in the budget proposal.

Supplies and Materials

Materials and supplies are not included in the budget proposal.

Equipment

New 1 ½-inch meters, new medium size meter boxes with lids, piping and valve upgrades, new "Smart Points" for meters to be AMI meters are all included as future equipment that needs to be purchased and installed as part of the Medium Size Meter AMI Project. All the items are above $5,000 so are not listed as supplies and materials.

Contractual/Construction

The labor to install the material and supplies listed above as equipment including the medium size AMI meters to be replaced (85), lid replacements (85) and endpoints to be installed (85) 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 medium size water meter AMI project for $15,049.

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.

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 (e.g., soil [dust], air, water [quality and quantity], animal habitat)?

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 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?

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

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?"

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.

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 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 disproportionately high and adverse effect on low income or minority 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 limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

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 known to occur in the area?

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

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 expanded 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 expanded 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 –*** Expanding the 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 –*** Expanding the 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 expanded 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 expanded 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 777 approved by CVWD's Board of Directors on April 12, 2022, is on Pages 21 through 23.

Section 7 - Unique Entity Identifier

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

RESOLUTION NO. 777

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 Consideration and motion to adopt an application for grant funding from the U.S. Bureau of Reclamation, Water and Energy Efficiency Grant for 1-½ & 2-inch Meters for Advanced Metering Infrastructure, Project E-1044 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 certifies that 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. The Board certifies that 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.

PASSED, APPROVED, AND ADOPTED at a Regular Meeting of the Board of Directors of Crescenta Valley Water District held on April 12, 2022, Resolution No. 777 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

STATE OF CALIFORNIA)

) ss.

COUNTY OF LOS ANGELES)

I, James K. Lee, Secretary to the Board of the Crescenta Valley Water District, DO HEREBY CERTIFY that the foregoing is a full, true, and correct copy of Resolution No. 777 of the Board of Directors of Crescenta Valley Water District adopted at a Regular Meeting held on April 12, 2022 and that the same has not been amended or repealed.

Secretary of the Board of Directors of
Crescenta Valley Water District

DATED: April 12, 2022 **(S E A L)**