



City of Corona

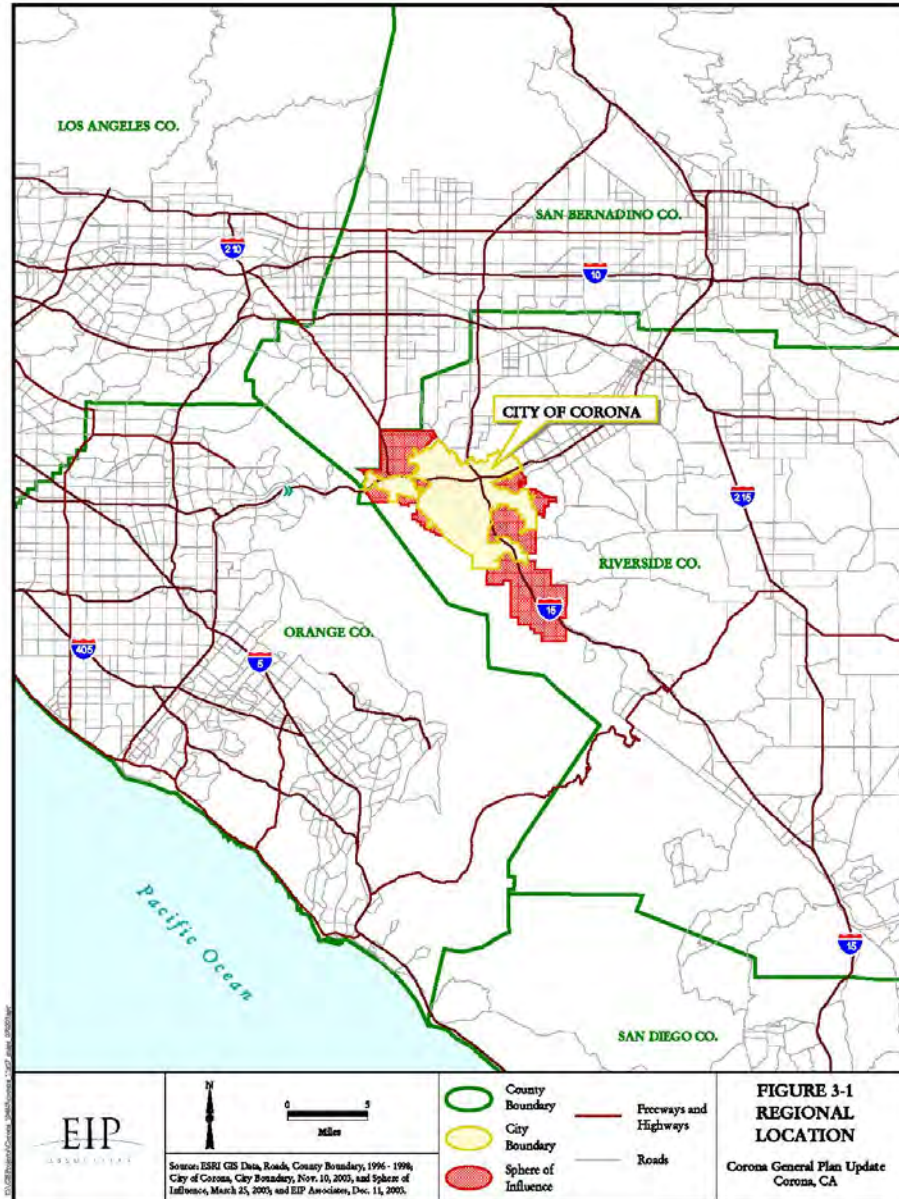
Advanced Metering Infrastructure Program

Water SMART: Water and Energy Efficiency Grants for
Fiscal Year 2022

PREPARED BY:

Erin Kunkle, Business Supervisor
City of Corona Utilities Department
755 Public Safety Way
Corona, CA 92878
951-817-5795
erin.kunkle@coronaca.gov

November 03, 2021



The City of Corona City Council is set to approve the application for the Water SMART: Water and Energy Efficiency Grant Program on November 3, 2021.

Jacque Casillas, Mayor
 Wes Speake, Vice Mayor • Tony Daddario, Council Member
 Tom Richins, Council Member • Jim Steiner, Council Member

Jacob Ellis, City Manager



Table of Contents

Mandatory Federal Forms (Completed on Grants.gov)

- SF-424 Application for Federal Assistance
- SF-424A Budget Information
- SF-424D Assurances
- SF-LLL Disclosure of Lobbying Activities

Table of Contents	ii
Section 1: Technical Proposal	1
• Executive Summary	1
• Project Location	1
• Technical Project Description	3
• Evaluation Criteria	5
○ Evaluation Criterion A: Quantifiable Water Savings	5
○ Evaluation Criterion B: Renewable Energy	8
○ Evaluation Criterion C: Sustainability Benefits	10
○ Evaluation Criterion D: Complementing On-Farm Irrigation	19
○ Evaluation Criterion E: Planning and Implementation	19
○ Evaluation Criterion F: Collaboration	24
○ Evaluation Criterion G: Non-Federal Funding	25
○ Evaluation Criterion H: Nexus to Reclamation	25
• Performance Measures	26
Section 2: Project Budget	27
• Funding Plan and Letters of Commitment	27
• Budget Proposal	28
• Budget Narrative	29
Section 3: Environmental and Cultural Resources Compliance	30
Section 4: Required Permits and Approvals	31
Section 5: Letters of Support	32
Section 6: Official Resolution	37



SECTION 1: TECHNICAL PROPOSAL

Executive Summary

Date: November 3, 2021
Applicant Name: City of Corona
City: Corona
County: Riverside County
State: California
Applicant: Category A
Federal Facility Location: Not located on a Federal facility

The City of Corona, California located in western Riverside County, will complete a full transition to Advanced Metering Infrastructure (AMI) meters with requested grant funds, by installing 41,061 “smart” meters. The AMI project will help the City mitigate water losses in a timely and efficient manner with 24/7 monitoring and alert capabilities. This will result in conservation of the region’s precious water resources during a critical time of unprecedented drought and anticipated future water shortages. Corona water customers will also benefit from AMI technology by having safe and secure, on-demand access to their water usage through a specially designed AMI customer portal. This is especially helpful for large commercial and landscape clients who tend to have higher usage rates and higher bills as a result. This level of monitoring will allow for usage adjustments during peak times. The project is well aligned with Bureau of Reclamation’s (BOR) overarching goals to manage, develop and protect water and other resources in an environmentally and economically sound manner. The City will use grant funds for meters to complete the remaining meter change out in residential, multi-family units, and commercial properties. Implementation of this project will result in quantifiable water and energy savings, as well as support broader water reliability benefits by providing the following:

- Water savings of up to 1,787 acre-feet per year;
- Associated energy savings of 3,574,000 kilowatt-hours (kWh) per year;
- Water conservation measures through immediate water use feedback and water leakage detection, will significantly reduce energy consumption and water waste, and;
- Reduced time, labor, cost, energy, and greenhouse gas (GHG) emissions compared to the existing metering system, which requires contracted personnel to physically drive to and manually read each meter.

The City of Corona’s estimated length of the project is expected to be 36 months: beginning in July 2022, with an anticipated end date of September 2025.

Project Location

The proposed project location is in the City of Corona (City), California, which is located approximately 45 miles southeast of Los Angeles in western Riverside County. The central point of Corona is located at latitude {33.8753°N} and longitude {-117.5664°}, however, this project will encompass the entire city service area. The City of Corona is the “gateway to the Inland Empire” given its close proximity to Orange County and Los Angeles, California. The City limits encompass 39.2 square miles and has an abundance of housing and a population of 172,652.



Figure 1: City of Corona Regional Map

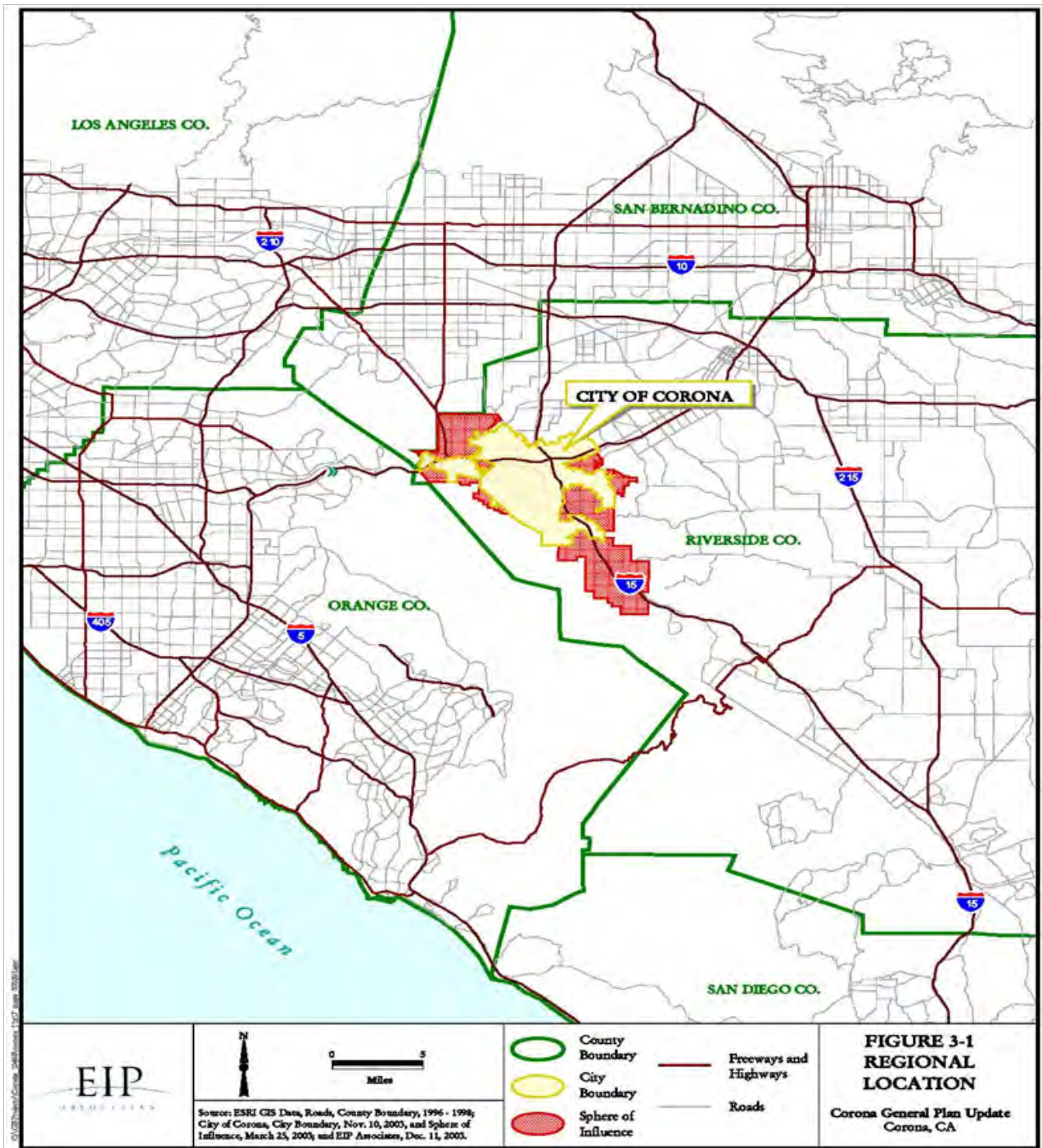
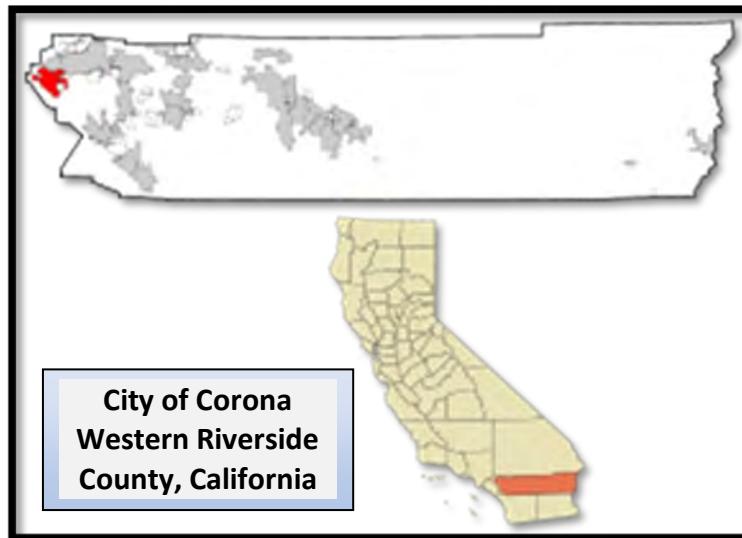




Figure 2: City of Corona State and County Location Map



Technical Project Description

The proposed Advanced Metering Infrastructure (AMI) project will install 41,061 AMI meters and will save approximately 1,787 acre feet of water per year (AFY). Benefits of AMI include: improved utility operations; improved water conservation; leak detection; and enhanced security and resilience¹. Implementing effective water conservation and efficiency practices can help extend the water supply and meet the water demand expectations well into the future. This is a major project with significant benefits. \$2,000,000 (8.82%) Federal Request, combined with \$20,685,603 (91.18%) Local Match, puts this total project at \$22,685,603. Federal funds will ensure the project can be completed as efficiently and timely as possible.

The City has its own water utility that has been in existence since 1897 and formally became a municipally owned utility in 2001. The system consists of six zones. It contains 23 wells, 26 booster pumps, 21 reservoirs, 697 miles of pipes, and over 40,000 service meters. The City of Corona presently provides municipal water service to nearly 154,627 people through approximately 44,330 domestic service connections. This area includes approximately 32 square miles within the City's municipal area, and 7 square miles within Riverside County.

In 2020, Corona residents and businesses used approximately 10.7 billion gallons of drinking water. The City is primarily dependent on imported water for domestic, commercial and industrial uses. This imported supply is considered limited and its future reliability uncertain. In addition, transport of imported water requires tremendous energy input which constitutes a considerable portion of the total water cost to the end user. Corona's water supply comes from different sources: 45.1 % groundwater from the Temescal Groundwater Subbasin owned and operated by the City of Corona, 51.1% through Lake Mathews from the Colorado River, 3.7% from the State Water Project's (SWP) California Aqueduct and 0.1% from Western Municipal Water District's Arlington Desalter treatment facility. As calculated by the

¹ Turner, Cristina. What is Advanced Metering Infrastructure (AMI)? September 01, 2021.
<https://www.wwdmag.com/what-articles/what-advanced-metering-infrastructure-ami>



City’s Regulatory group, since 2012, the City’s reliance on water from the Colorado River has increased by 17%.

The City has an estimated total water supply of 32,338 AFY and manages residential, commercial, industrial, and irrigation accounts. Projections by the City, and other local agencies, indicate that Corona will continue to expand. This will increase the need for greater water conservation measures and requires immediate action on the part of the City to address future water needs. The proposed AMI Project will assist the City in achieving greater water conservation efforts, by completing the final phase of AMI installation. It is critically important as the City and California face significant drought conditions.

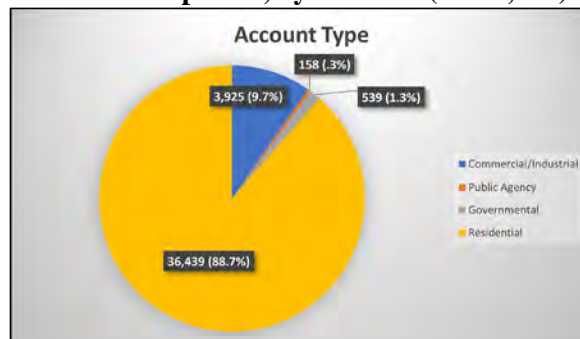
“As the Western U.S. faces a potential third year of drought, it’s critical that Californians across the State redouble our efforts to save water in every way possible.”
 -GOVERNOR GAVIN NEWSOM

CA.gov 10/19/2021

In 2012, the City was awarded a BOR grant and upgraded 1,311 direct read meters to “smart” meters in an identified area of south Corona. With the installation of these meters, the City had an estimated savings of 82 AFY. With this current grant request, the City proposes to install the final 41,061 “smart” meters. The installation of these remaining meters will allow the City to be completely upgraded and working on the same system. Figure 3 shows the number of proposed AMI meter installations by account. Although the commercial/industrial clients represent a smaller number of overall meters installed, it is important to note that these clients tend to have higher water consumption and therefore will benefit the most from having access to computerized data that will allow them to monitor their water usage.

The meters will be procured by the City, prior to hiring the contractor. The City will use grant funds to help pay for the new AMI equipment (8.82% of total project costs requested) to complete the remaining meter change out in residential, multi-family units, and commercial properties. First, the contractor will identify and prioritize service areas (prioritized by highest water-user meter routes) and send crews door-to-door with notices of meter change outs. Upon area notification, crews will remove and catalog old meters and install and calibrate new meters. On average, installation of new meters will take approximately 30 minutes per location. Contractors will follow up with another door tag indicating that the change-out has been completed. Once installation is complete, the City will install all necessary software and work with the vendor to develop 24/7 real time computer access for both City staff and water customers.

Figure 3: Breakdown of Meters to be Replaced, by Account (n= 41,061)





Many of the water meters (11,653) in the City are beyond their useful life (10+ years old), with diminished capacity to accurately meter or report water usage. The totality of thousands of meter inaccuracies leads to costly unregistered water flow, undetected leaks and unaccounted for water use. The AMI technology will mitigate these losses by enabling the City to remotely manage metering assets, and address losses in a timely and efficient manner. The Utility's customers will also benefit from the AMI customer portal, with real-time water usage data, the capability to set alerts, and gather personalized water system reports. Additionally, reports will be configured to run automatically to detect drought violations by customers with high water usage. Drought enforcement staff will be assigned to review these reports and take follow-up action to issue warnings and citations based on these reports. This project will promote conservation, water use efficiency, and energy efficiency, all of which are in direct alignment with BOR's overarching goals to support water sustainability and address climate-related impacts on water.

Evaluation Criteria

Evaluation Criterion A: Quantifiable Water Savings

As California battles a statewide drought emergency it has never been more important to accelerate projects like the proposed AMI installations which will result in significant water savings.

1) Water Saved: The City will conserve an estimated 1,787 AFY as a direct benefit of the proposed AMI project. This savings is comprised of the following estimates and calculations:

- 1) ***Installing AMI Meters.*** The City will install the remaining 41,061 AMI meters throughout the Corona service area. According to the California Department of Water Resources (DWR) 2011 "California Single-Family Water Use Efficiency Study" households have an average "leakage" rate of .034 AFY. Since 41,061 of the City's meters are still direct read, that equates to 1,411.33 AFY of water loss that could be avoided by early detection of leaks with AMI meters. In addition, customer "Over-Budget" water usage in FY2020 was 3754.53 AFY. Assuming a 10% savings can be achieved with the AMI upgrade, an additional 375.45 AFY can be saved.
- 2) ***Actualizing Water Savings.*** Data from 2020 suggests that the Non-AMI Meters had 30,920 AFY usage, the City estimates that the proposed AMI Project will result in approximately 1,787 AFY saved, or 6%. By switching from standard volumetric meters that are outdated and do not provide remote monitoring to AMI system meters that provide "smart," real-time, two-way communication electronically to both City staff and consumers, the City will be able to mitigate water leaks and losses, train consumers on how to reduce water usage, and help control water use during water alerts and droughts.
- 3) ***Reduced Reliance on Imported Water.*** With up to 1,787 AFY saved as a direct result of the AMI Project, the City of Corona will reduce reliance on imported water supplies that come from State Water Supply or Colorado River Water thereby conserving water resources in alignment with State mandates.



2) **Describe current losses:** Please explain where the water that will be conserved is currently going and how it is being used.

- a. *Explain where current losses are going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?* At the site of a leak, the water is seeping back into the ground.
- b. *If known, please explain how current losses are being used. For example, are current losses returning to the system for use by others?* Current losses due to overuse will remain in the system for the purposes it was originally intended for.
- c. *Are current losses entering an impaired groundwater table becoming unsuitable for future use?* No.
- d. *Are there any known benefits associated with where the current losses are going?*
There are no known benefits associated with where the current losses are going.

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

The estimated water savings with the installation of 41,061 AMI meters as much as 1,787 AFY. This estimate was determined by multiplying the average acre-feet leakage rate per household per year (0.03437) by the number of meters that need to be upgraded (41,061). This equates to 1,411.27 AFY. Additionally, based on FY2020 Over-Budget Usage reports, it is assumed that an additional 10% AF can be saved due to early warning systems that AMI provides. Combining these two calculations equals 1,787 AFY in water savings.

$$\begin{aligned}
 &\text{Leak Reduction: } 0.03437 \times 41,061 \text{ Meters} = 1,411.27 \text{ AFY} \\
 &\text{Overbudget: } 3,754.53 \text{ AFY Loss in FY2020} \times 10\% \text{ assumed savings} = 375.45 \text{ AFY} \\
 &1,411.27 \text{ AFY} + 375.45 \text{ AFY} = 1,786.72 \text{ AFY (rounded to 1,787)}
 \end{aligned}$$

4) **Municipal Metering:**

The largest opportunity revolves around meter reading. Many Utilities have adopted AMI systems allowing meters to be read remotely. Installing such a system in Corona would eliminate the need for a meter reading vendor and provide important additional data for conservation programs, leak detection, and more accurate meter reading. It would also change the job of the billing and field meters staff by reducing billing exceptions and increasing accuracy of the information the meters transmit. The downside of AMI is the initial capital cost. The cost of each residential meter could be as much as double, in addition to the cost of software to read and process meter data. This high initial investment will allow the City to provide improved customer service through better communication and faster identification of leaks or abnormal usage. According to the Department’s recent operational audit report, finalized in May 2021, the City should continue implementing AMI technology to improve utility billing and meter reading processes (<https://www.coronaca.gov/home/showpublisheddocument/20256>).

- a. *How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.*
As noted above, the anticipated savings with the installation of AMI is up to 1,787 AFY. This calculation is illustrated in Table 2 below.



Table 2. Estimated Water Savings AMI Meter Replacement

Leakage	
Average Leakage Rate per Household per Day* (Gal)	30.70
Average Leakage Rate per Household per Year (Gal)	11,200
Average Leakage Rate per Household per Year (AF)	0.03437
Total Non-AMI Meters	41,061
Total Estimated AFY Saved due to Leakage	1,411.27
Customer Behavior	
FY2020 "Over-Budget" Usage (Tiers above Water Budget) (AF)	3,754.53
Assumed 10% Savings Due to Early Warning System and Real-time Data Access	375.45
Total Estimated AFY Savings	1,787**

*Per DWR's "California Single-Family Water Use Efficiency Study" (2011)

*Conversion to AF 325851.43189

**Rounded from 1,786.72

b. How have current distribution system losses and/or the potential for reductions in water use by individual users been determined?

Losses are based upon the 2011 DWR “California Single-Family Water Use Efficiency Study” and the total number of AMI meters (41,061) to be installed. The “Over-Budget” usage calculation is based on the FY2020 over budget usage of 3754.53 AFY.

c. For installing end-user water service meters, e.g., for a residential or commercial building unit., refer to studies in the region or in the applicant’s service area that are relevant to water use patterns and the potential for reducing such use. In the absence of such studies, please explain in detail how expected water use reductions have been estimated and the basis for the estimations.

The City’s Water Loss Audit conducted in FY2021, identified the importance of establishing ongoing mechanisms for customer meter accuracy testing, active leakage control and infrastructure monitoring. With a validity score of 70 out of 100, the City was tasked with establishing long-term apparent and real loss reduction goals. In an effort to reduce water loss and enhance water resiliency, the City identified the installation of AMI as being of utmost importance. Current drought emergencies underscore the need to act now.

Significant AMI system benefits:

- Improving metering operations - by switching from outdated volumetric meters to next generation AMI “smart” meters that allow for two-way communication between the meter and the City, and between the meter and the Utilities customer;
- Improving accuracy of the metering system - by providing “real-time” results that can be accessed and reviewed 24/7 by water customers and City staff;



- Creating significant water savings - by immediate awareness/intervention of water leaks, theft or tampering that currently can take a month or more to identify;
- Providing resources for commercial, school, industrial, and landscape clients to better manage their water usage and reduce costs on billing, translating into water savings from the City's largest water users by volume;
- Assisting the City in complying with State mandates for environmental and energy savings associated with fuel-intensive vehicle trips to commercial and residential clients to perform monthly meter readings;
- Reducing reliance on imported water resources through water conservation gains associated with installing AMI meters; and
- Accounting for water losses that are currently unable to be billed to clients due to inaccurate meters that will help the City capture lost revenue.

d. Installation of distribution system meters will not receive points under this criterion.

Not applicable

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

The City is currently evaluating meters produced by Neptune, Sensus, Badger, and Aclara. Once the expert consultant provides their recommendations, the type of AMI meter will be determined. The ultimate decision will be made by the City, based on a balance of quality and cost.

f. How will actual water savings be verified upon completion of the project? The City will determine actual water savings by reviewing month end status reports across the life of the AMI project. The City will determine usage rates based on AMI data along with Corona Utilities Department reports, water bills, and other sources to determine the actual amount of water that is used and conserved post installation of the AMI meters. This will provide the City with an accurate accounting of the water savings that can be attributed to the AMI Project.

Evaluation Criterion B- Renewable Energy

Evaluation Criterion B.2: Increasing Energy Efficiency in Water Management

Residential water usage accounts for 50 percent to 85 percent of urban water use. Using water more efficiently may be the single best way to reduce water-related energy costs, because, in addition to saving the on-site energy, efficiency reduces the upstream energy required to extract, convey, treat, and distribute water, as well as the downstream energy needed to treat and dispose of wastewater.² By reducing water consumption and water losses, this project harbors the potential to reduce energy consumption expended to import water into the basin. The City estimates that the combined energy savings from the above actions will be approximately 2,503,734 kWh per year, assuming conservation of up to 1,787 acre feet per year.

² R. Cohen. September/October 2007. The Water-Energy Nexus.



Total Estimated Energy Savings. The cumulative potential energy savings from this project as noted above can be used to quantify a public benefit from this project.

**kWh required for importation of water from the Colorado River =
2000 kWh/AFY x 1,787 AFY saved of Colorado River water = 3,574,000 kWh**

Source: watereducation.org/California-water101

• *How will the energy efficiency improvement combat/offset the impacts of climate change, including an expected reduction in greenhouse gas emissions?* With the addition of AMI, there will be an expedited reduction in greenhouse gas (GHG) emissions. With current manually read meters, staff must drive to each meter, on a monthly basis, to collect the data. By eliminating the need to drive to collect the data, a reduction in GHG's will be achieved.

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

The project is not anticipated to result in reduction of ground water pumping. The reductions will be from fewer purchases of imported Colorado River water, which is energy intensive and costly. In 2020, the City purchased 16,743.1 AF from the Colorado River at a variable cost per AF of \$777.68. The need to purchase water is not only expensive in terms of total dollars, but also costly in terms of energy consumption required to transport water 400 miles over the mountains into Southern California. Every acre foot of water conserved at its local source correlates not only to direct monetary and water savings, but also to energy savings that benefits the entire state.

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

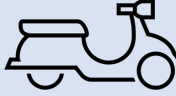



Based on the point of diversion from the Colorado River, as described above.

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

No. Water treatment facilities use energy to pump and process water, and this energy demand is expected to increase as treatment capacity expands, new water quality standards are adopted, and new treatments are developed to improve the taste and color of drinking water².

• *Will the project result in reduced vehicle miles driven, in turn reducing greenhouse gas emissions? Please provide supporting details and calculations.* Yes. Currently gas-powered scooters travel approximately .056 miles per meter read, and currently read 41,061 meters monthly. The estimated miles driven to read all meters is 2,299.42 miles per month. This equates to 27,593 miles per year. The average scooter emits about 200 grams of CO₂ per mile. Given this information, it can be reasonably expected that 459,884 grams of CO₂ will be eliminated from tailpipe emissions on a monthly basis by eliminating the need to manually read water meters.



Table 3: Breaking the Cycle Corona Meter Reading Vehicle Miles and Greenhouse Gas Emissions			
			
.056 miles per meter required to drive gas-powered scooters to take monthly readings	41,061 meters In Corona, CA to be read each month	2,299.42 VMT Vehicle Miles Traveled per month to read all Corona's meters	459,884 grams of Carbon Dioxide to be reduced by eliminating VMT for monthly meter reading*

* The average scooter emits about 200 grams of CO₂ per mile.
<https://www.theverge.com/2019/8/2/20751610/scooters-electric-dockless-carbon-emissions-study-life-cycle-analysis>

• Describe any renewable energy components that will result in minimal energy savings/production (e.g., installing small-scale solar as part of a SCADA system).
 Not Applicable

Evaluation Criterion C- Sustainability Benefits (20 points)

Enhancing drought resiliency

• Does the project seek to improve ecological resiliency to climate change?

Yes. The project will 1) protect important surface waters from the Colorado River and Delta Bay Estuary, 2) protect all plant and animal species that live in those ecosystems.

In 2021, Reclamation declared the first ever shortage on the Colorado River basin. Extreme and accelerating drought conditions are drastically depleting water levels in the Colorado River Basin, which supplies water from Rocky Mountains snowfall runoff to 40 million people from Wyoming to Mexico. The record lows prompted historic action when federal officials declared the river's first-ever water shortage and mandatory cuts in accordance with the 2007 Colorado River Operating Guidelines³. According to the AWWA, even with the vulnerability of the river, the Colorado River can still be a model for resiliency and sustainability but not without a concerted and significant effort by stakeholders in the region. While stakeholders have been developing solutions and adapting to a drier future, we must all accelerate the pace. We need short-term solutions to stabilize the system while also working on longer-term solutions. These include reducing water use across sectors, modernizing infrastructure, improving forest health, enhancing natural infrastructure, using technology to bolster groundwater levels, and improving

³ American Water Works Association. August 26, 2021. <https://www.awwa.org/AWWA-Articles/us-declares-first-ever-colorado-river-water-shortage>



stream and river health. With the incorporation of AMI in the City, water will be conserved, thus keeping the water within the Colorado River and Delta Bay.

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

Yes. The AMI project will save up to 1,787 AFY. Using less water and mitigating water loss will assist the City in keeping the water in the system for longer periods of time. It is anticipated that the project will allow Corona to reduce its reliance on Colorado River water which will then be available to other users.

- *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).*

Yes. The most acute and severe impacts of drought so far are on California’s freshwater habitats and forested lands and on the biodiversity they support. These impacts stem, in part, from the severity of the drought and its combination of low flows and heat. More than a century of water and land practices have increased vulnerability by undermining the natural capacity of these ecosystems to handle occasional droughts.⁴ The City obtains an estimated 51.1% of its water supply from the Colorado River, and 3.7% from the State Water Project. The proposed AMI project will help accelerate the recovery of a minimum of three identified endangered fish species and one threatened species that are federally recognized by the U.S. Department of Fish and Wildlife. They have also been listed as endangered in the Colorado River and the California Bay Delta Estuary. The AMI project will help the City of Corona save approximately 1,787 AFY of water. By reducing water use, the City will place less demand on imported water and as a result will help preserve the habitats of these endangered fish species and contribute to the overall improvement of the fish populations. The proposed AMI project protects and expands potential habitats which will benefit at least four federally recognized endangered/threatened species associated with importing water into the City as follows:

Endangered Species Impacted by Imported Water to the City of Corona		
Species	Status	Subject to a Recovery Plan
The Colorado Pikeminnow	Endangered- Federally-Recognized by the U.S. Fish and Wildlife Service	Yes. Colorado Pikeminnow Spotlight Species Action Plan 2009.
Humpback Chub	Endangered- Federally-Recognized by the U.S. Fish and Wildlife Service	Yes. Humpback Chub 2nd Revised Final Plan 1990.
Razorback Sucker	Endangered- Federally-Recognized by the U.S. Fish and Wildlife Service	Yes. Razorback Sucker - Recovery Goals 2002.
Delta Smelt	Threatened- Federally-Recognized by the U.S. Fish and Wildlife Service, Endangered- Recognized by CA State	Yes. Delta smelt Spotlight Species Action Plan 2009.

⁴ E. Hanak et al., Managing California’s Water: From Conflict to Reconciliation (PPIC, 2011)



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

In addition to decreasing water demand that will assist in further protecting the identified species above, incorporating AMI will allow for more efficient use of water. When reservoir water levels decline and ground water tables drop, water supplies, human health, and the environment are put at serious risk. Less water going down the drain means more water available in the lakes, rivers and streams that we use for recreation and wildlife use to survive. Using water more efficiently helps maintain supplies at safe levels, protecting human health and the environment.⁵

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

Yes. In addition to water savings, the ability to better manage water will occur. The approximate amount of water that will be **better managed** is 30,920 AF, which is the amount that is currently conveyed through the 41,061 existing meters. This total water amount is directly tied to the outdated direct read meters in the City. The proposed project is estimated to **better manage** approximately 95.6% of the City’s annual water supply calculated and described as follows:

Estimated amount of water better managed:	30,920 AFY
Average annual water supply:	32,338 AFY
Calculation:	30,920 divided by 32,338 = <u>95.6%</u>

This project is estimated to **conserve** approximately 5.5% of the City’s annual water supply, calculated as follows:

Average annual water supply:	32,338 AFY
Estimated water conserved as result of project:	1,787 AFY
Calculation:	1,787 as a percentage of 32,338 = <u>5.5%</u>

Improved water management is a cornerstone of AMI systems. By installing an AMI system, the City will eliminate the need for time consuming meter reading completed manually by a consultant or staff member and lower the risk of human error in reporting. With AMI meters, real-time data is immediately available 24/7 simultaneously to City staff and consumers. This eliminates water loss issues through alerts that help the City respond to problems immediately, reducing safety hazards and improving overall customer satisfaction. Adjustments can also be made for water use during peak problem times, such as staged alerts, seasonally high usages, or droughts. The City will be able to closely monitor its largest users and request that they adjust their water usage for a particular time period to reduce burden on the water supply.

Taking proactive management approaches to respond to current and future challenges, diligent planning is necessary to find adaptable solutions that build resiliency and address water supply and demand imbalances.⁶

⁵ <https://www.epa.gov/watersense/how-we-use-water>

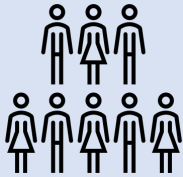

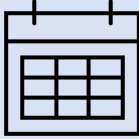
⁶ U.S. Department of the Interior. Colorado River Basin: SECURE Water Act Section 9503(c) Report to Congress. Bureau of Reclamation. March 2021.



Addressing a Specific Water and/or Energy or Sustainability Concern(s)

- Explain and provide detail of the specific issue(s) in the area that is impacting water sustainability, such as shortages due to drought and/or climate change, increased demand, or reduced deliveries.

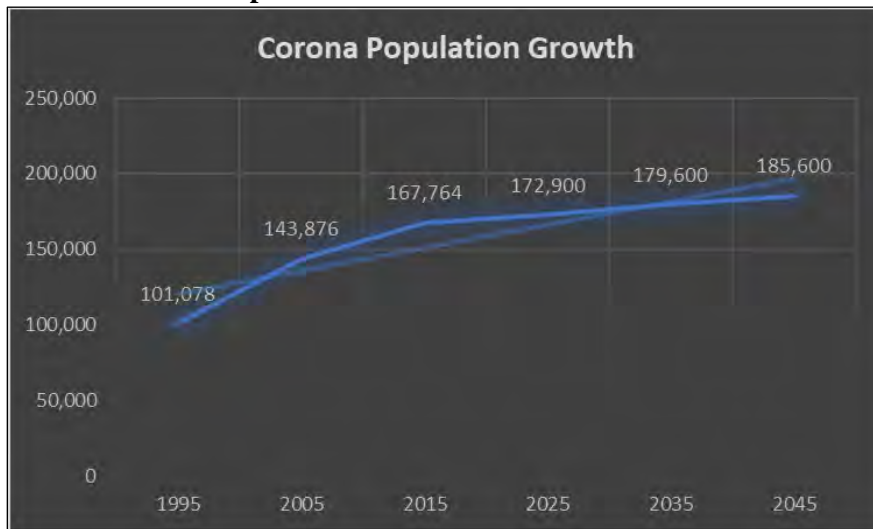
The project addresses a critical water shortage and drought emergency in California.

Table 4: California Drought by the Numbers		
		
37.3 million people are Impacted by the Drought	58 Counties USDA disaster designations	2nd Driest Year (2021) In history

Source: [Drought.gov/states/California#](https://drought.gov/states/California#)

Current issues in Corona that are impacting water sustainability are increased demand and drought. Table 5 provides a snapshot of Corona’s population in 1990 and the projected growth through 2045. With this increased growth, comes increased demand. In order for the City to meet the water demand of the population increase, measures will need to be implemented to reduce losses and conserve water now.

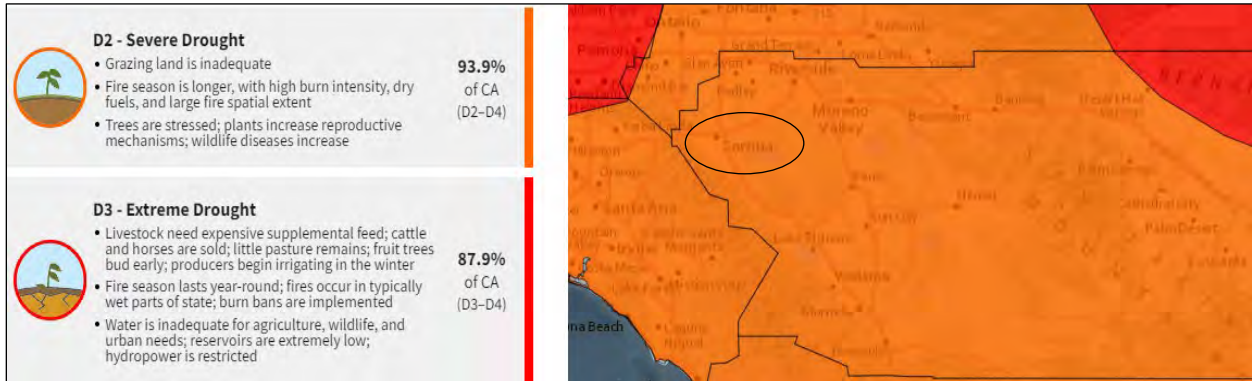
Table 5: Corona Population Growth





Drought is currently a resiliency challenge and climate change will increase the magnitude, frequency, and locations of impact. As indicated in Figure 4, the City is identified as being under severe drought. This identification, coupled with the increase in population will inevitably place a burden on the water supply available to the City.

Figure 4: City of Corona Drought Designation- Severe D2

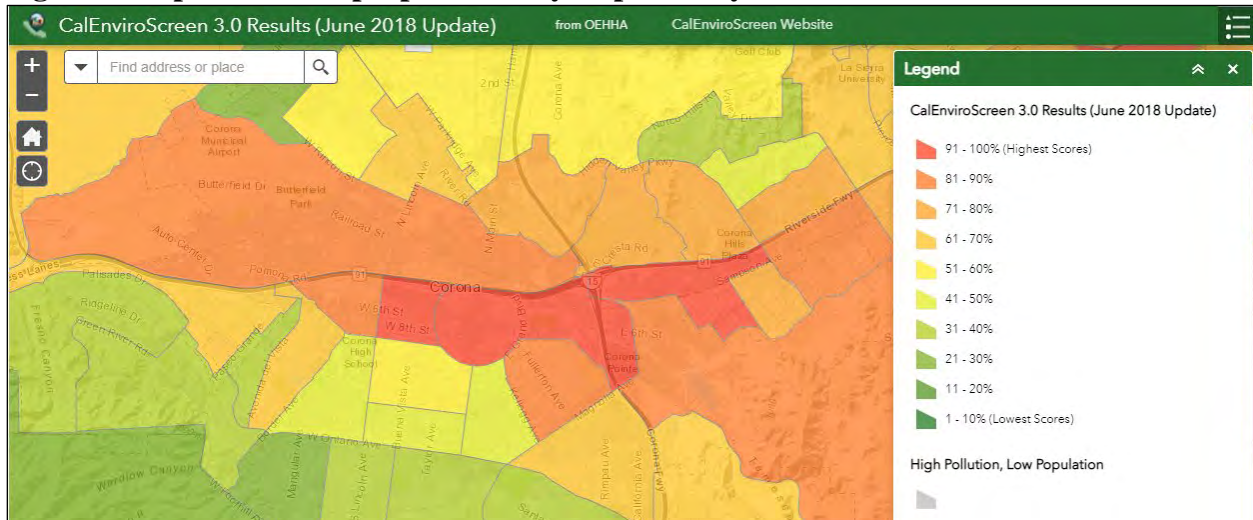


Source: <https://www.drought.gov/states/california>

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

Air pollution continues to be an important public health concern. Several air pollutants, coming out of a variety of industrial processes, impact the health of California residents. Air monitoring shows that over 90 percent of Californians breathe unhealthy levels of one or more air pollutants during some part of the year.⁷ Figure 5 illustrates areas in Corona that are disproportionately impacted by multiple sources of pollution and with characteristics that make them more sensitive to pollution.

Figure 5: Populations Disproportionately Impacted by Pollution in Corona



⁷ CA.gov



Red-shaded areas are most impacted by pollution in Corona and among the worst conditions in the state (top 10 percentile). The project directly addresses GHG reductions by reducing vehicle miles/emissions which in turn slows the pace of climate change.

• *Please describe how the project will directly address the concern(s) stated above. For example, if experiencing shortages due to drought or climate change, how will the project directly address and confront the shortages?*

More efficient water use begins with individuals, in the home and place of work. Heating and pumping water requires chemicals and energy. When we waste less water, we conserve fuel and reduce the pollution generated by burning fuel and treating water with chemicals⁸. California is particularly vulnerable: the water sector is the largest energy user in the state, estimated to account for 19 percent of the total electricity consumed. Reducing water consumption saves energy because less water needs to be treated and pumped to end users. Moreover, when energy use is reduced, water is saved because less is needed in the operation of power plants⁹. The project eliminates emissions of CO₂ that currently occur during manual meter reading.

• *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.* Conserved water will be used to address shortages that impact diversions or reduce deliveries.

• *Indicate the quantity of conserved water that will be used for the intended purpose(s).* The upgrade to AMI in Corona will have the benefit of saving up to 1,787 AFY, expanded over 40 years (the estimated project life) will bring that potential savings to a total of 71,480 AF. It is anticipated that 100% of the conserved water will be used for its intended purpose. With the ability to identify and mitigate potential leaks, over usage, and/or theft, water will remain within its source of origin until there is the need to use it.

Other Project Benefits.

(1) Combating the Climate Crisis:

• *Does this proposed project strengthen water supply sustainability to increase resilience to climate change?*

Yes. Disrupted weather patterns that cause more extreme severe weather events and unpredictable water availability, is the result of climate change. According to the EPA adaptation strategies for climate impacts on water utilities, an effective and low-cost method of meeting increased water supply needs is to implement water conservation programs that will cut down on waste and inefficiencies. Effective conservation programs in the community include those that provide rebates or help install water meters. With the addition of AMI throughout the entire City, water supply sustainability will assist in increasing resiliency to climate change through three major water sources: The Colorado River, Temescal Groundwater Subbasin and the SWP.

For decades, the City has been a steadfast steward of groundwater resources in the Temescal Groundwater Subbasin, actively managing groundwater to protect water quality and maintain a reliable and sustainable water supply. For Corona and other water agencies, it is becoming more

⁸ <https://www.epa.gov/p2/pollution-prevention-tips-water-conservation>

⁹ NRDC: Water Efficiency Saves Energy – Reducing Global Warming Pollution Through Water Use Strategies.



and more difficult to ensure long-term groundwater sustainability, with climate variability, growth in urban water use, availability and cost of imported water, and other factors. With that, sustainable management of the Colorado River, Temescal Basin and the SWP is critical to local water supply reliability.

- *Will the proposed project establish and utilize a renewable energy source?*

Not Applicable. California is requiring utilities to secure 60 percent of their electricity from renewable sources by 2030. Southern California Edison, Corona’s primary energy provider says 48 percent of its portfolio is currently carbon free. So, the project indirectly uses renewable energy as California takes a pro-active stance to move toward renewable energy.

- *Will the project result in lower greenhouse gas emissions?* Yes. The City updated its Climate Action Plan¹⁰ (CAP) in 2019. The CAP identifies energy used for water production, treatment and transmission as a contributor to greenhouse gas (GHG) emissions and recommends water conservation to reduce the impact. Reduced water use will also assist in managing water availability, which may be impacted by the frequency and intensity of droughts and increased temperatures. Impacts to water availability are not quantified in the CAP.

In addition, previous meter readings required City employees to drive from destination to destination to manually read the water meters. This additional manpower and required driving added to greenhouse gas emissions. As noted earlier, the City estimates that 27,593 miles traveled per year will be eliminated with AMI data transmission. With the installation of AMI, an intended outcome is lower greenhouse gas emissions. In addition, the pumps and necessary equipment used to transport the water needed for the City will decrease with the incorporation of AMI, thus further reducing greenhouse gas emissions.

(2) Disadvantaged or Underserved Communities:

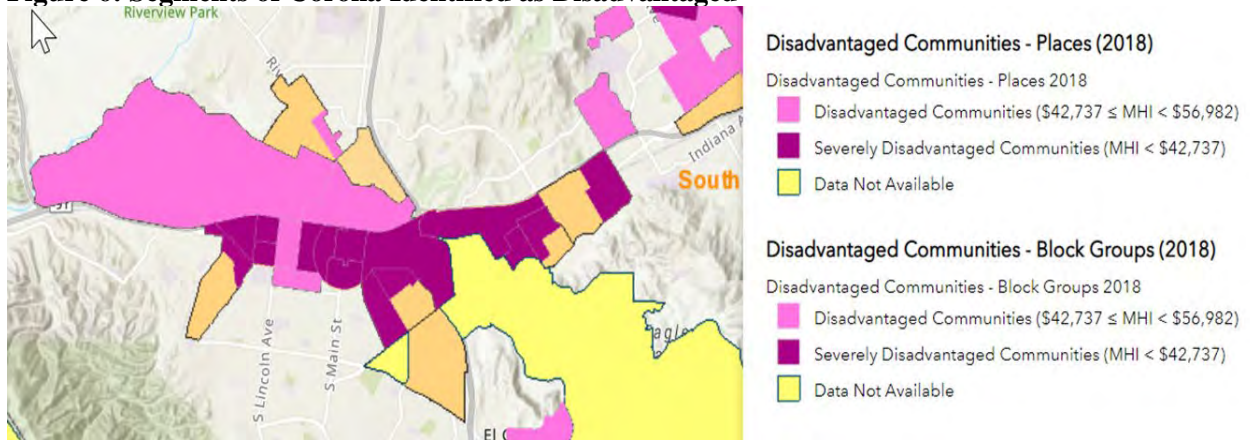
- *Does the proposed project directly serve and/or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, new renewable energy sources, or economic growth opportunities.*

Yes. The proposed project will directly and meaningfully benefit disadvantaged, low-income communities. As noted in the Bureau of Reclamation’s *Overview of Disadvantaged Communities and Native American Tribes in the Santa Ana River Watershed*, residents living in severely disadvantaged or disadvantaged communities are often disproportionately impacted by high infrastructure costs, poor water quality, and failing septic systems. The City wants to ensure that all community members, especially those with fewer resources, have access to information that can teach them how to proactively save money and precious water resources via water conservation and leak detection practices. With the new AMI management system, both the customer and the City will be alerted to leaks or potential problems, giving everyone the ability to react as quickly as possible to mitigate losses and conserve our invaluable water resources.

¹⁰ <https://www.coronaca.gov/home/showpublisheddocument?id=18422>



Figure 6: Segments of Corona Identified as Disadvantaged

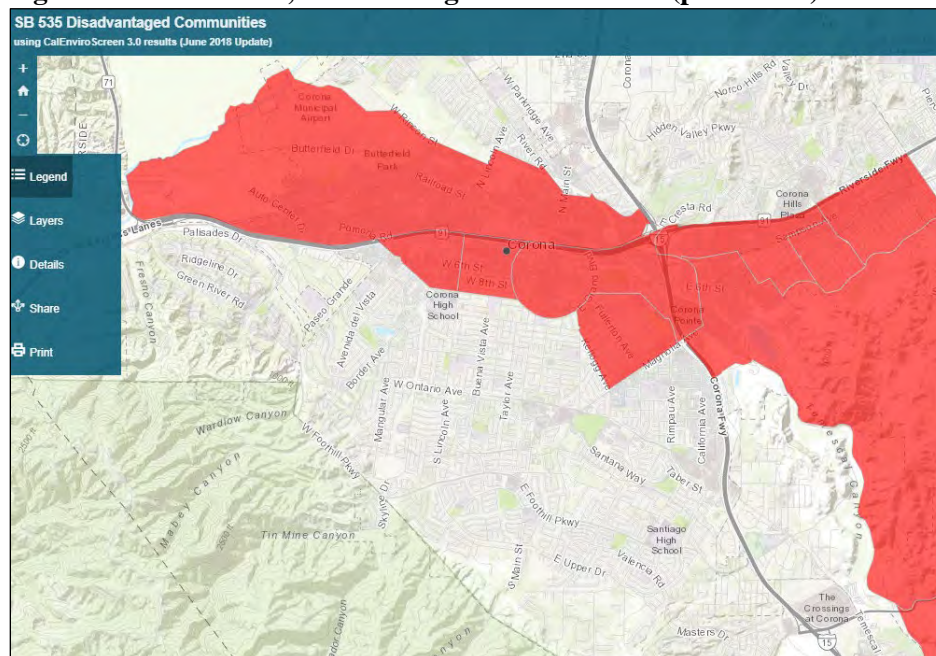


The California Department of Water Resources Disadvantaged Community mapping tool identifies large segments of Corona as either severely disadvantaged (magenta areas) or disadvantaged (pink areas). <https://gis.water.ca.gov/app/dacs/>

• If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the disadvantaged community definition in Section 1015 of the Cooperative Watershed Act, which is defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the State, or the applicable state criteria for determining disadvantaged status.

While the City, as a whole, cannot be characterized as disadvantaged, there are 9 census tracts that are identified as being disadvantaged. See Figure 7 below. The 41,061 meters that need to be replaced represent 97% of the total meters in the City. This project will, without a doubt, benefit these disadvantaged populations.

Figure 7: Low-Income, Disadvantaged Communities (per SB535)





- *If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.*

Corona’s upgrade to AMI will benefit all members of the community, regardless of race, ethnicity, religion, income, geography, gender identity, sexual orientation, and/or disability. With the AMI upgrade, the identification of leaks, inaccurate meter readings and potential theft of water will benefit all citizens and businesses within the City. With the replacement of 41,061 (97%) meters, multiple census tracts, including those individuals located in underserved communities, will benefit from this project. Having reliable, affordable water is especially critical to disadvantaged communities. The project provides enhanced water management which will allow Corona to pass savings on to customers to ensure greater water security for the future.

(3) Tribal Benefits:

- a. Does the proposed project directly serve and/or benefit a Tribe? Will the project increase water supply sustainability for an Indian Tribe? Will the project provide renewable energy for an Indian Tribe?*

Not applicable

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

Not applicable

(4) Other Benefits:

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

No. However, through this project the City will rely less on importing water from the Colorado River, thus benefiting neighboring cities and states that depend on this water source as well. By reducing Colorado River water consumption there will be an increased sustainability and flexibility of use of this resource in the future.

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

Yes. The project will benefit multiple sectors: residential, industrial, commercial, municipal, and environmental. Residential, industrial, municipal, and commercial customers will see the benefit through their monthly billing statements. With the identification of leaks, over usage, and/or theft, water bills will be expected to decrease. Environmental benefits include the water conservation and tailpipe emission reduction. Water remaining within the Colorado River and the State Water Project will benefit the species that live and thrive in those areas. Water remaining within these water sources will assist in ensuring long-term water availability.



c. Will the project benefit a larger initiative to address sustainability?

Yes. Upgrading the identified meters to AMI is the final step to full implementation. Once complete, the City will be 100% AMI, which is over 41,000 meters.

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

The drought crisis in the Southwest threatens water supply and sustainability. The multitude of studies and reports about the impacts of climate change on western water and the Colorado River Basin increasingly come to parallel, or reach precisely the same conclusions: the future will be warmer and drier, with less water. The studies also show that the process of warming and aridification is happening faster than anticipated.¹¹ On Tuesday, October 19, 2021, the Governor of California extended the drought emergency declaration to eight additional counties, one of which is Riverside County.



Photo Credit: Climate Program Office

Evaluation Criterion D- Complementing On-Farm Irrigation Improvements (10 points)

Not applicable

Evaluation Criterion E- Planning and Implementation (8 points)

Subcriterion E.1— Project Planning

Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? Does the project address an adaptation strategy identified in a completed WaterSMART Basin Study?

The City’s 2020 Urban Water Management Plan includes the water conservation targets (Chapter 5) and water shortage contingency plans (Chapter 8). The project is directly aligned with these two chapters that outline adaptation strategies. Additionally, the project is aligned with the 2014 Water Use Efficiency Master Plan (Funded by the U.S. Bureau of Reclamation).

In 2012, the USBR completed the Colorado River Basin Water Supply and Demand Study. This study defined current and future imbalances in water supply and demand in the Colorado River Basin and the adjacent areas of the Basin States that receive Colorado River water. The study looked at the next 50 years and developed and analyzed adaptation and mitigation strategies to resolve those imbalances. As a result of this Study, the Moving Forward Effort was created. The opportunities and potential future actions identified in Moving Forward could help improve the long-term sustainability of the Basin resources and improve the resiliency of regions dependent on Colorado River water. Infrastructure Improvements was identified as being an opportunity.

¹¹ Neubecker, K. June 15, 2021. Science & the Sacred: the Duty of Water in the West. https://www.americanrivers.org/2021/06/science-the-sacred-the-duty-of-water-in-the-west/?gclid=CjwKCAjwn8SLBhAyEiwAHNTJbbrC3bkGiltskcEWL9Ry2ppi9YpALZJ0x-sbTeT8niCrvFtNHQzBSxoCdUAQAvD_BwE



To improve conveyance and distribution infrastructure and metering devices can reduce losses, reduce operation and maintenance costs, and facilitate other water-efficient investments.

Provide the following information regarding project planning:

(1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan or other planning efforts done to determine the priority of this project in relation to other potential projects.

California has long been at the forefront of water conservation, becoming the first state to adopt urban water use efficiency targets with the of the Water Conservation Act of 2009. In 2018, new landmark water conservation legislation was signed into law. Together, AB 1668 and SB 606 lay out a new long-term water conservation framework for California. This new framework is far-reaching for both the urban and agricultural sectors of California and represents a major shift in focus. Programs and initiatives are organized around four primary goals:

- (1) Use water more wisely
- (2) Eliminate water waste
- (3) Strengthen local drought resilience, and
- (4) Improve agricultural water use efficiency and drought planning¹²

Efficient water use is the most cost-effective way to achieve long term conservation goals and provide the water supply reliability needed to adapt to the longer and more intense droughts climate change is causing in California. Aligned with the necessity to use water more wisely, eliminate water waste, and strengthen local drought resiliency, the City's upgrade to AMI meters will assist with these mitigation efforts, thus causing this project to be a top priority in water conservation.

(2) Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s)

The AMI project is in direct alignment with the:

- Metropolitan Water District's 2020 Integrated Water Resources Plan, (IWRP)
<https://www.mwdh2o.com/planning-for-tomorrow/how-we-plan/integrated-resource-plan/>
 - The Plan supports IWRP's investigation of resources, policies, and investments needed to maintain reliable water supplies through 2045. Aging infrastructure and technological water advancements are two of the needed investments.
- Western Municipal Water District's 2020 Urban Water Management Plan
[https://www.wmwd.com/DocumentCenter/View/5433/Western-Final-Adopted-UWMP_20210630?bidId=;](https://www.wmwd.com/DocumentCenter/View/5433/Western-Final-Adopted-UWMP_20210630?bidId=)
 - The Plan supports Western's long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs.
- State of California Water Plan 2018 Update

¹² California Department of Water Resources:
<https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation>



<https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2018/Final/California-Water-Plan-Update-2018.pdf>; and

- The State of California Water Plan outlines metering as a top Best Management Practice (BMP) in Section 3: Urban Water Use Efficiency.

(3) If applicable, provide a detailed description of how a project is addressing an adaptation strategy specifically identified in a completed WaterSMART Basin Study or Water Management Options Pilot (e.g., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes).

The Colorado River Basin Study confirms there are likely to be significant shortfalls between water supply and demand. The Study issues a call to action to take initial steps, such as AMI, to meet the challenges ahead.

Subcriterion E.2— Readiness to Proceed

The AMI project is ready to proceed. The City is requesting Council authorization in November 2021 to award a contract to MeterSYS to assist with planning, metering system selection, network needs and procurement. These steps will ensure that the City will be ready immediately upon the grant agreement being executed. Matching funds have already been secured and appropriated in the budget for the project. Upon grant contract execution, the local funds will be available to be used. Assuming a grant agreement is executed in September 2022, the City will be able to develop a bid process for the project effective immediately and will have the entire project completed in a 33-month period, or by September 2025.

Task 1: Grant Agreement with BOR

Task 1.1: Grant Execution. Once notified, the City will execute a Grant Agreement with BOR. CEQA and NEPA compliance will be finalized at this time with the filing of CEQA exemption and NEPA exclusion.

Task 1.2: BOR Kick-Off Meeting

Task 1.3: Procure Program Management Consultant. An RFP will be released for a project management consultant that will manage the project through installation, implementation, through completion of the AMI upgrade.

Task 2: Meters and Contractor Procurement

Task 2.1: Procure AMI Meters. Based on the product analysis, the most appropriate meters will be purchased.

Task 2.2: Prepare Bid Package for AMI Installation Contractor

The Contractor will be selected through a formal bid process.

Task 2.2: Bidding, Award, and Execute Contract

An experienced Contractor will be selected, and contracts will be executed.



Task 3: Project Kick-Off

Kick-Off Meeting

The City will hold a kick-off meeting with the selected contractor to review the schedule (and make refinements, if necessary), on the detailed project management plan and expectations of each vendor, and or subcontractor.

Task 4: Water Customer Outreach

The City will use the AMI project as a tool to teach the importance of water conservation and educate residential and commercial clients about how to take a proactive role in their water usage by taking advantage of the computerized interface and educational tools the AMI system will provide. The City and/or Contractor will notify all customers scheduled for meter replacements and inform them about this important system upgrade and provide user-friendly materials/information about the use and benefits of the new system, along with scheduled dates when customer meters will be replaced. Customer outreach will be multi-faceted, including direct mailings, customer telephone hotline, flyers in both English and Spanish, news articles in the local *Inner Circle News* newspaper, and social media postings to the City's Facebook and Twitter accounts.

Task 5: Installation and Training

5.1: Vendor Installation of Server and Software

Contractor will install and configure server software to manage network and meter data remotely.

5.2: Contractor Installation of Meters

The project will install 41,061 smart water meters in the service area over the 36-month project period. AMI installation will be integrated into the City's existing automated water management system, and will include hourly meter data monitoring, leak sensor detection, and IT support for any troubleshooting. The system will utilize an installation management process that is fully automated and will eliminate any information needing to be captured manually.

5.3: Staff Training

The vendor will provide an extensive onsite training to City staff, to include installation, operation and maintenance of the meter units, overview and operation of the software management system and data collection capabilities, and training on developing and analyzing reports.

6: Grant Administration, Reports and Reimbursements

6.1 Grant Administration

The City Utilities Department staff will provide administrative oversight for the project. Activities will include reviewing and executing the grant agreement and contract, preparing for and attending meetings with the Bureau of Reclamation (BOR), maintaining all grant and project files, preparing and processing requests for reimbursements, SF-425 federal financial reports and progress reports semi-annually, and the final report, preparing updates for the City Council, ensuring grant compliance, completing and submitting semi-annual interim performance reports (to include accomplishments and milestones met and the status of the schedule and timeline).



6.2 Project Completion and Grant Closeout

A final performance report (to include a summary of the objectives met, benefits achieved, long-term resiliency from project, collaboration among partners, and photos), coordinating any audit requests or examination of records by BOR or independent auditors, and maintaining all records for at least three years after the project is closed out.

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

The City of Corona does not anticipate that permits will be required for the AMI Project. This is due to the fact that all meters will be installed in the place of existing City of Corona water meters. The project is expected to be CEQA exempt and NEPA excluded.

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

Based on the prior installations, Corona is well qualified to manage and complete the project. Prior to the grant performance period the City is hiring a consultant to evaluate the system and select the best AMI equipment to install and integrate with existing systems. This will ensure Corona is ready to begin the project and procure equipment expeditiously when the grant contract is executed.

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

Not applicable



PROJECT TIMELINE												
	2022		2023				2024				2025	
	Quarter		Quarter				Quarter				Quarter	
Task	3	4	1	2	3	4	1	2	3	4	1	2
1: Grant Agreement with BOR												
1.1 Execute Grant Agreement with BOR/ NEPA Compliance												
1.2: BOR Kick-Off Meeting												
1.3 Identify Program Management Consultant												
2: Meters and Contractor Procurement												
2.1: Procure AMI Meters from identified Vendor												
2.2: Prepare Bid Package for AMI Installation Contractor												
2.3: Bidding, Award, and Execute Contract												
3: Kick-Off Meeting												
4: Water Customer Outreach												
5: Installation and Training												
5.1: Contractor Installation Server and Software												
5.2: Contractor Installation of Meters												
5.3: Staff Training												
6: Grant Administration, Reports and Reimbursements												
6.1 Grant Administration												
6.2 Project Completion and Grant Closeout												

Evaluation Criterion F- Collaboration (6 points)

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

Yes. The AMI project has widespread support from stakeholders throughout the City and region. These collaborative partners include the following as evidenced by letters of support:

- **Santa Ana Watershed Project Authority** – The AMI project is in direct alignment with the *One Water One Watershed* (OWOW) sustainability initiative that emphasizes water-use efficiency as a key element to long-term sustainability for water in the region.
- **Western Municipal Water District** – Reducing reliance on State Water Project resources and Colorado River Water are primary objectives of Western Municipal Water District. The AMI project will help reduce the region’s dependency on imported water and support Western in its commitment to provide approximately 125,000 AFY of water to a region of more than 853,000 people.



- **Riverside County Supervisors** – Meeting state mandates for water conservation is a regional priority and currently an active part of planning activities for county supervisors. The AMI project is in direct alignment with many regional water-use efficiency activities and will help serve as a model for neighboring cities in the region. The County Supervisors will promote the AMI upgrade via social media.
- **42nd District Congressman** - Understanding the importance of water conservation, the addition of AMI in the City falls in line with Congressman Calvert’s priorities of creating long-term solutions to California’s water challenges.

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

Through these collaborations the City has the ability to expand the knowledge of the inclusion of AMI. With this expanded reach, widespread support from the residents and businesses can be quickly achieved. With the City conducting such a massive overhaul of meters it is anticipated that neighboring cities and states could reach out for technical assistance and best practices during their upgrade to AMI. Realtime water use feedback to consumers is proven to help increase awareness and reduce water use.

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

The City is expected to save up to 1,787 AFY with full AMI implementation. These results encourage and incentivize other communities to adopt AMI. The City will be happy to assist and share calculations and guidance for future projects.

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

See Attached

Evaluation Criterion G- Additional Non-Federal Funding (4 points)

State the percentage of non-Federal funding provided using the following calculation:

$$\text{\$20,685,603 Non-Federal Funding} / \text{\$22,685,603 Total Project Cost} = \text{91.18\% Non-Federal Funding}$$

Evaluation Criterion H- Nexus to Reclamation (4 points)

• *Does the applicant have a water service, repayment, or O&M contract with Reclamation?*

Yes. The City of Corona receives approximately 51.1% of its imported water from the Colorado River Aqueduct, which is a Bureau of Reclamation facility. The proposed AMI Project will reduce the City’s reliance on imported water supplies and help contribute to the conservation of the Bureau of Reclamation water supplies.

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

Not Applicable



• *Will the proposed work benefit a Reclamation project area or activity?*
Yes. The project supports the USBR Colorado River Basin Plan.

• *Is the applicant a Tribe?* No

Performance Measures

The City will use the following performance measures to evaluate the Advanced Metering Infrastructure Project after project completion as follows:

- 1) ***Amount of water conserved.*** City staff will review water usage reports for the AMI service territory for 2021 directly compared with usage post AMI meter installation after 2024. This will allow the City to evaluate the actual amount of acre feet per year saved as directly correlated with the AMI project installation.
- 2) ***Amount of water losses mitigated/unaccounted for water recuperated.*** City staff will review water usage reports as well as review water bills for the AMI project service territory to ascertain the reduction in water losses and unaccounted for water that has been recuperated in relation to the AMI Project.
- 3) ***Amount of financial savings.*** The City will compare staff/metering contract costs with previous years to ascertain budget savings associated with metering staff and contractors reduced as directly related to the AMI project. Currently the City pays \$1.125 (expected to increase to \$1.14/meter 7/1/2022) per meter per month for meter readings performed by contractors. It is estimated that more than \$550,000 in savings per year will be actualized as a result of eliminating 41,061 meter readings per month.

\$1.125/meter x 12 months x 41,061 meters = \$554,323.50/year savings

Financial savings and more efficient water management are critical to a fiscally sound utility and sustaining affordable, reliable provision of water in the future. Ultimately, the project is a proactive approach to accelerate the per person, per gallon water use reductions that must be achieved in California sooner than anticipated due to accelerating climate changes/drought.

~ End of 50-page maximum narrative ~



SECTION 2: PROJECT BUDGET

Funding Plan and Letters of Commitment

The project total for the AMI upgrade in Corona is \$22,685,603. The City is requesting \$2,000,000 from BOR to support the AMI upgrade. The non-Federal share of the project costs, \$20,685,603, will be obtained through the City. The City of Corona has authorized funding from the City's AMI Meter Replacement Capital Improvement Project Funds for its contribution (91.18 percent of the project cost). This money is available immediately, with no time constraints attached to the funds.



City of Corona Advanced Metering Infrastructure Project
 WaterSMART: Water and Energy Efficiency Application FY 2022

Budget Proposal

City of Corona						
Proposed Budget (3 YEARS)*						
Budget Item Description	Computation			Corona Cost-Share	BOR Grant	TOTAL COST
	\$/Unit	Unit	Quantity (over 3 Yrs)	\$20,685,603	\$2,000,000	\$22,685,603
Salaries and Wages and Fringe						
Not applicable						
Fringe Benefits						
Not applicable						
Travel						
Not applicable						
Equipment						
AMI Software	\$100,000.00	Lump Sum	100%	\$100,000	-	\$100,000
Equipment Total				\$100,000	\$0	\$100,000
Supplies and Materials						
Not applicable						
Contractual/Construction: Purchase and Installation of Water Meters (n=41,061)						
5/8" Fireline meter	\$379.17	Each	1,263	\$16,621,686	\$1,999,000	\$478,895
5/8"	\$379.17	Each	3,931			\$1,490,529
3/4"	\$397.34	Each	27,322			\$10,856,238
1"	\$474.87	Each	5,805			\$2,756,648
1.5"	\$736.54	Each	1,351			\$995,066
2"	\$1,271.99	Each	1,302			\$1,656,126
3"	\$3,543.39	Each	50			\$177,169
4"	\$4,754.80	Each	25			\$118,870
6"	\$7,177.63	Each	10			\$71,776
8"	\$11,054.16	Each	1			\$11,054
10"	\$8,313.94	Each	1	\$8,314		
Installation Costs (Contractor)	\$2,685,543.00			\$2,685,543	-	\$2,685,543
Project Management (Contractor)	\$1,278,373.73			\$1,278,374	-	\$1,278,374
Contractual/Construction Total			41,061	\$20,585,603	\$1,999,000	\$22,584,603
Environmental/Regulatory Compliance						
NEPA Compliance document to be completed by BOR					\$1,000	\$1,000
Third-Party Contributions						
Not applicable						
Other						
Not applicable						
Indirect						
Not applicable						
Total Project Costs				\$20,685,603	2,000,000	\$22,685,603
Percentage Contribution by Funding Source				91.18%	8.82%	100.00%

*The City is in the process of hiring a consultant to provide an analysis of our system and a recommendation for the best meters and software for our situation. Based upon this analysis and the bid results for installation and project management, these costs have the potential to change.



Budget Narrative

Salaries and Wages:

All Corona staff time to manage the project and grant will be provided outside of the project budget.

Fringe Benefits:

Not Applicable

Travel:

Not Applicable

Equipment:

Software: The City will purchase the software needed to support the inclusion of 41,061 AMI meters. These costs are anticipated to be \$100,000.

Supplies and Materials:

Not Applicable

Contractual/Consultant:

Meters and Installation: The City will purchase the AMI meters from the most qualified supplier. A separate contract will be awarded to an installation provider. Given supply chain interruptions and inflation, Corona is prepared to cover cost overruns that exceed the current estimates. The City is currently in the process of hiring a consultant to provide an analysis of the system and a recommendation for the best meters and software that would best suit Corona. Based upon this analysis and the bid results for installation, these contracts will be awarded.

The estimated cost of meters are \$18,620,000

The estimated cost of installation is \$2,686,000

Project Management Consultant: The City will contract with an independent Project Management Consultant to run the AMI program. The Project Management Consultant will be responsible for day-to-day operations of the project and will serve as the primary liaison with BOR. The Consultant will manage the project budget and schedule and will be responsible for oversight of the selected AMI contractor. The Consultant will conduct the project kick-off meeting, conduct regularly scheduled meetings with the contractor, and develop and disseminate required performance reports to BOR.

The estimated cost of hiring a Project Management Consultant is \$1,278,373

Environmental/Regulatory Compliance:

As the lead Federal agency, BOR will be given \$1,000 to take the CEQA exemption and prepare the NEPA exclusion for this grant.

Third-Party Contributions:

Not Applicable

Other:

Not Applicable



Indirect:

Not Applicable

SECTION 3: ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

The project will be evaluated for CEQA and NEPA compliance upon grant award, and it is expected that the project will be designated a Categorical Exemption for the California Environmental Quality Act (CEQA) and a Categorical Exclusion for the National Environmental Policy Act (NEPA) because the project will result in minor retrofit activities and will utilize existing facilities.

- CEQA: The City expects the project to be classified as a Class I exempt project which consists of the “operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public and provide structures, **facilities, mechanical equipment**, etc.” (Section 15301, Existing Facilities, part b). Section 15301 states that “existing facilities” includes “...publicly-owned utilities used to provide electric power, natural gas, sewage, or other public utility services.”
- NEPA: The City expects the project to meet the definition of Categorical Exclusion: “minor construction activities associated with authorized projects which...merely augment or supplement...” and “maintenance, rehabilitation, and replacement of existing facilities...”

A Notice of Exemption will be filed after grant award and after execution of contract with Prime Contractor.

Deliverables will include:

- Approved and adopted CEQA documentation (Categorical Exemption); and
- Approved and adopted NEPA documentation (Categorical Exclusion).

(1) Will the project impact the surrounding environment (i.e., soil [dust], air, water [quality and quantity], animal habitat, etc.)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

No.

(2) Are you aware of any species listed or proposed to be listed as a Federal endangered or threatened species, or designated Critical Habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

Not applicable.

(3) Are there wetlands or other surface waters inside the project boundaries that potentially fall under Federal Clean Water Act jurisdiction as “waters of the United States?” If so, please describe and estimate any impacts the project may have.

No.



(4) When was the water delivery system constructed?

Not Applicable.

(5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No.

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

No.

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

No

(8) Will the project have a disproportionately high and adverse effect on low income or minority populations?

No

(9) Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No

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

No, the project will entail removal of non-native and invasive weeds at the project sites.

SECTION 4: REQUIRED PERMITS OR APPROVALS

Applicants must state in the application whether any permits or approvals are required and explain the plan for obtaining such permits or approvals.

The City of Corona does not anticipate that permits will be required for the AMI Project. This is due to the fact that all meters will be installed in the place of existing City of Corona water meters. All project-related approvals will be handled by City staff and will be executed in a timely and efficient manner.



SECTION 5: LETTERS OF SUPPORT AND LETTER OF PARTNERSHIP



Santa Ana Watershed Project Authority

OVER 50 YEARS OF INNOVATION, VISION, AND WATERSHED LEADERSHIP

October 7, 2021

Ms. Camille Touton
Deputy Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Re: Water and Energy Efficiency Grant Program – City of Corona

Dear Ms. Touton:

The Santa Ana Watershed Project Authority (SAWPA) supports the City of Corona’s WaterSMART: Water and Energy Efficiency Grant application that seeks funds to expand their Advanced Metering Infrastructure (AMI).

SAWPA is a Joint Powers Authority with a mission to maintain a sustainable Santa Ana River Watershed. Our regional planning and leadership provides a model of collaboration and cooperation utilizing integrated solutions. The proposed AMI project will help the City of Corona conserve water resources through technological advancements in metering technology. It is also in direct alignment with our *One Water One Watershed* sustainability initiative that emphasizes water use efficiency as a key element to long-term sustainability for water in the region.

We encourage you to support the City of Corona in its effort to upgrade and install AMI meters in the City. Through these upgrades, early identification of leaks, theft, and other types of water loss and over usage will be identified and mitigated. SAWPA is committed to serving as a resource in this process and will be happy to provide data and information.

Sincerely,

Jeffrey J. Mosher
General Manager
Santa Ana Watershed Project Authority

Jasmin A. Hall
Chair
Inland Empire
Utilities Agency

Bruce Whitaker
Vice Chair
Orange County
Water District

Mike Gardner
Secretary-Treasurer
Western Municipal
Water District

June D. Hayes
Commissioner
San Bernardino Valley
Municipal Water District

David J. Slawson
Commissioner
Eastern Municipal
Water District

Jeffrey J. Mosher
General Manager



Craig D. Miller
General Manager

Mike Gardner
Division 1

Gracie Torres
Division 2

Brenda Dennstedt
Division 3

Laura Roughton
Division 4

Fauzia Rizvi
Division 5

October 13, 2021

Ms. Camille Touton
Deputy Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Re: WaterSMART: Water and Energy Efficiency Program- Application from City of Corona, CA

Dear Ms. Touton:

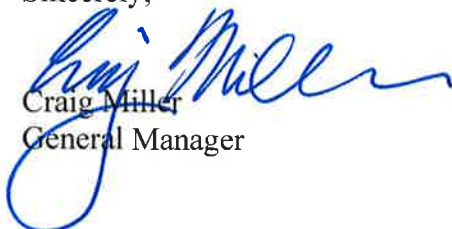
On behalf of Western Municipal Water District (Western), I encourage you to support the City of Corona's WaterSMART: Water and Energy Efficiency Grant. In 2012, the City of Corona was awarded funds to install a limited amount of Advanced Metering Infrastructure (AMI) in a subsection of the City. With the current BOR funds, the City intends to use the funds to install AMI in the remainder of the City. This effort will further help to reduce water usage by quickly identifying leakages and water over-usage in a timely and efficient manner, thereby translating into significant water savings.

Western serves roughly 23,000 retail and eight wholesale customers with water from the Colorado River, State Water Project, and groundwater. As a member agency of the Metropolitan Water District of Southern California (MWD), Western provides supplemental water to the City of Corona.

Converting from standard meters to AMI will help the City of Corona further reduce its reliance on State water supplies and directly aligns with Western's Water Conservation and Supply Shortage Ordinance that seeks to, "...effectively manage water demand through increased efficiency and conservation; assure the maximum beneficial use of District water supplies; and maximize efficient water use to avoid or minimize the effects of a water supply shortage to the greatest extent possible."

We look forward to working closely with the City of Corona as they implement the AMI project to ensure consistency with regional goals and best practices. We encourage your support of this important project and urge your favorable consideration.

Sincerely,


Craig Miller
General Manager



KAREN SPIEGEL
SECOND DISTRICT SUPERVISOR
BOARD OF SUPERVISORS



STAFF
PHIL PAULE, Chief of Staff
LILIANA ALLIN, Office Administration/Legislative Assistant
DEBORAH ROSE, Legislative Assistant
WENDELL BUGTAI, Legislative Assistant
MATTHEW MALDONADO, Board Assistant
BIANCA VASQUEZ, Youth Advisory Council/Legislative intern

October 22, 2021

Ms. Camille Touton
Deputy Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Re: City of Corona – Advanced Metering Infrastructure Program – Letter of Support

Dear Ms. Touton:

On behalf of the Riverside County Board of Supervisors, 2nd District, I am writing to support the City of Corona’s application for an Advanced Metering Infrastructure Program (AMI) to help create “smart” water savings solutions through technological advancements that will help conserve our region’s precious water resources.

This project will greatly help the City of Corona accurately track water usage in real-time for residential and commercial clients in the City of Corona. This will also help the Corona Utilities Department address issues such as water leakages or over usage immediately, thereby reducing water waste. A large portion of the City’s water losses are attributed to uncontrollable leaks that are not quickly or easily detectable with the current outdated metering system. At this time, the City is reliant on consumer calls for leaks or once-a-month meter readings to provide this information. Due to time lapsed, this can lead to exponential water loss. The proposed AMI Program will help the City respond immediately to these and other issues and help eliminate water waste.

I urge your favorable support of the City of Corona’s application for WaterSMART: Water and Energy Efficiency funding. Thank you for this opportunity.

Sincerely,

Karen Spiegel
Second District Supervisor, County of Riverside

KEN CALVERT
42ND DISTRICT, CALIFORNIA

WASHINGTON OFFICE:

2205 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0542
(202) 225-1986
FAX: (202) 225-2004

DISTRICT OFFICE:

400 SOUTH VICENTIA AVENUE
SUITE 125
CORONA, CA 92882
(951) 277-0042
FAX: (951) 277-0420



UNITED STATES
HOUSE OF REPRESENTATIVES

October 22, 2021

COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEES:

RANKING REPUBLICAN
DEFENSE

ENERGY AND WATER DEVELOPMENT

WWW.CALVERT.HOUSE.GOV
FACEBOOK.COM/REPKENCALVERT
@KENCALVERT

The Honorable Camille Touton
Deputy Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Deputy Commissioner Touton:

I write in support of the City of Corona's application for Advanced Metering Infrastructure (AMI) through the Bureau of Reclamation WaterSMART program. As you know, the Inland Empire in southern California relies primarily on imported water from the State Water Project (SWP) and the Colorado River. Projects like AMI that enhance water efficiency provide an outsized water supply benefit to my constituents, the region, and the Colorado River basin.

Corona estimates that over 95% of the City's water losses are due to unpreventable water leaks, and the meters and technology currently in place do not allow the City to respond to those leaks in a timely manner. This AMI project will enable real-time water-use tracking for residential and commercial clients in the City of Corona. If this project is implemented, the water conserved in Corona will enhance local drought resilience and reduce pressures on the SWP and Colorado River system.

I respectfully request your careful consideration of the City of Corona's WaterSMART Application to install AMI.

Sincerely,

A handwritten signature in blue ink that reads "Ken Calvert". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

KEN CALVERT
Member of Congress



SECTION 6: OFFICIAL RESOLUTION

Corona will send the final version of the Resolution once it is signed and authorized in November, 2021.

RESOLUTION NO. 2021-127

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CORONA, CALIFORNIA APPROVING THE APPLICATION FOR GRANT FUNDS FOR THE WATERSMART: WATER AND ENERGY EFFICIENCY GRANTS FOR FISCAL YEAR 2022 GRANT PROGRAM, FUNDING OPPORTUNITY ANNOUNCEMENT NO. R22AAS00023.

WHEREAS, the President of the United States and the United States Department of the Interior have provided funds for the WaterSMART Program; and

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

WHEREAS, said procedures established by the Bureau of Reclamation require a resolution certifying the approval of application(s) by the applicant's governing board for submission of said application(s); and

WHEREAS, the applicant, if selected, will enter into an agreement with the Bureau of Reclamation to carry out the development of the proposal.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF CORONA, CALIFORNIA, AS FOLLOWS:

SECTION 1. WaterSMART Application. The City Council hereby authorizes and approves the filing of an application for the WaterSMART: Water and Energy Efficiency Grants for Fiscal Year 2022 Grant Program for the City of Corona.

SECTION 2. City Manager Authority. The City Council hereby authorizes the City Manager, or his designee, to act as agent with legal authority to enter into the grant agreement, conduct all negotiations, execute and submit all documents including, but not limited to, applications, agreements, payment requests and any other grant required correspondence which may be necessary for the completion of the grant program.

SECTION 3. Budgetary Adjustments. The City Council hereby authorizes the Finance Director or his/her designee, to prepare and process all necessary budgetary adjustments to receive and record any funds received from the WaterSMART: Water Energy and Efficiency Grants Program.

SECTION 4. Match Fund Certification. The City Council hereby certifies that the City of Corona has sufficient matching funds to provide the amount of funding/in-kind contributions specified in the funding plan included in the grant application.

SECTION 5. Application Certification. The City Council hereby certifies that the City Council of the City of Corona has reviewed and supports the proposed application.

SECTION 6. Established Deadline Certification. The City Council hereby certifies that the City of Corona will work with the Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

SECTION 7. Effective Date. The Mayor shall sign this Resolution and the City Clerk shall attest thereto, and this Resolution shall take effect and be in force on the date of its adoption.

PASSED, APPROVED AND ADOPTED this 3rd Day of November, 2021.

Mayor of the City of Corona, California

ATTEST:

City Clerk of the City of Corona, California

CERTIFICATION

I, Sylvia Edwards, City Clerk of the City of Corona, California, do hereby certify that the foregoing Resolution was regularly passed and adopted by the City Council of the City of Corona, California at a regular meeting thereof held on the 3rd day of November 2021 by the following vote of the Council:

AYES:

NOES:

ABSENT:

ABSTAINED:

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Corona, California, this 3rd day of November 2021.

City Clerk of the City of Corona, California

[SEAL]