



Advanced Metering Infrastructure (AMI) Conversion Project

**WATERSMART: WATER AND ENERGY EFFICIENCY GRANTS FOR FY
2025 NO. R24AS00052**

City of Industry
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City of Industry, CA 91744

La Puente Valley County Water District
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Technical Proposal and Evaluation Criteria

Executive Summary

Date: November 13, 2024	Lead Applicant: City of Industry
City: City of Industry	Co-applicant: La Puente Valley County Water District
County: Los Angeles	Category: A
State: California	Estimated Completion Date: December 2026
Located on a Federal Facility: No	Funding Request: \$500,000

The City of Industry, a Category A applicant in Los Angeles County, will implement an Advanced Metering Infrastructure (AMI) program in partnership with the La Puente Valley County Water District (LPVCWD). This joint effort will replace 3,409 analog water meters with AMI-enabled meters and implement an online customer portal to improve leak detection, reduce water loss, and promote conservation in an area characterized by significant industrial activity, severe drought, and high pollution burden. The project will **save 238.81 acre-feet of water annually and reduce greenhouse gas emissions by 68.67 metric tons of CO2 per year** through fewer vehicle miles traveled and improved energy efficiency within the water system. These improvements will help increase the resiliency of the Main San Gabriel Groundwater Basin and mitigate the impacts of recurring droughts due to climate change. The project will be implemented over 24 months with completion expected by December 31, 2027. The project area is not located on a Federal facility.

Project Location

The area addressed by the CIWS & LPVCWD AMI Conversion Project is in Los Angeles County in Southern California, located 17 miles east of the City of Los Angeles and covers over 12 square miles. The coordinates for the City are 34.0238 °N, -117.9557 °W. (See Figures 1 and 2)

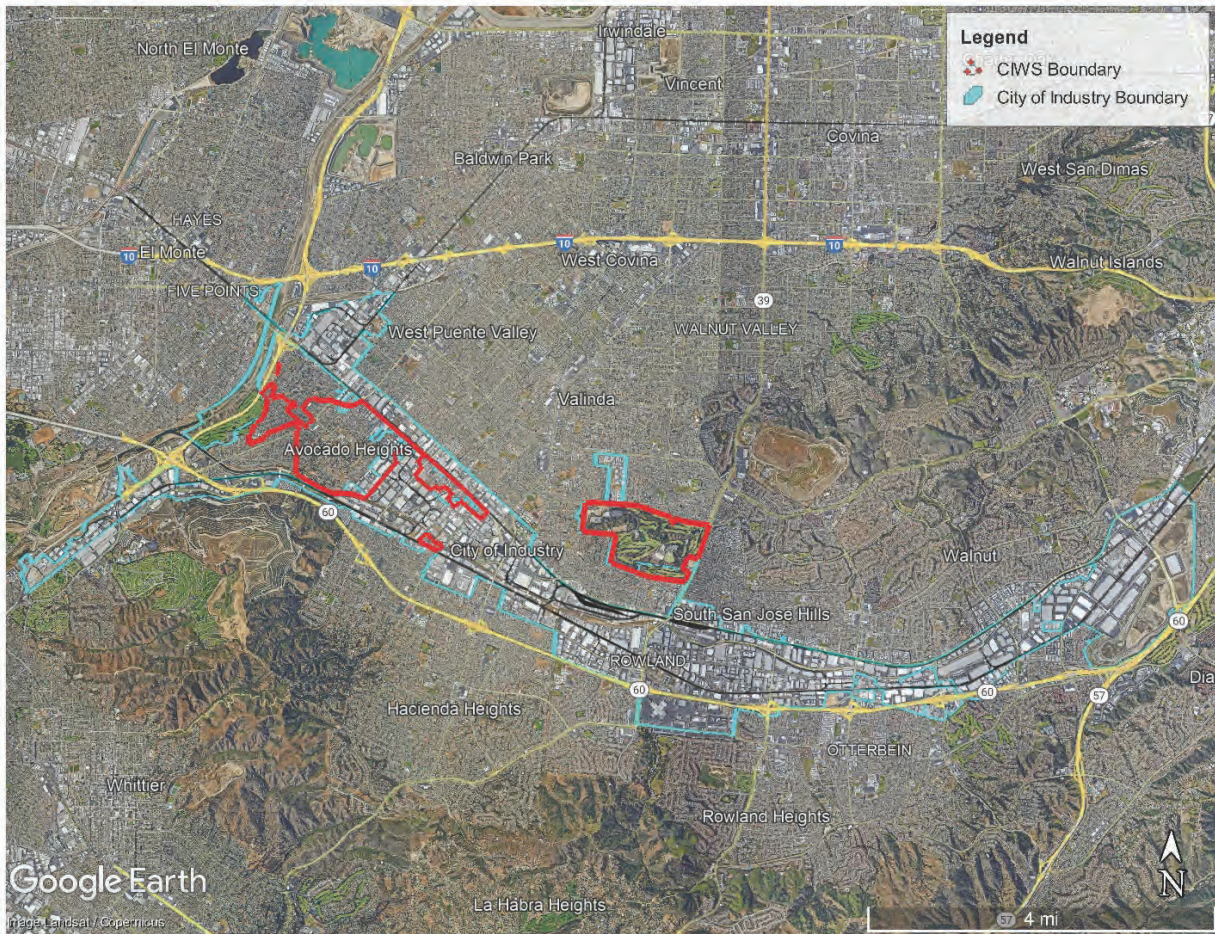


Figure 1: CIWS Service Map

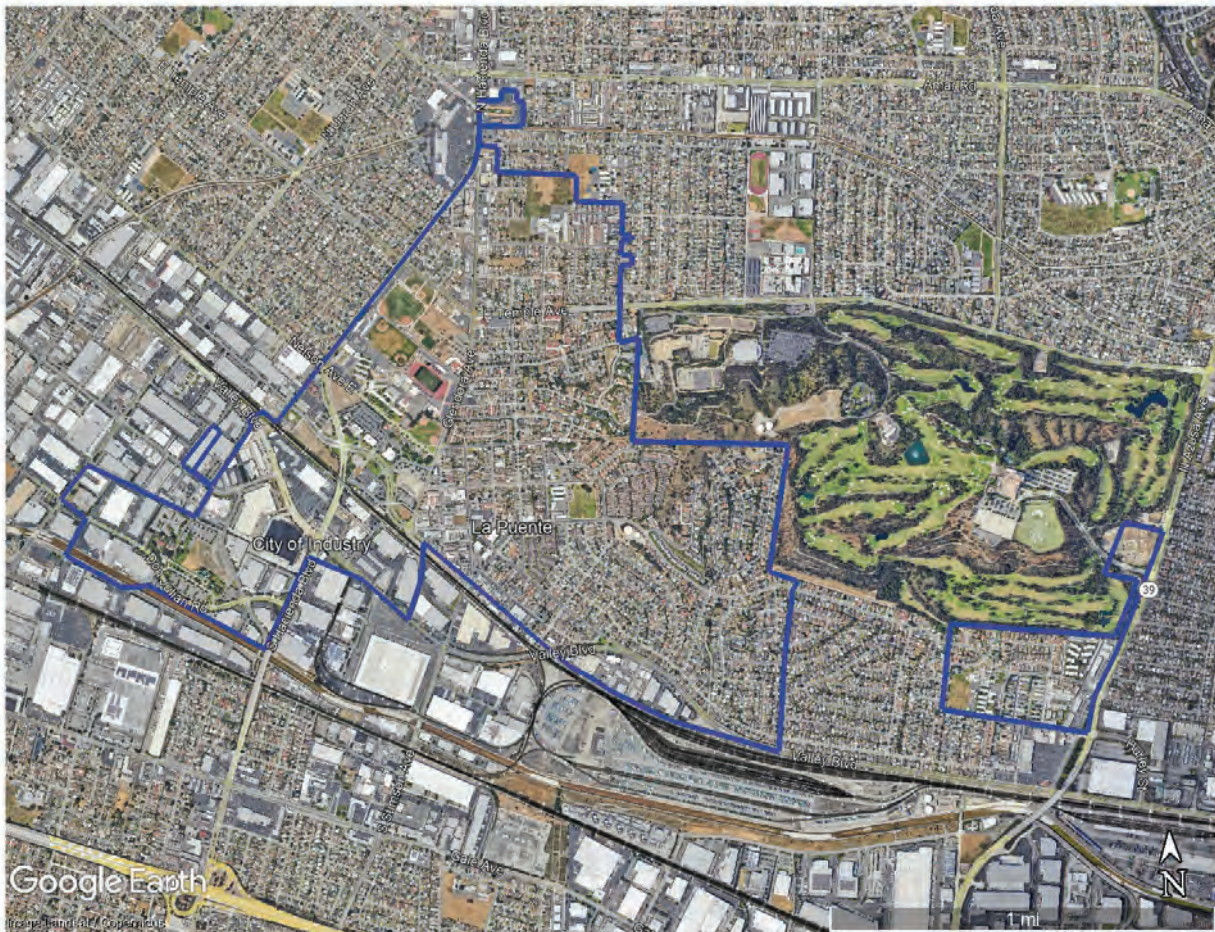


Figure 2: LPVCWD Service Map

Project Description

The CIWS has 1,901 water service connections that primarily provide water to the unincorporated area of Los Angeles County known as Avocado Heights and a small portion of the City (See Figure 6) and the LPVCWD has 2,518 water service connections that provide water to the City of Industry and La Puente. (See Figure 7). 317 meters in the CIWS and 693 meters in the LPVCWD have been replaced with AMI meters already as part of a pilot program; the remaining connections are all analog. The CIWS & LPVCWD's AMI Meter Replacement Program will improve communication between meters and utilities as well as between utilities and customers. After upgrading to an AMI system, the new meters will proactively provide information relating to leaks and high usage which can then influence users to use water more wisely and enable CIWS and LPVCWD to address leaks before they grow and cause infrastructure damage.

As a commitment to this project, LPVCWD and the CIWS have already installed the necessary collectors with receivers throughout their respective distribution boundaries and

invested in the necessary software to enable and support AMI-enabled meter installations. With the supporting infrastructure in place, all analog meters for water consumption will be replaced with AMI-enabled meters.

AMI meters can be accessed to provide real time data to identify high usage or leaks. This means rather than waiting nearly 30 days before high usage or leak detections, leaks and utility thefts can be identified the same day; saving up to 29 days' worth of lost water from the leaks or theft. The installation of AMI meter infrastructure will also connect customers to a centralized online portal, giving not just the CIWS and LPVCWD but also the customers, highly accurate and recent information about their consumption. Customers can look up their current and past usage, and can enable leak and high-usage alerts, ensuring that they are promptly warned via their preferred channels (i.e., the portal itself, email, or text messages) when their water consumption exceeds pre-specified limits. This enables customers to better calibrate their consumption levels. This enables more accessible and effective monitoring of water consumption by the CIWS, LPVCWD and the end-users. The portal is a vital component to water conservation with AMI meters. An American Water Works Association (AWWA) report found that "signing up for an AMI portal led to an average decrease in daily water usage in the range of 6.3 to 12.1%." (AWWA, 2021)

Evaluation Criteria

Evaluation Criterion A: Quantifiable Water Savings

Up to 25 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency, supporting the goals of E.O. 14008.

- Describe the amount of estimated water savings. Describe current losses. Please explain where the water that will be conserved is currently going and how it is being used. Describe the support/documentation of estimated water savings. For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.*

The data used in these calculations is from the past eight years, 2016-2023 (See Tables 1 & 2). The average annual acre-feet of water supply for the CIWS and LPVCWD over the last eight years is 1270.77 and 1,513, respectively. The current losses are primarily due to leaks. Unaccounted water usually ends up spilled into the storm drain or sewer system. When a leak begins it can continue unnoticed for 30 days until the next meter reading or longer for slower leaks. Staff will be able to respond more quickly to leaks and alert customers to fix leaks promptly. Water conservation will also come from more accurate meter readings and changes in customer behavior. During the pilot programs that installed 317 CIWS AMI meters and 693 LPVCWD AMI meters over three years, consumption decreased when customers had more information about their consumption habits. In several significant cases, the water consumption reported by the meter increased because faulty meters were replaced. Customers had inaccurate

information about their water consumption. The AMI meter reported that these users were consuming 159% to 878% more water than the old analog meters were reporting. Not only will utility staff and customers have more accurate and timely information about water usage, but the new meters will allow CIWS and LPVCWD to bill customers more accurately.

Table 1: City of Industry Waterworks System Water Loss from 2016-2023

City of Industry Waterworks System				
Year	Consumption (Acre/ft)	Production (Acre/ft)	Water Loss in acre/ft	Water Loss in Gals
2023	1056.21	1076.01	19.80	6,452,915
2022	1127.66	1222.81	95.15	31,006,341
2021	1198.57	1279.79	81.22	26,465,367
2020	1312.75	1327.88	15.13	4,930,770
2019	1353.81	1382.21	28.40	9,254,031
2018	1229.14	1303.33	74.19	24,174,036
2017	1215.72	1295.44	79.72	25,977,375
2016	1221.85	1278.71	56.86	18,527,888
Average	1,214.46	1,270.77	56.31	18,348,590.38

Table 2: La Puente Valley County Water District Water Loss from 2016-2023

La Puente Valley County Water District				
Year	Consumption (Acre/ft)	Production (Acre/ft)	Water Loss in acre/ft	Water Loss in Gals
2023	1213.47	1296.07	82.59	26,913,324
2022	1417.76	1570.25	152.49	49,689,172
2021	1447.54	1605.9	158.36	51,601,823
2020	1529.47	1592.29	62.82	20,469,701
2019	1541.55	1578.58	37.02	12,064,064
2018	1511.69	1587.39	75.7	24,666,617
2017	1446.02	1467.95	21.93	7,146,083

2016	1403.95	1404.61	0.66	216,365
Average	1,438.93	1,512.88	73.95	24,095,893.63

As for the water savings from this program, in a 2022 report AWWA analyzed recent meta-analyses and systemic reviews of water savings after the installation of AMI meters. Their survey found that water savings associated with AMI programs was between 2% and 10%. (Source: *Increasing consumer benefits & engagement in AMI-based conservation programs*, AWWA, January 2022) The AWWA study also found that residential customers who signed up to use the online portal saved “5 to 9 gallons in daily water consumption (a 6-12% change).” (AWWA, 2022).

After evaluations of the data, it would be realistic to estimate annual water savings of 9%. This percentage takes into account both reduced water loss from the AMI meter technology and the reduced water consumption from the use of an online customer portal; therefore we estimate the midrange of the water savings that the AWWA study found when these two elements are paired together. The annual average water consumption for CIWS is 1,214.46 AF and 1,439 AF for LPVCWD; therefore, the estimated annual water savings for the CIWS is 72.87 AF or 23,744,758 gallons and 86.34 AF or 28,133,970 gallons for LPVCWD. **The combined 238.81 AFY is all water that will be conserved in the Main San Gabriel Basin**, which will increase resiliency for the City, LPVCWD and other entities that draw their water from wells in the MSGB.

- *Municipal Metering: Municipal metering projects can provide water savings when individual user meters are installed where none exist to allow for unit or tiered pricing and when existing individual user meters are replaced with advanced metering infrastructure (AMI) meters. To receive credit for water savings for a municipal metering project, an applicant must provide a detailed description of the method used to estimate savings, including references to documented savings from similar previously implemented projects. Applicants proposing municipal metering projects should address the following:*

- 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.*

The estimated annual water savings from this project was calculated using two primary methods. First, customer usage data (gathered from the pilot program) provides a baseline of pre-installation water usage, which was then be compared to post-installation data from the AMI meters to capture reductions in individual water use. Based on similar AMI projects, it’s anticipated that users will reduce consumption by 6-12% as they gain real-time insights into their usage and adjust their habits accordingly. Second, as the project is implemented, a system-wide analysis will track reductions in water loss by comparing total water produced from the Main San Gabriel Basin (MSGB) with the aggregate customer billing. The new AMI meters are

expected to reduce system losses by accurately identifying previously unmetered flows and leaks.

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

Current system losses are 130.26 AFY, as determined by recent water audits comparing total water production to billed amounts (see Tables 2 and 3). The AMI system is expected to reduce these losses by enhancing detection of unmetered flows and leaks, thus improving system efficiency. For individual user reductions, regional studies indicate that AMI conversions often lead to a 9% decrease in usage as customers become more aware of their consumption (Source: *Using SCADA and AMI to Identify Areas of Water Loss in Madison Water Utility, Reams, 2023*).

- 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.*

Studies consistently demonstrate that advanced metering led to substantial reductions in water use. Recent research in California showed significant impacts: household water use dropped by 54 gallons per day in Bakersfield, 37 gallons per day in Chico, and 13 gallons per day in Visalia with metering and volumetric rates (Tanverakul and Lee 2013). In the City of Davis, installing meters on nearly 10,000 homes and switching to metered billing reduced per-capita water use by 18% (Maddaus 2001), while Fresno achieved a 17% reduction in per-capita use by charging based on volume (Haagensohn 2012). These studies highlight the effectiveness of metering and user access to real-time data in promoting water conservation in California.

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

All traditional analog meters will be replaced by Neptune MACH 10 Ultrasonic meters. In order to collect data and pilot the program, the CIWS and LPVCWD have already collectively converted 1,010 meters to AMI meters. This project will entail purchasing and installing the remaining 3,409 meters.

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

The water savings will be calculated by two methods. First, water usage data will be taken directly from customer accounts and compared with usage data from before the installation of the AMI meters. Comparing the previous usage with the new usage will determine direct water savings. Second, the total amount of water produced from the MSGB will be compared with the total amount of water billed to all customers to determine how much loss from unaccounted water has been conserved.

Evaluation Criteria B - Renewable Energy

Up to 20 points may be awarded based on the extent to which the project increases the use of renewable energy or otherwise results in increased energy efficiency and reduced greenhouse gas emissions.

Subcriterion B.2—Increasing Energy Efficiency in Water Management

Up to 6 points may be awarded for projects that address energy demands and reduce greenhouse gas emissions by retrofitting equipment to increase energy efficiency and/or through water conservation improvements that result in reduced pumping or diversions.

Describe any energy efficiencies that are expected to result from implementation of the water conservation or water efficiency project (e.g., reduced pumping).

CIWS and LPVCWD currently experience an estimated annual water loss of approximately 130.26 acre-feet, representing about 4.68% of the total water produced. This lost water requires an estimated 96.39 MWh of electricity annually for pumping and distribution, which contributes approximately 67.47 tons of CO₂ emissions to the atmosphere each year. By implementing AMI metering, the agencies aim to significantly reduce these losses, conserving both water and energy resources and contributing to reduced greenhouse gas emissions in the region. The current meters require drive-by reading. Therefore, the project will result in reduced vehicle miles driven by eliminating the need to perform manual reads for each water billing cycle, which in turn reduces greenhouse gas emissions by reducing the usage of gas-powered vehicles. Manual reads are conducted on a monthly basis using two Chevrolet Silverado 1500 trucks.

Element	Assumption
Vehicle Mileage	17 miles/gallon
Duration of Meter Reads	72 days
Miles Driven	2395 miles/annually

Based on these calculations, the project would result in a total reduction of 5,460 vehicle miles traveled per year with an estimated reduction in greenhouse gas emissions totaling 1.2 Metric Tons of CO₂ per year, based on results from the U.S. EPA Greenhouse Gas Equivalencies Calculator.

Evaluation Criteria C - Other Project Benefits

Up to 15 points may be awarded under this criterion. This criterion prioritizes projects that address a specific water and/or energy concern(s), including enhancing drought resilience and sustainability, addressing the current and future impacts of climate change, and providing ecological benefits.

Resilience and Sustainability Benefits. Will the project address a specific water and/or energy sustainability concern? Please address the following:

- *Explain and provide detail of the specific issue(s) in the area that is impacting water resilience and sustainability.*

The City of Industry (City) and La Puente Valley County Water District (LPVCWD) are in Los Angeles County in Southern California. The City is situated 17 miles east of the city of Los Angeles and covers just over 12 square miles. LPVCWD is situated 16 miles east of the city of Los Angeles and covers approximately 2 square miles. The City has a population of 264 residents according to the 2020 census and LPVCWD serves a population of approximately 9,000 residents. The City, incorporated in 1957, is key to the economic activity of the San Gabriel Valley, most importantly, acting as a hub for transportation to and from both of the West Coast's largest seaports, the Ports of Los Angeles and Long Beach. LPVCWD, incorporated in 1924, continues to supply and meet the water supply needs of customers in the Cities of La Puente and Industry.

True to its name, most of the land in the city is dedicated to businesses. 91% of the zoning is dedicated to industrial use and 8% for commercial use. It is home to over 3,000 business, mainly in the manufacturing and goods movement sectors. These businesses employ over 68,000 people and contribute \$31 billion annually to the regional economy. In recent years, it has become a vital center of import/export for tech manufacturing companies, as the established transportation routes make it logistically advantageous for companies shipping goods to and from Asian markets. These businesses depend on the infrastructure of the city for their continued success; therefore, it is a priority of the city to maintain, improve, and upgrade its infrastructure in all sectors, including water.

The topography of City of Industry is generally flat as it lies within the 400 square miles of the San Gabriel Valley. The San Gabriel Mountains are to the North, and the Puente Hills just south of the city limits.

The population of the city is 264, of which 12.7% live under the poverty line, comparable to the 12.2% California state poverty rate. The median household income (MHI) is \$77,000 according to the 2020 US Census, over \$14,000/year less than the California state MHI of \$91,551.

According to the California Communities Environmental Health Screening Tool (CalEnviroScreen 4.0), which identifies California communities by census tract that are disproportionately burdened by, and vulnerable to, multiple sources of pollution, the census tracts of City of Industry is in the 52nd to 96th percentile of the CalEnviroScreen 4.0 index and the 100th percentile in pollution burden. Relative to other communities in California, it is among the top 1% most pollution burdened areas.

The climate of the city is characterized by mild, dry winters and hot summers. 85% of annual rainfall occurs from November through March. Rainfall is rare in the summer months. Like much of California, it has been under drought conditions for most of the last 20 years and is just beginning to recover with recent rainfall. According to Climate Mapping for Resilience and Adaptation (CMRA), the days per year with precipitation has decreased since 1979 and will continue to do so in the coming century (See Figure 3).

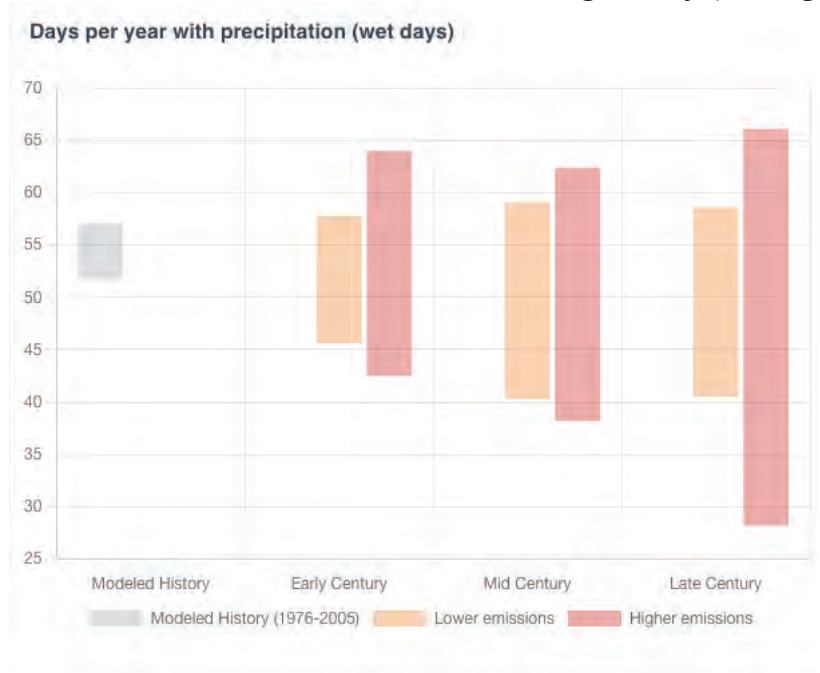


Figure 3: Days per year with precipitation – Source: CMRA

Historically, the average daily high temperature in the summer is up to 91 degrees; According to CMRA, between 2015 and 2044, the City will experience 65 to 67 annual days with maximum temperature above 90°F. (See Figure 4) The increasing summer temperatures and extension of summer months in Southern California have made days over 100 degrees even more common June through October. CMRA predicts that these >100 degree days will continue to increase to 14 to 16 days a year.

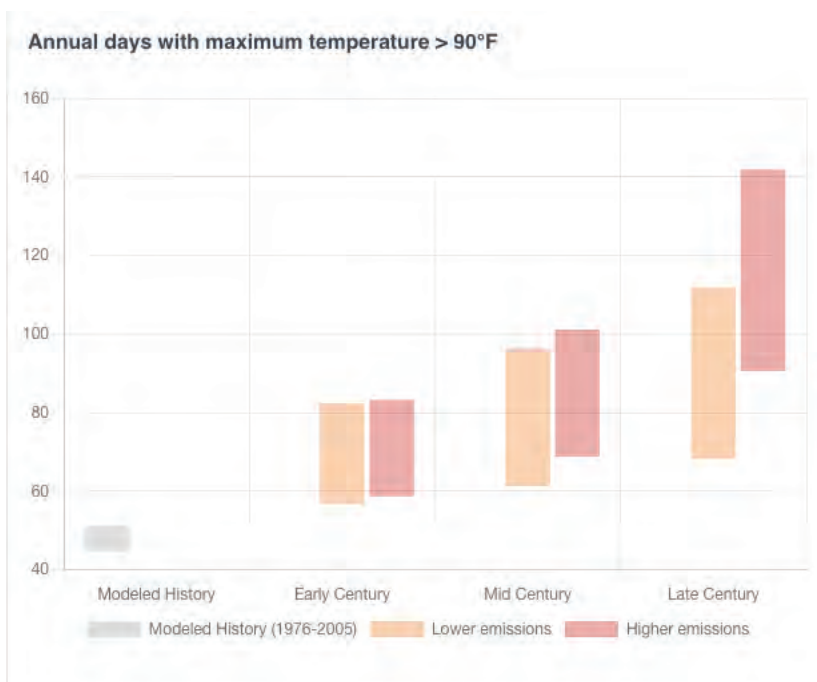


Figure 4: Annual days with max temperature >90 degrees – Source: CMRA

Table 3: Climate Data for City of Industry, CA

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Avg.
Mean daily maximum temperature (°F)	71	70	73	76	79	84	90	91	90	83	77	70	79.5
Mean daily minimum temperature (°F)	53	51	52	53	56	59	63	64	64	61	57	52	57
Avg. precipitation (in.)	2.9	3.6	2.4	0.7	0.2	0.1	0.0	0.1	0.3	0.6	1.2	2.1	1.2

Source: NOAA: National Center for Environmental Information

Through the City of Industry Waterworks System (CIWS), managed and operated by LPVCWD, the CIWS supplies more than 1,300 AF (acre feet) of water, annually, with 1,852 water service connections, supplying approximately 6,111 water users. LPVCWD supplies more than 1,600 AF of water, annually, with 2,518 water service connection, supplying approximately 9,000 water users. Collectively, the CIWS and LPVCWD provide a reliable source of water supply to over 15,000 residents. The CIWS relies on groundwater extracted from CIWS Well No. 5 from the Main San Gabriel Groundwater Basin (MSGB). The LPVCWD relies on groundwater extracted from LPVCWD Well No. 2, No. 3, and No. 5 from the MSGB. The CIWS currently

supplies approximately 463 AF over its pumping allocation to meet the needs of their customers. LPVCWD currently supplies approximately 740 AF over its pumping allocation to meet the needs of their customers. As a result, both the CIWS and LPVCWD must either lease water from another party who holds pumping rights in the MSGB or purchase replacement water.

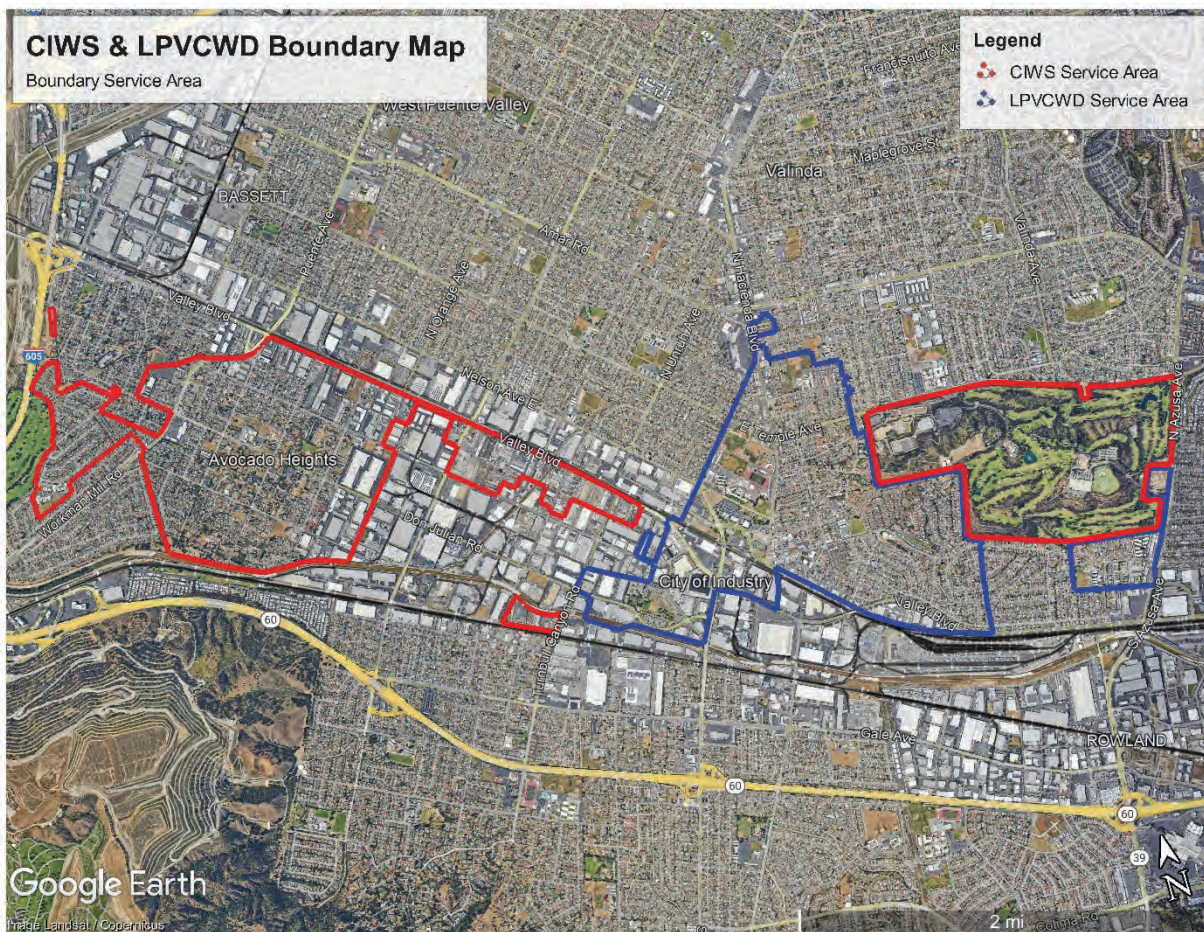


Figure 5: Combined Service Area Map

The CIWS's 2017 *Water Master Plan* and LPVCWD's 2017 *Water Master Plan* projected a 1% population increase per year, resulting in projected increases to CIWS's demand to be 1,483 AF/year by 2025 and 1,914 AF/year by 2025 for LPVCWD. CIWS and LPVCWD also offer programs, through our regional partner Upper San Gabriel Valley Municipal Water District (Upper District), such as the Water Smart Home Program, in which users can choose a variety of water conservation items to be installed free of charge, and the Plant Voucher Program, which awards vouchers for users to purchase and plant climate-appropriate and drought-resistant species.

Local conservation efforts have been vital to mitigating extreme drought conditions in the San Gabriel Valley. The drought conditions have been severe for over 15 years. Limited rainfall to replenish the MSGB and limited availability of Metropolitan Water District's (MWD)

imported supply have created difficulties in sustaining the MSGB groundwater supply. In 2014, the MSGB Watermaster levied a Resource Development Assessment (RDA) to all parties who extract water from the MSGB to purchase and replenish the Basin with imported water whenever available to help counter the impacts of future extreme droughts. The RDA is still in place today and has helped ensure a sustainable and reliable Basin. The City's and LPVCWD's water conservation efforts, including this joint project, will build resiliency in MSGB, mitigating the effects of continued and future potential droughts and water scarcity conditions, as echoed in the attached letter of support from the Main San Gabriel Basin Watermaster (Watermaster).

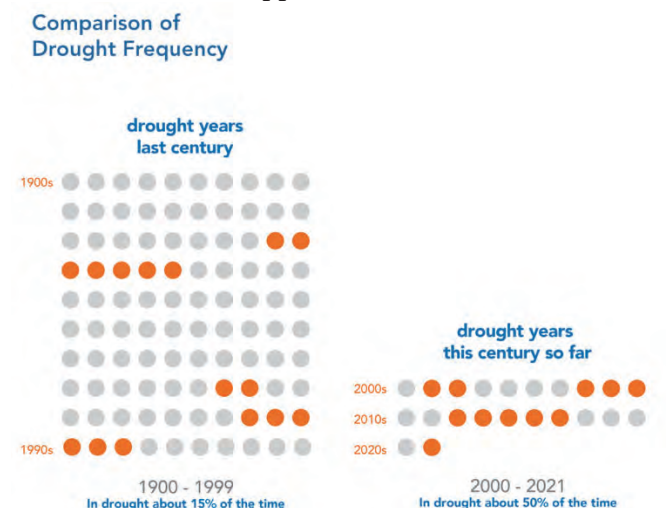


Figure 6: Drought Frequency from 1900-2021 - Source: Main San Gabriel Basin Watermaster

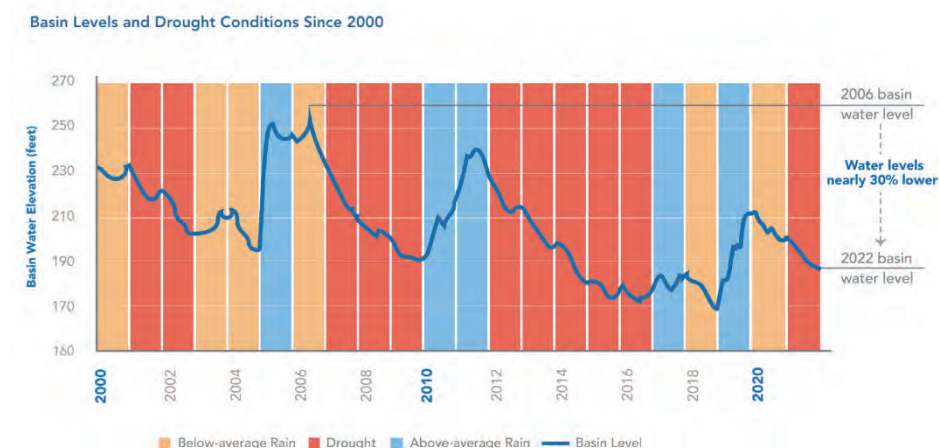


Figure 7: Basin Levels and Drought Conditions since 2000 - Source: Main San Gabriel Basin Watermaster

After groundwater contamination was detected in the San Gabriel Valley in the 1970s due to defense contractor activities, the U.S. Environmental Protection Agency subsequently designated major portions of the region's groundwater as Superfund sites, which included the MSGB. The groundwater basin is shared with other entities that draw water from it. The MSGB is adjudicated based on a 1973 judgement. It contains over 3.5 million AF of natural storage. The

MSGB Watermaster has taken steps to increase this storage. Imported water, treated groundwater from basin cleanup, purchased and stored cyclic storage water, and purchased and recharged RDA water have added over 4.3 million AF to the basin. The total storage of the basin, according to the Watermaster's 2022-2023 *Annual Report*, is 7,880,000 AF.

• *Please describe how the project will directly address the concern(s) stated above.*

It is well-documented that Southern California has been under extreme drought conditions since the turn of the millennium. As an effect of climate change, the region has experienced drought conditions for 50% of the years this century, compared to only 15% in the previous century. (See Figure 6). In 2006, MSGB reached its peak water level since 2000 after a year of above average precipitation. Since then, it has not recovered. As of 2022, the basin is still 30% lower than its 2006 peak and only 20 feet above its lowest water level since 2000. (See Figure 7). Limited rainfall to replenish the MSGB and limited availability of Metropolitan Water District's (MWD) imported supply have been obstacles to sustaining the MSGB groundwater supply. In 2014, the MSGB Watermaster levied a Resource Development Assessment (RDA) to all parties who extract water from the MSGB to purchase and replenish the Basin with imported water whenever available to help counter the impacts of future extreme droughts. The RDA is still in place today, and the City's and LPVCWD's water conservation efforts, including this project, will build resiliency in MSGB, mitigating the effects of continued and future potential droughts and water scarcity conditions.

As detailed in the *MSGB Watermaster 2022-23 Annual Report*, over the 11-year period of 2011–12 through 2021–22, stormwater replenishment of the MSGB has been short by approximately 600,000 acre-feet. During fiscal year 2022–23, annual stormwater replenishment into the MSGB was 286,000 acre-feet, 262% above the long-term average—but not enough to make up the 600,000-acre-foot deficit. As a result, the MSGB still needs to make up the remaining deficit with imported water. This project will help to shield the MSGB from impacts of droughts by reducing the demand on the groundwater basin by conserving water and keeping this conserved water in the basin, which will enable water managers to build the sustainability of MSGB and rely less upon imported water.

The new AMI meters will proactively provide information to the utilities and customers, enabling them to respond quicker to leaks, inaccurate delivery, abnormal usage, and other water losses. With less water wasted in the system, more water will remain in the basin and can then be put to efficient use, building resiliency and sustainability for MSGB.

Ecological Benefits. *In addition to the separate WaterSMART Environmental Water Resources Projects NOFO, this NOFO places a priority on projects that result in ecological benefits, through this section and other sections above, consistent with the SECURE Water Act. Please provide information regarding how the project will provide ecosystem benefits, including the following:*

- *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).*
- *Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?*
- *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, recreational benefits, etc.).*

Water will remain in the system for longer periods of time as waste within the system will be greatly reduced. The water conserved will remain in the basin which will maintain water levels and build resiliency for the basin.

The San Gabriel Mountains are crucial for both biodiversity and water supply, holding 30% of the Los Angeles Basin's drinking water. Protecting this area is essential, not only for conservation but also for sustaining a reliable water source.

The San Gabriel Mountains are hold to over 500 native plant species and are home to numerous endangered and sensitive species, including the California condor, Nelson's bighorn sheep, California spotted owl, and Southern California legless lizard. Its rivers support native fish and wildlife and provide critical habitat for species like the mountain yellow-legged frog, Arroyo chub fish, southwestern pond turtle, and slender-horned spineflower.

This project area, including parts of the West Fork San Gabriel River watershed, is recognized by the U.S. Forest Service as an "Area of High Ecological Significance." The region's diverse flora, including big-cone Douglas-fir and live oak forests, are vital for natural management of wildfires and preventing related, destructive mud and landslides. By preserving these habitats, the project helps ensure species stability and resilience, reducing the likelihood of future endangered listings.

Climate Change: *E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity.*

- *Describe how the project addresses climate change and increases resiliency. For example, does the project help communities adapt to bolster drought resilience?*

As detailed above, the region has struggled with long and recurring drought periods and subsequent water shortages. With these regular periods of severe drought, the CIWS and LPVCWD have faced obstacles such as water shortages. The installation of these new AMI

meters is part of an ongoing effort to increase the resiliency of the water supply in the face of climate change that continues to produce increasingly hotter and dryer conditions. As part of its response, the CIWS and LPVCWD have sought affordable ways to conserve water for long term sustainability.

The new AMI meters will enable the CIWS and LPVCWD to respond to leaks and unusually high usage more quickly. It will also enable more accurately deliver water to the end-users. The project will extend the life of the existing water main infrastructure by detecting leaks when they are new and small instead of allowing them to grow undetected for a month or more. Damage in a pipe or fitting that starts with a small leak could worsen into a larger and more difficult to repair leak as water flows through it undetected. Depending on water flow and pipe condition, this could even advance to a catastrophic rupture requiring major repairs or replacement. When leaks are detected more quickly, this deterioration will be less common meaning the pipes' integrity will improve simply through better leak detection and faster repairs. By implementing the preventative measures with these new meters, this initiative will create a more resilient water source for the City, LPVCWD and the San Gabriel Valley as a whole, eventually requiring less reliance on purchased and imported water.

Evaluation Criterion D—Disadvantaged Communities, Insular Areas, and Tribal Benefits

Up to 15 points may be awarded based on the extent that the project demonstrates support for the Biden-Harris Administration's priorities, including E.O. 14008: Tackling the Climate Crisis at Home and Abroad and the President's memorandum, Tribal Consultation and Strengthening Nation-to-Nation Relationships.

Please address only those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the application.

Subcriterion D.1. Disadvantaged Communities

E.O. 14008 affirms the advancement of environmental justice for all through the development and funding of programs to invest in disadvantaged communities. This criterion, which is used to identify projects that advance the Justice 40 Initiative, includes all Federally recognized Tribes and Tribal entities, and any disadvantaged communities in insular areas (American Samoa, Guam, the Northern Mariana Islands, or the Virgin Islands) identified pursuant to the following criteria.

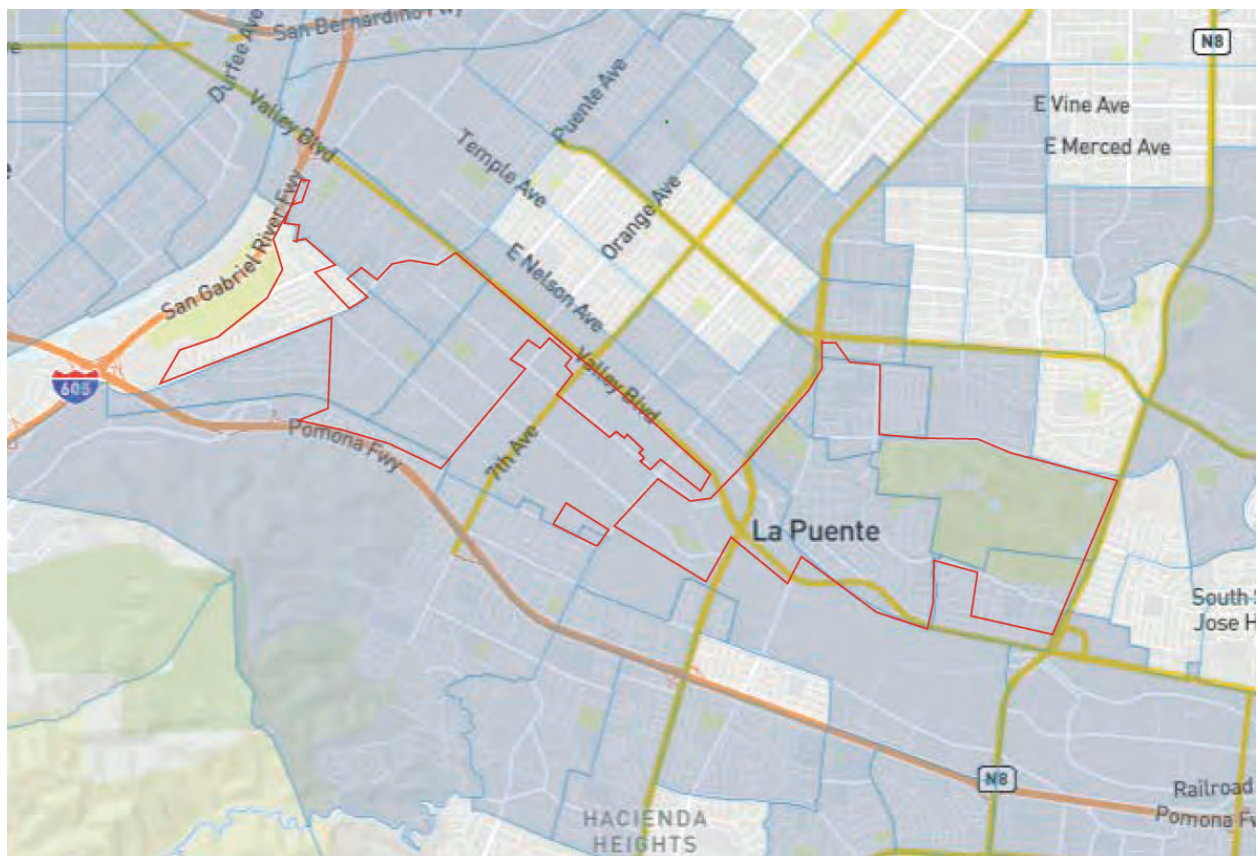
- Please use the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool (CEJST), available online at [Explore the map - Climate & Economic Justice Screening Tool \(screeningtool.geoplatform.gov/en/#17.59/36.63278/-105.181329\)](https://www.eplanning.gov/explore/cejst) to identify any disadvantaged communities that will benefit from your project. The CEJST developed by the White House*

*Council on Environmental Quality is a geospatial mapping tool that utilizes publicly available, nationally consistent data sets related to climate change, the environment, health, and economic opportunity to identify disadvantaged communities. In addition to identifying specific census tracts that are disadvantaged, the CEJST includes the lands of Federally recognized Tribes as disadvantaged communities. In addition, regardless of whether a Federally recognized Tribe has land, all Federally recognized Tribal entities are considered disadvantaged communities for the purposes of the Justice40 Initiative.*²

•If applicable, describe how the proposed project will serve or benefit a disadvantaged community, identified using the tool. For example, will the project improve public health and safety by addressing water quality, add new water supplies, provide economic growth opportunities, or provide other benefits in a disadvantaged community?

The service area of the CIWS and LPVCWD intersects mainly with four census tracts in Los Angeles County: 06037407802, 06037408202, 06037408303, and 06037407702. Each of these is considered disadvantaged by the CEJST. (See Figure 8) Across these three tracts, 15-33% of the population whose high school education is less than a high school diploma, and they are in the 86th to 92nd percentile of households where no one over age 14 speaks English very well. The largest of these, 06037408202, is significantly disadvantaged. Many households have an income of less than twice the federal poverty line and are consequently in the 67th percentile for low income. This community is also in the 97th percentile for PM2.5 particles in the air and the 98th percentile for wastewater discharge.

Figure 8 - CEJST map with joint service area overlayed in red



This project will benefit these disadvantaged communities by supporting future infrastructure development, reducing hardship on users when water shortages do occur, and reducing the utilities bill for low-income households. With more accurate data and up-to-date technology, the CIWS and LPVCWD can initiate and develop other infrastructure projects. The water conserved through the project will be retained in the well to increase long-term water reliability for the community. By detecting leaks early on and taking action, CIWS, LPVCWD and customers through the portal can conserve water and prevent unnecessary usage that results in additional charges for low-income communities.

Evaluation Criterion E—Complementing On-Farm Irrigation Improvements

Up to 8 points may be awarded for projects that describe in detail how they will complement on-farm irrigation improvements eligible for NRCS financial or technical assistance.

Not applicable to this project.

Evaluation Criteria F – Readiness to Proceed

Up to 8 points may be awarded for this criterion.

- *Identify and provide a summary description of the major tasks necessary to complete the project. Note: Do not repeat the more detailed technical project description provided in Section D.2.2.2 Application Content. This section should focus on a summary of the major tasks to be accomplished as part of the project.*
 1. **Acquisition of Meters and Materials:** Procure 3,409 Neptune MACH 10 AMI meters to complete the full conversion across CIWS and LPVCWD service areas.
 2. **Installation of Meters (Phased Rollout):**
 - **Phase 1:** Replacement of all residential analog meters by December 31, 2025.
 - **Phase 2:** Replacement of all commercial and industrial meters by December 31, 2026.
 3. **System Integration and Testing:** Integrate the newly installed AMI meters into the existing data management system, followed by testing to ensure connectivity and functionality, including automated alerts for leaks or high usage.
 4. **Customer Portal Activation:** Launch and promote the customer portal, enabling customers to access real-time usage data and set up notifications for high consumption, thereby enhancing individual conservation efforts.
 5. **Data Collection and Analysis:** Conduct ongoing data analysis to compare pre- and post-installation water usage and to assess reductions in water loss and improvements in billing accuracy.
- *Describe any permits that will be required, along with the process for obtaining such permits.*

This project does not require additional permits due to the nature of the meter installations, which will occur within existing infrastructure. If any unforeseen permits become necessary, CIWS and LPVCWD will coordinate with relevant agencies to secure them promptly.

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

A propagation study has already been completed to identify the efficacy of the AMI systems. The CIWS and LPVCWD determined the efficacy in the context of its service area and adopted an AMI conversion project based on those benefits. Consequently, under previous budget years the CIWS and LPVCWD allocated and invested capital funds towards the infrastructure of AMI collectors and software to support the transition to an AMI system. The CIWS and LPVCWD have installed these data collectors and purchased the required software, providing a solid technical foundation for the expanded AMI rollout.

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

No new policies or administrative actions are needed, as CIWS and LPVCWD's current operational policies fully support AMI system integration and management. Standard operating procedures are in place for maintenance, customer communication, and data management.

- *Describe the current design status of the project. If additional design work is required prior to construction, describe the planned process and timeline for completing the design work.*

The design phase is substantially complete, as the required infrastructure, software, and propagation study have already been implemented. Additional design adjustments are not anticipated prior to installation. The remaining work will focus on final system integration and customer interface activation upon installation of the remaining meters.

- *Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: complete environmental and cultural compliance; mobilization; begin construction/installation; construction/installation (50% complete); and construction/installation (100% complete). Was the expected timeline for environmental and cultural compliance discussed with the local Reclamation regional or area office?*

The project is scheduled for completion by December 31, 2026, and will be implemented over two phases. Below are the major milestones, each accompanied by a brief narrative to demonstrate task readiness and anticipated completion dates:

- **Milestone 1: Project Mobilization and Procurement – Expected Completion: March 2025**
 - Secure funding, initiate vendor agreements, and acquire Neptune MACH 10 AMI meters. Coordination will occur with the installation team to prepare for phased meter rollout.

- **Milestone 2: Phase 1 Installation (Residential Meters) – Expected Completion: December 31, 2025**
 - Install all residential AMI meters, ensuring they are connected to the system and operational. Testing and troubleshooting will occur to confirm data accuracy and leak detection functionality.
- **Milestone 3: Phase 1 Testing and Customer Portal Launch – Expected Completion: January 2026**
 - Verify residential meter connectivity and activate the customer portal, providing residents with access to usage data and alert notifications. The portal will be publicized to maximize customer engagement and conservation participation.
- **Milestone 4: Phase 2 Installation (Commercial and Industrial Meters) – Expected Completion: December 31, 2026**
 - Replace all remaining commercial and industrial analog meters with AMI meters. Integration into the data system and testing will follow.
- **Milestone 5: Final System Testing and Program Report – Expected Completion: December 31, 2026**
 - Conduct a full system audit to ensure all AMI meters are transmitting accurate data and verify the functionality of leak detection and high-usage alerts. The project will conclude with a final report documenting water savings, system performance, and lessons learned.

Evaluation Criteria G - Collaboration

Up to 5 points may be awarded for projects that promote and encourage collaboration among parties in a way that helps increase the sustainability of the water supply.

There is constant collaboration between CIWS and LPVCWD. CIWS is owned by the City; LPVCWD is contracted to operate and manage the services and infrastructure of the CIWS. In addition, the CIWS and LPVCWD constantly collaborate with Watermaster and Upper District to support initiatives that directly contribute to our regional overarching goal of reducing reliance on imported water resources and ensuring the long-term sustainability of our groundwater basin, as detailed in the letters of support for this AMI project provided by the Main San Gabriel Basin Watermaster and the Upper San Gabriel Municipal Water District. LPVCWD staff will install the AMI meters for CIWS and LPVCWD customers. This project will increase the possibility of future water conservation improvements as the AMI meters will give the CIWS and LPVCWD more accurate data about water consumption so the utility can continue to develop data-based water conservation projects that will be more effective. This project will benefit multiple sectors. The CIWS and LPVCWD serve residential, commercial, and large industrial customers.

Performance Measures

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved or better managed, energy generated or saved). For

more information calculating performance measure, see Appendix A: Benefit Quantification and Performance Measure Guidance.

The CIWS and LPVCWD staff will assess the post-project impact using the following metrics:

- Comparing post-project water measurement data for the project area (deliveries, diversions, and waste/spills) to pre-project data—taking into account other factors which may have caused the changes. This comparison will include data from one year post-project and one year pre-project.
- Comparing post-project water system energy consumption data to pre-project data—taking into account other factors which may have caused the changes. This comparison will include data from one year post-project and one year pre-project.
- Tracking the number of leaks detected post-AMI meter installation within one year of the conversion to AMI.
- Surveying customers in the project location area to assess frequency of AMI portal usage and the perceived impact that AMI has had on their consumption.

Environmental and Cultural Resources Compliance

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

The proposed project will not impact the surrounding environment and involves no earth-disturbing work.

- *Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?*

These species will not be negatively impacted by the project. The only impact will be the benefit to their habitat and access to water due to water conservation as a result of this project.

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

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

- *When was the water delivery system constructed?*

The water delivery system was constructed from the 1960's to 1970's. The project area consists primarily of commercial and industrial that were constructed from the 1950's to present day.

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

The proposed project will not result in any modification of or effects to individual features of an irrigation system.

- *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.*

There are no buildings, structures, or features listed on the National Register of Historic Places within the 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 disproportionate and adverse effect on any communities with environmental justice concerns?*

The project will not have an adverse effect on the population in the project's impact area.

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

The proposed project will not have any impact on tribal lands or Indian sacred sites.

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

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

Required Permits and Approvals

You should state in the application whether any permits or approvals are necessary and explain the plan for obtaining such permits or approvals

No permits or approvals are required for this project.

Conflict of Interest Disclosure Statement

Per 2 CFR §1402.112, LPVCWD and CIWS are required to state if any actual or potential conflict of interest exists at the time of submission. There is currently no conflict of interest and there are no potential conflicts that have been identified.



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November 5, 2024

Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

To Whom It May Concern:

I write to you today to offer my strong support for the joint application of the City of Industry (City) and La Puente Valley County Water District (LPVCWD) to the Bureau of Reclamation for the 2024 WaterSMART Water and Energy Efficiency competitive grant program for the City of Industry Waterworks System (CIWS) and LPVCWD Advanced Metering Infrastructure (AMI) project.

The proposed project includes the purchase and installation of automated meters that continuously report water usage to the CIWS and LPVCWD. The new AMI system will replace an analog system where meter readers currently drive-by to read each meter on a monthly basis. The existing system is outdated with both financial and resource conservation deficiencies. This formerly ubiquitous utility billing method has already been replaced by most municipalities but has remained cost prohibitive to small agencies. Converting to AMI will save significant time for City and LPVCWD staff, but more importantly, it will increase accessibility to water supplies that would otherwise be lost or unaccounted for due to various reasons such as late-identified leaks.

The project proposed by the City and LPVCWD perfectly encapsulates the goals of the WaterSMART grant program. Thank you for the opportunity to submit this letter of support.

Should you have any questions, please contact my office at: 626.968.3737.

Sincerely,

A handwritten signature in blue ink, reading "Joanne McClaskey", is written over a light blue circular background.

Joanne McClaskey
Executive Director
Industry Business Council



Board of Directors:

Anthony R. Fellow, Ph.D.
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Division 3

Katarina Garcia
Division 4

Jennifer Santana
Division 5

November 04, 2024

Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

To Whom It May Concern:

I write to you today to offer my strong support for the joint application of the City of Industry (City) and La Puente Valley County Water District (LPVCWD) to the Bureau of Reclamation for the 2024 WaterSMART Water and Energy Efficiency competitive grant program for the City of Industry Waterworks System (CIWS) and LPVCWD Advanced Metering Infrastructure (AMI) project.

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The existing system is outdated with both financial and resource conservation deficiencies. This formerly ubiquitous utility billing method has already been replaced by most municipalities but has remained cost prohibitive to small agencies. Converting to AMI will save significant time for City and LPVCWD staff but, more importantly, it will increase accessibility to water supplies that would otherwise be lost or unaccounted for due to various reasons such as late-identified leaks.

The project proposed by the City and LPVCWD perfectly encapsulates the goals of the WaterSMART grant program, and I thank you for the opportunity to submit a letter of support.

Should you have any questions, please contact my office at 626-443-2297.

Sincerely,

Thomas Love
General Manager



City of La Puente

15900 E. Main Street La Puente, CA 91744-4719 Telephone (626) 855-1500 Fax (626) 961-4626 www.lapuente.org

November 4, 2024

Bureau of Reclamation
1849 C Street, NW
Washington, DC 20240-0001

To Whom It May Concern:

I write to you today to offer my strong support for the joint application of the City of Industry (City) and La Puente Valley County Water District (LPVCWD) to the Bureau of Reclamation for the 2024 WaterSMART Water and Energy Efficiency competitive grant program for the City of Industry Waterworks System (CIWS) and LPVCWD Advanced Metering Infrastructure (AMI) project.

The proposed project will include the purchase and installation of automated meters that continuously report water usage to the CIWS and LPVCWD. The new AMI system will replace an analog system where meter readers currently drive-by to read every meter on a monthly basis.

The existing system is outdated with both financial and resource conservation deficiencies. This formerly ubiquitous utility billing method has already been replaced by most municipalities but has remained cost prohibitive to small agencies. Converting to AMI will save significant time for City and LPVCWD staff but, more importantly, it will increase accessibility to water supplies that would otherwise be lost or unaccounted for due to various reasons such as late-identified leaks.

The project proposed by the City and LPVCWD perfectly encapsulates the goals of the WaterSMART grant program, and I thank you for the opportunity to submit a letter of support.

Should you have any questions, please feel free to contact me at (626) 855-1501.

Sincerely,

Bob Lindsey
City Manager



November 12, 2024

Commissioner Camille Calimlim Touton
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Subject: Support for the City of Industry and La Puente Valley County Water District's 2024 WaterSMART Water and Energy Efficiency Grant Application

Dear Commissioner Touton:

The Main San Gabriel Basin Watermaster is appointed by the Los Angeles Superior Court to administer and enforce the Main San Gabriel Basin Judgment which established water rights and the responsibility to effectively manage the quantity and quality of water in the Main San Gabriel groundwater basin (Main Basin).

As the Executive Officer of the Main San Gabriel Basin Watermaster, I endorse the City of Industry and La Puente Valley County Water District's application for the WaterSMART 2024 Water and Energy Efficiency Grant. Our agency is dedicated to administering adjudicated water rights and managing and protecting groundwater resources in the Main San Gabriel Groundwater Basin in Los Angeles County, California. We view their proposed project as a critical step in safeguarding our groundwater resources and ensuring their availability for the future.

The City of Industry and La Puente Valley County Water District's project application aligns closely with our mission to safeguard and manage the vital groundwater resources within our jurisdiction. Their focus on infrastructure improvements and the implementation of advanced meter infrastructure (AMI) is crucial to the sustainable management of our groundwater basin.

The implementation of an AMI system is critical in improving the reliability and quality of their system and consequently, local water supply. These initiatives directly contribute to our overarching goal of reducing reliance on imported water resources and ensuring the long-term sustainability of our groundwater basin. As a result, we believe the City of Industry and La Puente Valley County Water District's proposed project aligns well with the Bureau of Reclamations' WaterSMART program. I enthusiastically encourage the Bureau's due consideration and funding of the project proposed by the City of Industry and La Puente Valley County Water District.

Best regards,

A handwritten signature in black ink, appearing to read "Russ Bryden".

Russ Bryden
Executive Officer
Main San Gabriel Basin Watermaster