Advanced Metering Infrastructure Project

Grant Applicant:

La Habra Utility Authority
621 W. Lambert Road, La Habra, California 90631

Project Manager: Mr. Brian Jones
621 W. Lambert Road, La Habra, California 90631
Email: bjones@lahabraca.gov
Phone: (562) 383-4170
Fax: (562) 383-4497

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Table of Contents

Technical Proposal and Evaluation Criteria 1
Executive Summary 1
Background Data ..... **Error! Bookmark not defined.**
Water Supply and Demand ..... **Error! Bookmark not defined.**
Potential Shortfalls in Supply ..... **Error! Bookmark not defined.**
Water Delivery System ..... **Error! Bookmark not defined.**
Project Description 6
Evaluation Criteria 8
Evaluation Criterion A: Quantifiable Water Savings (25 points) 8
Evaluation Criterion B: Water Sustainability Benefits Expected to Result from the Project (25 points) 12
Evaluation Criterion C: Energy-Water Nexus (18 points) 16
Subcriterion C.1 – Implementing Renewable Energy Projects Related to Water Management and Delivery ..... **Error! Bookmark not defined.**
Subcriterion C.2 – Increasing Energy Efficiency in Water Management **Error! Bookmark not defined.**
Evaluation Criterion D: Addressing Adaptation Strategies in a WaterSMART Basin Study (8 points) 17
Evaluation Criterion E: Expediting Future On-Farm Irrigation Improvements (8 points) 17
Evaluation Criterion F: Implementation and Results (8 points) 18
Subcriterion F.1 – Project Planning 18
Subcriterion F.2 – Support and Collaboration ..... **Error! Bookmark not defined.**
Subcriterion F.3 – Performance Measures 20
Evaluation Criterion G: Additional Non-Federal Funding (4 points) **Error! Bookmark not defined.**
Evaluation Criterion H: Connection to Reclamation Project Activities (4 points) 24
Environmental and Cultural Resources Compliance 29
Letters of Support 32
Required Permits or Approvals ..... **Error! Bookmark not defined.**
Official Resolution 32
Project Budget ..... **Error! Bookmark not defined.**
Funding Plan and Letters of Commitment ..... **Error! Bookmark not defined.**
Budget Proposal ..... **Error! Bookmark not defined.**
Budget Narrative ..... **Error! Bookmark not defined.**
Unique Identity Identifier and System for Award Management 33
Exhibits 34
Exhibit A – Letters of Support 34
Exhibit B – Sample Resolution 41
Exhibit C – Application for Federal Financial Assistance SF-424 43
Exhibit D – Budget Form SF-424C 46
Exhibit E – Assurances Form SF-424D 47

Technical Proposal and Evaluation Criteria

The technical proposal and evaluation criteria (50 pages maximum) includes: (1) the Executive Summary, (2) Background Data, (3) Technical Project Description, (4) Project Description, and (5) Evaluation Criteria.

Executive Summary

May 9, 2018
Mr. Brian Jones, Water Manager
City of La Habra Utility Authority, La Habra, Orange County, California

- **A one-paragraph project summary that specifies the work proposed, including how project funds will be used to accomplish specific project activities and briefly identifies how the proposed project contributes to accomplishing the goals of this FOA.**

The City of La Habra Utility Authority (Utility Authority) has implemented an Advanced Metering Infrastructure (AMI) Project (AMI Project) as part of its long-term goal of water supply reliability and efficient water management. The AMI Project includes the upgrade of 13,220 existing manually-read water meters with an AMI fixed-based network system that will automatically collect and store hourly consumption data, aiding in water conservation and water use efficiency, improved water management, energy savings, and reduced carbon emissions. The Utility Authority is entering into the fourth and fifth phases of its AMI Project with AMI Project Activities to include: 1) upgrade of 5,001 water meters to an AMI fixed- based network that will automatically collect and store hourly consumption data; 2) deploy a web-based utility management portal and a web-based customer portal for water customers to access their accounts to view both real-time flow and information and historical usage data. The upgrade to a fully automated AMI system leads to wide-ranging efficiency improvements resulting in water savings of 462.48 acre-feet per year (AFY) for the fourth and fifth of seven phases, 1,374,028 kilowatt hours (kWh) per year in energy savings, and carbon emissions reductions on the order of 838,157 pounds of C02 per year. Furthermore, deployment of a Customer Portal through which water users will have online access to their own real-time hourly water usage data will prompt customers to make positive changes to their water use behaviors. The AMI Project will reduce real system losses and increase water use efficiency and conservation through the availability of near real-time data on water usage and daily water needs. Fifteen (15) percent of the Utility Authority's drinking water is surface water imported by the Metropolitan Water District of Southern California (MWD) and delivered via the Municipal Water District of Orange County and the California Domestic Water Company. MWD's imported water sources are the Colorado River and the State Water Project, which draws water from the San Francisco-San Joaquin Bay Delta. The AMI Project wil1 expand upon the Authority's efforts to promote water use efficiency by accomplishing the following: 1) More rapid identification and correction of water leaks (currently meters are read every month allowing leaks to go undetected and water to be wasted for a month before being noticed), 2) More accurate meter readings compared to aging meters (half of the Authority's meters are greater than 20 years of age and are likely erroneously registering lower water use than actual water use), and 3) Reduced potable water usage based on customer education through the AMI Project's data on water usage. With the current drought conditions and decreased reliability of imported water

supply, conservation and water use efficiency are key factors for improving water sustainability within the service area. Figure 1 shows the Project Location.

- **State the length of time and estimated completion date for the project.**

Following the September 30, 2018 Funding Award, the fourth phase of the Utility Authority's AMI Project will be completed by August, 2019 and the fifth phase will be completed by August, 2020, or within two (2) years of awarding of the grant.

- **Whether or not the project is located on a Federal facility.**

The AMI Project is not located on a Federal facility.

Background Data

The La Habra Utility Authority's service area covers nearly 7.6 square miles and includes the entire City of La Habra. La Habra is located in northwest Orange County, California. The City is bounded by the City of Brea to the east, the City of Fullerton to the south, the Cities of Whittier and La Mirada to the west, and the City of La Habra Heights to the north. The service area is characterized by gently rolling and steep hillside areas.

Figure 1 shows the location and boundary of the Utility Authority in the State of California, within the County of Orange, and with the City of La Habra as identified.

Water Supply and Demand

The Utility Authority currently obtains water from three water sources: treated import water from the Metropolitan Water District of Southern California (MWD) through the Municipal Water District of Orange County (MWDOC), the California Domestic Water Company (CDWC), and from local groundwater supplies. Groundwater is supplied from three Utility Authority-owned wells. All three wells pump water from the La Habra Groundwater Basin. About 35-40 percent of the Utility Authority's recent water production has come from this groundwater source.

Imported groundwater from CDWC is pumped from the Main San Gabriel Basin and accounts for approximately 55-60 percent of the Utility Authority's total production. The Authority owns 2,333.25 shares of common stock, and 912.85 shares of Class A preferred stock (664 AFY in water rights) in the CDWC. The entitlement criterion for common shares varies every year based on the safe yield of the Main San Gabriel Basin. Historically, this has been about 1.38 to 1.90 acre-feet per common share. Over the past three years, the Utility Authority has purchased an average of 5,740 AFY. Typically, the Utility Authority will exceed entitlement supplies and will purchase an additional 1,000 AFY of water from the Main San Gabriel Basin. Over-entitlement waters are comprised MWD's Full Service Tier 1 water imported by the Main San Gabriel Basin Watermaster and then transferred to La Habra via CDWC.

The Utility Authority has direct access to imported water from the Metropolitan Water District of Southern California, through two metered connections. The first connection, OC-4, takes water

from MWD's Orange County Feeder which is supplied from the Weymouth Treatment Plan. The second connection, OC-45, takes water from MWD's lower Feeder which is supplied by the Diemer Treatment Plant. Until 2012, MWD water represented the second largest supply source with an average annual production of 2,650 AFY or 28% of the Authority's total annual supply. In 2012 and 2013, the Authority invested heavily in the development of the La Habra Groundwater Basin drilling two new wells and increasing pumping capacity from 1,400 gpm to approximately 3,600 gpm. These efforts reduced La Habra's dependence to approximately 500 AFY.

For the FY period 2012-13 to 2014-15, the Utility Authority's total production averaged 9,755 AFY, with an average daily usage of 8.7 MGD.

The Utility Authority has approximately 13,220 service connections for approximately 63,000 residents and businesses. The Utility Authority has the following billing classifications: single-family residential, multi-family residential, commercial (includes churches, industrial, hotels, and institutional/government), and irrigation. Table 2 shows water demand by sector.

Table 2. Water Demand by Sector - Current and Projected

		Projected Water Use				
Water Use Sector	2015 (Actual)	2020	2025	2030	2035	2040
Single Family Residential	5,763	5,175	5,503	5,511	5,521	5,507
Multi-Family Residential	1,574	1,413	1,503	1,505	1,508	1,504
Institutional/Governmental	258	232	246	247	247	247
Commercial	1,211	1,087	1,156	1,158	1,160	1,157
Landscape	778	699	743	744	745	743
Total	9,584	8,606	9,151	9,165	9,181	9,158

Source: Water Manager, Brian Jones, City of La Habra Utility Authority

Potential Shortfalls in Supply

Although all of California has been experiencing extreme drought and water use efficiency and conservation continues, the Utility Authority does not anticipate a shortfall in supply to meet demands. Even with continuing regulations of increased water conservation in California currently - the Utility Authority is well positioned to receive supply to meet demand through its 2020 projections and beyond.

In addition, describe the applicant's water delivery system as appropriate. For agricultural systems, please include the miles of canals, miles of laterals, and existing irrigation improvements (i.e., type, miles, and acres).For municipal systems, please include the number of connections and/or number of water users served and any other relevant information describing the system.

Water Delivery System

The Utility Authority's water distribution system consists of reservoir storage, pump stations, pressure reducing stations, pipelines, interconnections, emergency generators, and pumping connections.

Currently, the Utility Authority maintains 13,220 service connections and 140 miles of distribution pipelines, ranging in diameter from 4 to 24 inches. Water supply, currently all potable, is received through two Metropolitan Water District of Southern California connections: OC-4 and OC-45, 16 interconnections with CDWC, and 3 groundwater wells. OC-4 and OC-45 have a combined capacity of 18,000 gpm. The interconnections with CDWC have a combined capacity of approximately 9,750 gpm, and the 3 groundwater wells have a capacity of approximately 3,600 gpm.

The Utility Authority also maintains 3 storage reservoirs with a total storage capacity of 16.8 million gallons serving 19 pressure zones. These reservoirs are used for daily fluctuations in demand while providing approximately 2-3 days of water to the community in the event of an emergency. Utility Authority staff operates and maintains 5 booster pumping stations, 49 pressure reducing stations, and 8 pressure sustaining stations.

The Utility Authority's service area is primarily a built-out community, with very little growth anticipated within the existing service area. Only minor development, re-development and in-fill projects are expected; therefore, no substantial increase in water usage due to development and major system expansions is expected in the future.

If the application includes renewable energy or energy efficiency elements, describe existing energy sources and current energy uses.

The Utility Authority relies on electricity from Southern California Edison and the Utility Authority does not produce any renewable energy itself. The AMI Project would serve to modernize the Utility Authority’s water management facilities and equipment to increase energy efficiency by installing AMI technology. The proposed AMI Project would promote energy efficiency by reducing fuel consumption and frequency in maintenance of vehicles previously used to collect monthly meter readings and quantifiably reduce energy consumption through significant improvements in water use efficiency and conservation that would reduce pumping and importation of water from MWD, which receives its supply from the State Water Project and the Colorado River Aqueduct. The importation of water is extremely energy intensive, and much of the state's energy consumption is attributed to the conveyance of water. Any reduction in water loss and overall consumption would have an impact on increasing energy efficiency of the overall system operations. Based on the publication "California's Water - Energy Relationship" prepared by the California Energy Commission (November 2005, page 51), the amount of electrical energy required to transfer 1 acre-foot of water from northern California to southern California requires an estimated 3,000 kWh. The same publication also estimates 2,000 kWh for each acre-foot of water that is imported from the Colorado River to southern California. Combining the two water sources, the amount of power per AF required to transfer the water is approximately 2,500 kWh or 7,500,000 kWh/year.

In addition to the 2,500 kWh/AF required for conveyance and pumping of State Water Project and Colorado River Aqueduct imported water, the Utility Authority uses additional energy to

distribute that water. The Utility Authority serves water at elevations from 319 ft.-MSL to 543 ft.-MSL. Due to the variation in topography, pumping is required to move this water throughout the system. To pump the imported water for distribution is an additional 471 kWh/AF based on actual energy usage provided by Utility Authority staff. Therefore, 2,971 kWh/AF of energy is used to distribute the water within the service area. A reduction in consumption by 462.48 AFY due to increased water use efficiency and decreased water losses could result in a savings of approximately 1,374,028 kWh per year on the potable water system.

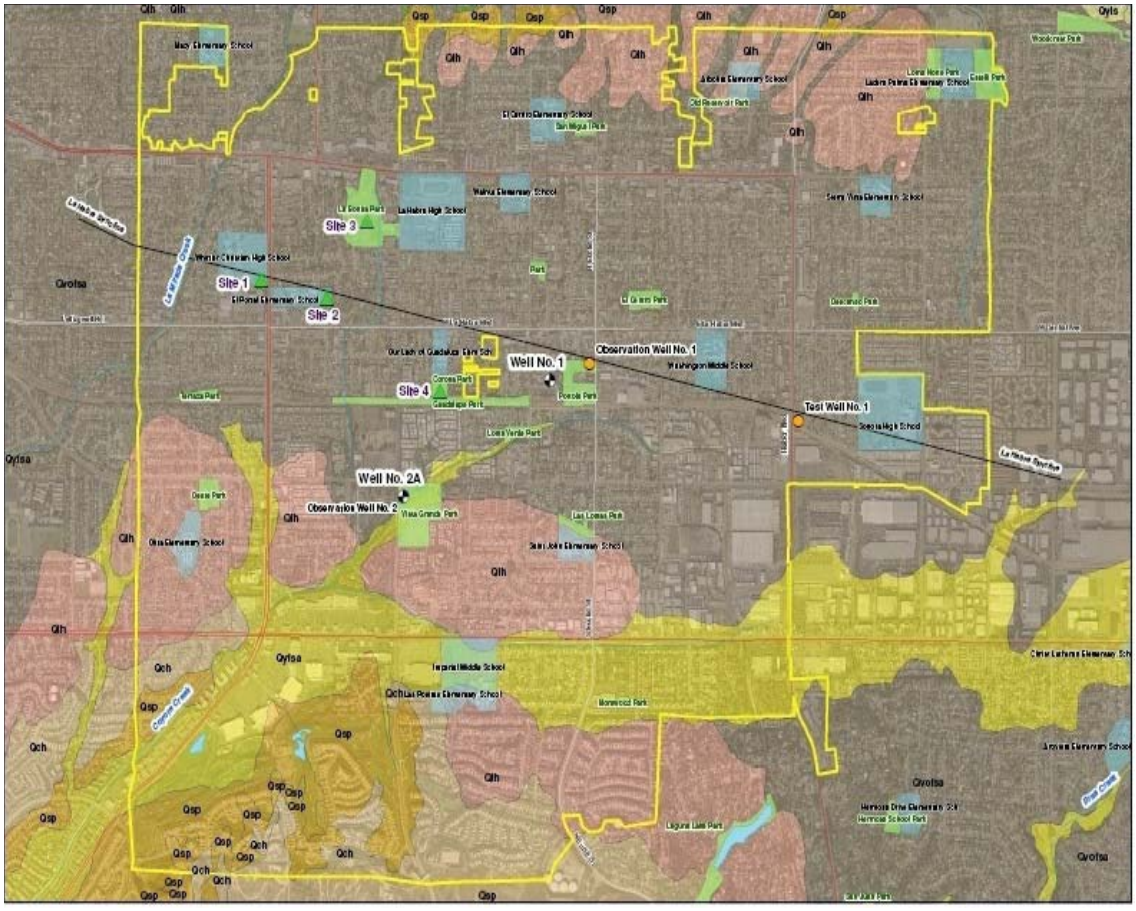
Identify any past working relationships with Reclamation. This should include the date(s), description of prior relationships with Reclamation, and a description of the projects(s).

MWDOC was a recipient of the U.S. Bureau of Reclamation, WaterSMART Grant RIOAP35290 for $499,000. Although the Utility Authority of La Habra was not a recipient of the Grant, they were a project participant that contributed to the completion of the Project.

Project Location

The La Habra Utility Authority is located in the northwest corner of Orange County, California. The actual AMI project will be citywide at numerous locations within the City of La Habra.

Figure 1- City of La Habra



Technical Project Description

The project description should describe the work in detail, including specific activities that will be accomplished as a result of this project. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal.

General Scope: The Utility Authority has implemented an Advanced Metering Infrastructure Project as part of its long-term goal of water supply reliability, water conservation, and efficient water management. The AMI Project includes the upgrade of approximately 13,220 manually-read water meters to an automated fixed base network system that will collect and store meter readings hourly. The Utility Authority began the AMI Project in FY2015-16 with the intent of automating all meters over an 8-year period, but the project is now anticipated to finish over a 7-year period.

Project Work: Entering into the fourth and fifth of seven phases, the Utility Authority will install automate 5,001 water meters. Of the 5,001 water meters, 1,827 will require complete replacement of the water meter whereas 3,174 will require replacing the register of an existing meter with an automated digital register. The meters automated during the third phase of the project represent five meter reading routes. As each route is completed, real time access for both staff and water customers will be enabled.

The actual project work associated with the AMI Project is extremely straightforward. The La Habra Utility Authority will use grant funds to purchase various sizes of meters equipped with AMI technology, replacement AMI registers, and composite meter box lids. The Authority has already installed a communications network, and integrated a meter reading software with utility billing software.

Project Tasks

Task 1: Project Management

Activities include coordination of all Project activities including budget, schedule, materials procurement, communication, and grant and cost-share administration (preparation of invoices and maintenance of financial records).

Deliverables: Preparation of invoices and other deliverables as required.

Task 2: Reporting

Reporting of the financial status and project progress will be conducted on a quarterly basis. Significant development reports and a final project report will be prepared. Additionally, the Project will comply with any other reporting requirements specified in the Grant Agreement.

Deliverables: Submission of quarterly, annual, and final reports as specified in the Grant Agreement.

Task 3: Design

None required.

Deliverables: None

Task 4: Environmental Documentation

The Utility Authority's AMI project is categorically exempt under the California Environmental Quality Act (CEQA) and will simply replace existing water meters. The data collection tower installed in Phase 1 of the project was constructed on Utility Authority-owned property. The Utility Authority does not anticipate any environmental impacts associated with the AMI project. An environmental assessment satisfying Federal requirements (NEPA), associated with Federal contracting/grant agreements will be completed.

Deliverables: Confirm completed and approved environmental documentation.

Task 5: Permitting

No permits will be required for the Utility Authority's AMI project, as all work will be performed on existing Utility Authority-owned facilities. Any project-related approvals, if required, will be executed by Authority staff in a timely manner.

Deliverables: Appropriate permitting and approvals will be obtained.

Task 6: Installation

This involves the installing of 5,001 water meters, registers, and lids. The work will be completed by Authority staff.

Deliverables: Reference Task 7: Construction Management

Task 7: Construction Management

Utility Authority staff will negotiate, execute and manage the cooperative agreement with Reclamation. Reporting will be performed on a semiannual basis, including submittal of Financial Reports and Program Performance reports, as well as Financial Reimbursement Requests using the online ASAP system through the System for Award Management (SAM). Program Performance and Final Reports will be in accordance with requirements included in the cooperative agreement. Performance Reports will include information regarding the status of the Project's Performance Measures, including Water Savings, Water Better Managed, Energy Savings, and Carbon Emission Savings. The methods of measuring Project Performance, which will be used for producing these reports, are explained in more detail in Subcriterion F.3 Performance Measures.

Evaluation Criteria

The evaluation criteria portion of your application should thoroughly address each of the following criterion and subcriterion in the order presented to assist in the complete and accurate evaluation of your proposal. (Note: it is suggested that applicants copy and paste the below criteria and subcriteria into their applications to ensure that all necessary information is adequately addressed). Applications will be evaluated against the evaluation criteria (listed below), which comprise 100 points of the total evaluation weight. Please note that projects may be prioritized to ensure balance among the program Task Areas and to ensure that the projects address the goals of the WaterSMART program.

Evaluation Criterion A: Quantifiable Water Savings (30 points)

*Up to **25 points** may be awarded for a proposal that will conserve water and improve efficiency. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in significant water savings.*

Describe the amount of estimated water savings.

The La Habra Utility Authority AMI Project is expected to result in a large amount of water, energy, and greenhouse gas savings. The Authority expects the project to conserve 462.48 Acre feet per year (AFY). This water savings will also result in savings of approximately 1,374,028 kWh per year on the potable water system, or 838,157 pounds of carbon dioxide emissions.

Describe current losses.

The Utility Authority recently completed a Water Master Plan (September, 2017). Historical water consumption information by customer class was provided for the period from 1993 to 2016. The total water demand for the 13,220 service connections is approximately 9,480 AFY[1]. A comparison of total production versus total metered purchases calculated an average 8% water loss over the past 23 years[2], resulting in approximately 940.33 AFY[3] in water losses.

Unmetered water losses are likely seeping back into the ground or making its way into a storm drain or ocean. Metered water losses could also be seeping into the ground, but are also possibly going down the sewer drain. The AMI project is projected to change behavior in residents so that they will reduce their metered water use and discover unknown leaks. Water conserved as a result of the Project's implementation represents a decrease in local demand, which would decrease the amount imported by the Utility Authority through MWDOC, and MWD, decrease the amount

[1] City of La Habra 2017 Water Master Plan, page 4-2, conversion rate on 1-6
[2] City of La Habra 2017 Water Master Plan, page 4-3
[3] City of La Habra 2017 Water Master Plan, page 4-3

imported through Cal Domestic, and decrease the amount pumped from the La Habra Groundwater Basin. Thereby, the conserved waters will remain at their sources, for environmental and other uses.

Describe the support/documentation of estimated water savings:

Please address the following questions according to the type of project you propose for funding.

(2) 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, when existing individual user meters are replaced with advanced metering infrastructure (AMI) meters, and when new meters are installed within a distribution system to assist with leakage reduction. 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 Utility Authority's AMI Project will be able to reduce some of the estimated 940 AF in water losses, but the project is expected to show even more savings from the metered water demand mostly from improved leak detection and repair. As this phase of the AMI project is expected to install 5,001 meters, it represents 37.82% of the entire meter population (13,220). La Habra's estimated average annual water savings will be totaled from the following two savings areas of 1) Improved Customer Side Leak Identification, and 2) Improved Accuracy of Meters. All calculations are based upon data from various sources which are noted sections (b) and (c) under this Criterion section.

Improved Customer-Side Leak Identification
The City's AMI Project will achieve water savings by implementing more rapid identification and correction of water leaks. Currently meters are read every month allowing leaks to go undetected and water to be wasted for a month before being noticed. The new AMI meters will provide readings every hour. This will enable customers and Water Authority staff to identify leaks more easily, such as higher than normal minimum night flow (MNF) values. The software will notify the authority of potential leaks and the volume of the potential water loss and staff will work with the customer to inform them of the amount of potential water losses. Educating the customers on their actual water usage will reduce potable water usage.

Savings will also result from the deployment of a Customer Portal, through which customers for all AMI units will be able to independently access their own real-time flow data on the Utility

Authority's website. Customers will be able to set up alerts and reports through the customer portal and the software will enable notifications through text or email. These system generated notifications will assist customers to monitor their consumption and if it has reached a particular threshold. Additional water savings will come from self-leak detection and water use behavioral change on the part of customers who access the data for the purpose of monitoring their consumption.

Improved Residential (SFR) Customer-Side Leak Identification:
Annual Water Savings = Consumption x SFR% x % of Leaks x % of Meters Installed
Annual Water Savings = 9,480 AF x 57.6% x 13.0% x 37.82% = **268.47 AFY**

Improved Non-SFR Customer-Side Leak Identification:
Annual Water Savings = (GPCPD converted to AF) x % of Leaks x % of Meters Installed
Annual Water Savings = 874.51 AF x 42.4% x 37.82% = **140.23 AFY**

Improved Accuracy of Meters
The new AMI meters that the Water Authority will install give more accurate meter readings when compared to the current aging meters. Half of the Utility Authority's meters are at replacement age and are likely erroneously registering lower water use than actual water use.

Improved Accuracy of Meters
Annual Water Savings = Consumption x % Inaccuracy x % of Meters Installed
Annual Water Savings = 9,480 AF x 1.5% x 37.82% = **53.78 AFY**

Total Amount of Water Saved/Conserved (AFY):

Improved Residential SFR Customer-Side Leak Identification:	268.47 AFY
Improved Non-SFR Customer-Side Leak Identification:	140.23 AFY
Improved Accuracy of Meters:	53.78 AFY
TOTAL AMOUNT SAVED:	**462.48 AFY**

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

The Utility Authority's Water Master Plan describes system losses in order to determine water demand and development within the Utility Authority. Historic water usage in the 23-year period from 1993 to 2016 was analyzed with yearly totals of water delivered to the Utility Authority, water billed to customers, and active services. The Water Master Plan described water conservation measures to reduce water loss. In addition, as described above in section (a), current distribution system losses were determined by the Utility Authority comparing the total water purchased and produced to the water billed to customers and calculated an average of 8% water

loss over the past 23 years, resulting in approximately 940.33 AFY in water losses. Some potential reasons for water loss include water used in operation and maintenance, pipe leaks, reservoir leaks, fire department use, meter error and unmetered water usage.

(c) For installing individual water user meters, 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 Water Authority's Improved Customer-side leak identification water savings was determined from the following facts and reports. An Energy Department report cited that "leaks account for 13% of all residential indoor water consumption across the U.S."[4] This savings area was used for single-family residential (SFR) units only. A recent rate study report found that 57.6% of all La Habra water consumption is from SFR.[5] For Non-SFR units, we used data from a City of Sacramento study that found that fixing 1,076 citywide leaks resulted in a savings of 12.6 gallons per capita per day[6]. This per capita estimate was used to determine the remaining 42.4% of water consumption.

The Water Authority has not performed specific local studies on meter inaccuracy. In concurrence with the annual AWWA water loss calculation report, an inaccuracy assumption of 1.25% will be used. The Water Authority used this same assumption amount on the 2016 AWWA water loss calculation worksheet.

(d) If installing distribution main meters will result in conserved water, please provide support for this determination (including, but not limited to leakage studies, previous leakage reduction projects, etc.). Please provide details underlying any assumptions being made in support of water savings estimates (e.g., how leakage will be reduced once identified with improved meter data).

Not applicable. No AMI distribution main meters will be installed.

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

Phases 4 through 6 of the AMI Project includes the upgrade of 5,001 existing water meters, which are currently manually read, with an AMI fixed base network system. The Authority is deploying

[4] M. A. Berger, L. Hans, K. Piscopo, and M. D. Sohn (2016, August). Exploring the Energy Benefits of Advanced Water Metering. Ernest Orlando Lawrence Berkeley National Laboratory. Page 19.
[5] S. D. Pardiwala, K. Harmon (2017, November). City of La Habra Cost of Service and Water Rate Study. Raftelis Financial Consultants. Page 10.
[6] M. A. Berger, L. Hans, K. Piscopo, and M. D. Sohn (2016, August). Exploring the Energy Benefits of Advanced Water Metering. Ernest Orlando Lawrence Berkeley National Laboratory. Page 19.

a multi-jet water meter manufactured by Master Meter Systems. Meters are equipped or are retrofitted with an Allegro 4G digital register. The transmitter is contained within the Allegro 4G register, eliminating a wired connection from meter to transmitter.

(f) How will actual water savings be verified upon completion of the project?

Actual water savings will be verified upon completion of the AMI Project through the use of utility data management software to conduct a water balance of the completed Phases. Additionally, all usage data for all meters equipped with AMI will be compared to historical values to determine water savings due to increased water use efficiency.

Evaluation Criterion B: Water Supply Reliability (18 points)

Up to 18 points may be awarded under this criterion. This criterion prioritizes projects that address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflicts in the region.

Please address how the project will increase water supply reliability. Proposals that will address more significant water supply shortfalls benefitting multiple sectors and multiple water users will be prioritized. General water supply reliability benefits (e.g., proposals that will increase resiliency to drought will also be considered. Please provide sufficient explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:

Does the project promote and encourage collaboration among parties in a way that helps increase the reliability of the water supply?
The AMI Project will improve the reliability of water supplies from both the State Water Project and the Colorado River Aqueduct, which would ultimately benefit people, agriculture, and the environment associated with both of these water supply sources. The Utility Authority is committed to the collaboration and maintenance of regional and local partnerships to enhance water supply reliability by promoting a regional common goal and adding flexibility to water portfolios and distribution systems. The AMI Project will provide a step forward in contributing towards this goal. This AMI Project could result in an additional availability of approximately 9,244.4 AF of water supply over the 20-year lifespan of the project that would otherwise be lost and unavailable to the Utility Authority and region. The AMI Project enhances its partnership with MWDOC to work towards greater regional water conservation efforts throughout Southern California.

Is there widespread support for the project?
Yes, there is widespread support for the AMI Project from MWDOC, Congressman Ed Royce, Assemblyman Phillip Chen, the State Water Resources Control Board, and Water Systems Optimization, as it aims to enhance water reliability for the region and State.

What is the significance of the collaboration/support?
The significance of the collaboration is that the AMI Project would provide a step forward in contributing towards this goal. This AMI Project, if funded, could result in an additional availability of approximately 462.48 AFY of annual water supply that would otherwise be lost and unavailable to the Utility Authority and the Orange County region. Increased collaboration between the Utility Authority and its customers will also demonstrate acknowledgement of the Utility Authority's progressive approach to increasing conservation through improved water management.

Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?
Yes, the Authority's AMI project will show other water users real time usage data. With this data, they could be encouraged to perform water conservation improvements on their house or business.

Will the project make water available to address a specific water reliability concern? Please address:

Explain and provide detail of the specific issue(s) in the area that is impacting water reliability, such as shortages due to drought, increased demand, or reduced deliveries.
The Colorado River Basin (Basin) Water Supply and Demand Study confirms that without future actions, the Basin faces a range of potential future imbalances between supply and demand. As the Utility Authority is reliant on imported water sources, availability of water supply from the State Water Project and Colorado River Aqueduct are critical. One of the primary adaptation strategies identified in the Basin Study included water use efficiency and reuse. The AMI Project would help increase water use efficiency of potable water. Greater water use efficiency would reduce the stress on the system and its limited water supply.

Describe where the conserved water will go/how it will be used. Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)? Will it be left in the river system?
The conserved water from the La Habra AMI project will reduce demand on the imported State Project and Colorado River Aqueduct water. This extra water can be used at the discretion of the State planning agencies. The water could be left to remain in the river, which will benefit the environment, or the water can be put to other uses such as agriculture, or used in other Bureau of Reclamation areas that are competing for water or have even more limited water supplies.

Describe how the project will address the water reliability concern?

The Basin Study's portfolio includes in Chapter 3 an adaptation strategy for municipal water conservation and reuse, and the proposed WaterSMART Grant Project will address the imbalance between water supply and demand identified in the Basin Study by reducing the demand on imported water from the Colorado River and State Water Project. Imported water supplies for Orange County are uncertain due to periodic droughts in northern California and the Colorado River Basin, court decisions related to Bay-Delta endangered species, implementation of the terms of the Quantification Settlement Agreement for Colorado River water, and environmental concerns affecting delivery of Owens Valley water. Changing demographics and climate variability present many additional long-term challenges to an adequate water supply. Various Orange County area water management agencies, such as the Utility Authority, have and will continue to pursue the development of local water resources. The AMI Project will implement water conservation measures to assist with water savings for the region. The AMI Project contributes to a sustainable water supply within the Utility Authority's service area and provides an overarching benefit to the region. The AMI project will conserve an estimated **462.48 AFY or 9,249.6 AF over the 20-year useful lifespan of the project.** The water conserved can be re-allocated to those impacted by water supply shortages due to the current drought.

Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?
There is a water-related conflict within the Bay-Delta and the Colorado River Basin (over limited water supplies) from which the Utility Authority receives its imported water. This AMI Project will help to reduce the amount of water needed for import to southern California through the MWD system. In addition, this AMI Project may serve as a model to other agencies that are looking for ways to meet current emergency drought reductions. The water-related conflict within the Bay-Delta and Colorado River is significant and implementing the AMI Project will assist in increasing local water reliability and decreasing imported water demand.

Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.
Of the 462.48 AFY that will be saved, the State planning agencies tasked with the allocation of water, can reallocate those water resources to another use. Of the multiple annual claims and demands on California's water resources, another agency or region could have their allocation increase, whether it be another water agency, an environmental interest, or agricultural interest. This water is not available for other uses in the state.

Describe the roles of any partners in the process. Please attach any relevant supporting documents.
The Authority is not collaborating with other agencies, so not supporting documents are not needed.

Indicate the quantity of conserved water that will be used for the intended purpose.
The AMI project will conserve an estimated **462.48 AFY or 9,249.6 AF over the 20-year useful lifespan of the project.** The water conserved can be re-allocated to those impacted by water supply shortages due to the current drought.

Will the project benefit Indian tribes?
The project will indirectly benefit Indian tribes if those tribes depend on the same imported water from the State Water Project or Colorado River Aqueduct that the La Habra Utility Authority uses. This project will reduce the Authority's water use from these sources thus making them more sustainable for others to use, such as Indian tribes.

Will the project benefit rural or economically disadvantaged communities?
Yes, the AMI Project will indirectly make water available for economically disadvantaged communities. The AMI Project will conserve 462 AFY of potable water thereby making that same amount of potable water available to serve Disadvantaged Communities (DACs) within the Orange County region. The AMI Project will increase regional supply reliability, decrease water consumption, and decrease energy needed for supplying and transporting water. The City of La Habra, which is directly served by the Authority does have several neighborhoods listed under as disadvantaged communities as defined by the Department of Housing and Urban Development (HUD).

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.
The Sacramento Bay-Delta is home to the Delta Smelt. Historically, delta smelt were relatively abundant in the upper Sacramento-San Joaquin Estuary, with populations declining dramatically in the 1980s. They were listed as threatened by both federal and state governments in 1993, and sustained record-low abundance indices prompted their listing as a protected species through a 2007 court order. In 2010, the species was listed as endangered under the California Endangered Species Act. The fish is extremely endangered and recent sampling done in 2015 collected only 6 specimens in contrast to several hundred collected in samples in years prior (Source: National Geographic). A last ditch effort to save the species from extinction was released in July, 2016 by the California Natural Resources Agency and is titled the "Delta Smelt Resiliency Strategy." It calls for allowing between 85,000 and 200,000 acre-feet of extra water to wash out to sea in the summer to bolster the smelt habitat (Source: Sacramento Bee).

The La Habra Utility Authority is not aware of a specific ratio or recovery rate for certain endangered species living in either the Sacramento Bay Delta or the Colorado River watershed, but our projected water savings of 462.48 AF per year for this phase of our AMI project will help to alleviate the environmental stress on this specific endangered species.

The Utility Authority's AMI project will be able to address specific critical habitats that survive in the Sacramento River and Colorado River watersheds. The project will help to reduce the Authority's dependence on imported water thereby benefitting the habitat of the Delta Smelt and other species. The Authority does not have specific data on areas covered. The primary endangered species that the Authority is aware of is the Delta Smelt. Salmon and other species will also benefit. The water savings created from this phase of our 8-year project will be able to benefit the Smelt habitat. By keeping water flows higher in the delta, seawater intrusion will be limited and the Smelt will have an increased chance of survival.

The Utility Authority's AMI project will have no negative impacts to endangered, threatened, candidate species, or critical habitats. Conversely, the AMI project would only have positive impacts to species and habitats.

Will the project address water supply reliability in other ways not described above?
The ways water conserved through the project will improve water supply reliability have been listed.

Evaluation Criterion C: Implementing Hydropower (18 points)

Up to 18 points may be awarded for this criterion. This criterion prioritizes projects that will install new hydropower capacity in order to utilize our natural resources to ensure energy is available to meet our security and economic needs.

Although this project will not be implementing a hydropower project, this project is expected to save a lot of energy. Based on the publication "California's Water- Energy Relationship" prepared by the California Energy Commission (November 2005, page 51), the amount of electrical energy required to transfer 1 acre-foot of water from northern California (State Water Project) to an area just north of the Authority requires 3,000 kWh. The same publication also identifies 2,000 kWh for each acre-foot of water that is imported from the Colorado River to Southern California. Using an assumed 50-50 split of water sources the amount of power per AF required to transfer the water is 2,500 kilowatt-hours per AF (kWh/AF) for a total of 7,500,000 kWh per year. "Energy Down the Drain: The Hidden Costs of California's Water Supply," by the National Resources Defense Council indicates that the amount of energy used to deliver water from the State Water Project to Southern California over the Tehachapi Mountains is equivalent to one-third of the total average household electric use in the region. This does not include the energy required to import water to Southern California from the Colorado River Aqueduct, and any reduction in water loss and overall consumption would reduce the overall energy consumption from system operations.

In addition to the 2,500 kWh/AF required for conveyance and pumping of State Water Project and Colorado River Aqueduct imported water, the Authority uses additional energy to distribute that water. The Authority serves water at elevations from 319 ft.-MSL to 543 ft.-MSL. Due to the variation in topography, pumping is required to move this water throughout the system. To pump the imported water for distribution is an additional 471 kWh/AF based on actual energy usage

provided by Authority staff. Therefore, a total of 2,971 kWh/AF of energy is used to distribute the water within the service area. A reduction in consumption by **462.48 AFY** due to increased water use efficiency and decreased water losses could result in a savings of approximately **1,374,028 kWh per year** on the potable water system, or **838,157 pounds per year** of greenhouse gas emissions.

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

Up to 10 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.

This section does not apply to the Utility Authority's AMI Project.

Evaluation Criterion E: Department of the Interior Priorities (10 points)

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior (DOI) priorities. Please address 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 proposal.

1. Creating a conservation stewardship legacy second only to Teddy Roosevelt.
   The Authority's AMI project highly supports the conservation legacies of Theodore Roosevelt. President T. Roosevelt found tremendous value in conserving wilderness and preserving wild spaces for future generations to enjoy. He wanted to preserve not just the land, but also the trees, plants and other wildlife. He understood that although industry and the extraction of raw minerals and natural resources is important, that there must be a proper balance and the Federal government should be there to help preserve these natural locations for the benefit of the people.

   The authority's AMI project matches the values of T. Roosevelt by assisting to conserve 462.48 Acre-feet of water each year that can help the two major tributaries in the Southwest, the Sacramento Delta and the Colorado River. This project can help these rivers remain a habitable environment for wild species such as the Delta Smelt, Chinook Salmon, Coho Salmon, Bonytail, razorback sucker, humpback chub, and the southwestern willow flycatcher.

   The AMI project will utilize scientific breakthroughs in wireless and computer technology to help customers save water. This best practice will bring our water agency further along in achieving our conservation management goals. This project will indirectly help in resolving water supply conflicts and will expand capacity. This project will indirectly help

to expand access over time to DOI watersheds and access to fishing as well as providing greater access to the public.

2. Utilizing our natural resources

   The Authority's AMI project will save a large amount water and in turn, energy. These energy savings will be available for the nation's security and economic needs.

3. Restoring trust with local communities

   The drought has had and will have long lasting impacts on California. With Federal assistance for water conservation projects that improve water sustainability throughout DOI lands, The DOI will be improving communications and establishing trust in those local and rural areas where the impact of the drought is seen on a daily basis.

4. Striking a regulatory balance

   Not applicable

5. Modernizing our infrastructure

   This project will support the White House Public/Private Partnership Initiative to modernize the U.S. infrastructure be installing 21st century modern metering technology. This AMI technology is improving the interaction between water customers and the water supplier. AMI technology is bringing communities together to better detect leaks, save time, money, water, electricity and the impact of greenhouse gases. As this project highlights the installation of new infrastructure, it matches the highest priority of the DOI.

Evaluation Criterion F: Implementation and Results (6 points)

Up to 6 points may be awarded for these subcriteria.

Subcriterion F.1 – Project Planning

Points may be awarded for proposals with planning efforts that provide support for the proposed project.

Does the project have a Water Conservation Plan, and/or System Optimization Review (SOR) in place? Please self-certify, or provide copies of these plans where appropriate, to verify that such a plan is in place.

Provide the following information regarding project planning:

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

La Habra's 2035 General Plan supports the AMI Project by identifying water use, water loss, and water conservation practices required to reduce water loss. In addition, the Utility Authority completed a Water Audit of FY2014 – 15 data in September 2016. A recommended goal identified improvements in data collection, management, and analysis. The Utility Authority is currently underway with an audit of CY2016 data to support findings of the previous audit. Lastly, the Utility Authority's 2015 Urban Water Management Plan includes Demand Management Measures for system leaks and detection, as well as water conservation measures that support the proposed AMI Project.

(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 conforms to and meets the goals of the City's 2035 General Plan, including water conservation. The AMI Project also meets the goals of the Water Audit to improve upon data collection, management, and analysis.

The AMI Project helps meet the State's AB 32 goals by reducing greenhouse gas emissions as a result of the reduction in water treatment and delivery from imported water supplies. The AMI Project will avoid GHG emissions by conserving approximately 838,157 lbs. of C02/year. The AMI Project also helps to meet the goals of the Utility Authority's regional 2015 Urban Water Management Plan, California Water Plan Update 2009, and MWDOC's Water Reliability Study. Water use efficiency and energy efficiency are two of the main goals in all of these plans that will enable the region to manage water supplies and resources for future generations. Lastly, as a member agency, the Utility Authority is covered by MWDOC's Regional Urban Water Management Plan. MWDOC is a member of the CUWCC. The AMI Project supports the Utility Authority's efforts to achieve their Conservation Demand Management Measure and Best Management Practice goals as well as the statewide goals of 20% reduction in urban water use by 2020 as mandated by SBX7-7.

Subcriterion F.2 – Performance Measures

Points may be awarded based on the description and development of performance measures to quantify actual project benefits upon completion of the project.

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 Measurement Guidance.

Performance Measure A: Projects with Quantifiable Water Savings

Performance Measure A.2.a. Measuring Devices: Municipal Metering

For projects that install or replace existing municipal meters, the applicant should consider the following:

- **Whether the project includes new meters where none existed previously or replaces existing meters.**

  The AMI Project replaces existing meters with AMI meters.

- **Whether the project includes individual water user meters, main line meters, or both.**

  The AMI Project includes water user meters only.

- **If the project replaces existing meters with new meters, whether new technologies (automatic meter reading (AMR) or advanced metering infrastructure (AMI) meters) will be employed.**

  AMI meters will be employed.

- **If main line meters are included, whether system leak detection and leak reduction may be improved.**

  Main line meters are not included.

- **Include a description of both pre and post-project rate structuring.**

The Utility Authority is in the first year of a new tiered rate structure. In January, 2018, the La Habra Utility Authority and the La Habra City Council adopted a two-year rate structure with the first year effective February 1, 2018, and the second year effective on January 1, 2019. Water meters are read on a monthly basis.

Monthly service charge – The Utility Authority's service charge is levied against all customers in the service area on a monthly basis based on the size of each meter on the customer's premises. The charge recovers costs associated with providing water to the serviced property, which do not vary with consumption. These costs include meter reading and billing customers for each monthly period, maintenance of meters and service lines in the distribution system, administrative costs, water quality testing, and salaries and benefits.

Variable Use Charge (Billed per ccf)	Multi-Year Rate	
	2018	2019
Residential		
Tier 1	$2.16	$2.33
Tier 2	$3.59	$3.88
Tier 3	$4.31	$4.65
Multi-Family		
Uniform Tier	$2.63	$2.84
Commercial		
Uniform Tier	$3.07	$3.32
Municipal		
Uniform Tier	$3.62	$3.91
Irrigation		
Uniform Tier	$4.18	$4.51

Monthly Service Charge (Based on Meter Size)	Multi-Year Rate	
	2018	2019
5/8"	$13.71	$14.81
3/4"	$19.17	$20.70
1"	$30.08	$32.49
1 1/2"	$57.36	$61.95
2"	$90.10	$97.31
3"	$166.48	$179.80
4"	$275.60	$297.65
6"	$548.39	$592.26
8"	$875.75	$945.81

The performance measures that will be used to quantify actual benefits upon completion of the AMI Project will include measures to quantify water savings, water better managed, and energy savings resulting from the installation of the newer, more technologically-advanced water meters.

Pre and post installation consumption measurements will be analyzed for all customers who are notified by the Utility Authority that they have a leak and for all customers who view their flow data through the Customer Portal. Water consumption at each of the 5,001 sites where the AMI units will be installed will be monitored over a 12-month period using monthly billing data. Post-installation water consumption for each of the AMI units will be compared against pre-installation consumption to verify water savings. The following table summarizes the performance measures of the AMI Project that will demonstrate and quantify actual benefits and effectiveness of the AMI Project. Water use monitoring will be provided to USBR throughout the reporting period and will be included in the final report. Water use monitoring will continue beyond that timeframe to be able to make a fair assessment of the actual water savings from this AMI Project. The table below summarizes the Project Performance Measures.

AMI Project Performance Measures		
Performance Measure	Target	Measurement Tools and Methods
Accurate Measurement	New system should allow for accuracy measurement tools to quantify savings	The new AMI meters will include an online portal, which will allow the Authority to quantify leakage, perform diagnostic testing on how a customer's water system, and other demand assessments.
Water Savings – Customer-Side Leak Detection	408.70 AFY (Savings from Improved operator management, conscientious use by the customer and leak detection by both)	- Water consumption reported by the fixed network for each customer who is provided by the Utility Authority with access to or who accesses independently real-time flow data measurement produced by the new metering units will be analyzed over a 12-month period both and after initial exposure to the data. - Post installation Water consumption data will be compared against pre-installation consumption to verify savings.
Water Savings – Improved Meter Accuracy	53.78 AFY	- Post-installation water consumption will be measured over a 12-month period following AMI installation to verify that water was better managed - A water audit will be performed periodically.
Quantified Savings	-Compare pre and post installation flow quantities	The Authority's AMI meter project is expected to result in significant water savings. We have detailed reports and data from several sources

	-Detail underlying assumptions	that support our analysis. These sources are explained in section (c) within Criterion A shown earlier in this technical proposal. The authority plans to provide a detailed post project report on all water savings achieved. Authority water customers are expected to reduce their usage when the new AMI meters are installed and they can see the real time usage first hand.
Energy Savings	From Water Savings: 1,374,028 kWh/year	- Water savings will be converted to energy savings using the calculation of 2,971 kWh/AF of water conserved
Carbon Emissions Savings	838,157 lbs. of CO2/year from water savings and 3,516 lbs. from reduced vehicle miles.	- Confirm the water savings resulting from the project in the Water Savings Project Performance Measure, and convert to carbon emissions using the calculation of required energy = 2,971 kWh/AF and CO2 emissions = 0.61 lbs. of CO2/kWh.A15 - Verify reduced vehicle miles and estimate carbon emissions savings using 19.6 lbs. of CO2/gallon

Performance Measure No. B: Projects with Hydropower Benefits
Not Applicable.

Evaluation Criterion G: Nexus to Reclamation Project Activities (4 points)

*Up to **4 points** may be awarded if the proposed project is in a basin with connections to Reclamation project activities. No points will be awarded for proposals without connection to a Reclamation project or Reclamation activity.*

(1) Is the proposed project connected to Reclamation project activities? If so, how?

The proposed AMI Project is associated with the Colorado River Basin, and the Utility Authority receives water from MWD via MWDOC and CDWC, which currently relies on the Colorado River Aqueduct and the State Water Project as sources of water. The AMI Project itself does not directly involve Reclamation project lands or Reclamation facilities, but it will increase the availability of the overall water supply through improvements in water use efficiency and conservation and ultimately benefit the Colorado River Basin.

Reclamation manages the Colorado River system from which MWD imports water. The Utility Authority purchases 15% of its supply from MWD through MWDOC and CDWC. Water savings associated with the AMI Project translate to more water remaining in these two fragile systems (Colorado River and State Water Project). The AMI Project directly supports Reclamation's current efforts to further advance water use efficiency and conservation. The AMI Project benefits Reclamation because it reduces imported water supplies from the Colorado River and northern California.

(2) Does the applicant receive Reclamation project water?

Yes, the Utility Authority receives a mixture of Colorado River water and State Water Project water through MWD via MWDOC and CDWC.

(3) Is the project on Reclamation project lands or involving Reclamation facilities?

No, the AMI Project is neither on Reclamation lands nor involves Reclamation facilities.

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

No, the AMI Project is not in the same basin as a Reclamation project or activity.

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

Yes. The water savings attained will be the result of reduced imports from the Bay- Delta and the Colorado River, thereby impacting the Colorado River Basin. By reducing the amount

of water imported, this water in effect remains in the basin from which it originates, or is made available to meet demands in other areas of the State. Any increase in water reliability and greater availability in overall water supply resulting from water use efficiency and conservation efforts would also help Reclamation in meeting the federal Indian trust responsibility, a legally enforceable fiduciary obligation on the part of the United States to protect tribal treaty rights, lands, assets, and resources, to the tribes.

(6) Will the project help Reclamation meet trust responsibilities to Tribes?

The project will indirectly benefit Indian tribes if those tribes depend on the same imported water from the State Water Project or Colorado River Aqueduct that the La Habra Utility Authority uses. This project will reduce the Authority's water use from these sources thus making them more sustainable for others to use, such as Indian tribes.

Evaluation Criterion H: Additional Non-Federal Funding (4 points)

*Up to **4 points** may be awarded to proposals that provide non-Federal funding in excess of 50 percent of the project costs. State the percentage of non-Federal funding provided using the following calculation:*

$$\frac{\$1,307,306.39 \text{ (Non-Federal Funding)}}{\$1,607,306.39 \text{ (Total Project Cost)}}$$

The Non-federal cost-share is 81.3% to be provided from Utility Authority funding sources.

Project Budget

The complete AMI Project Budget includes a Funding Plan, Budget Proposal, and Budget Narrative. The SF-424C Budget Form is attached to this application under Exhibit D – Budget Form SF-424C.

Funding Plan and Letters of Commitment

The Utility Authority will fund 100 percent of all non-Federal project costs. The Advanced Metering Infrastructure Project has been listed in the City's 7-year CIP list of projects and the Utility Authority has completed the first year of the project in fiscal year 2016-17 and is currently in the process of implementing the second year of work on the project. The project is expected to continue for a total of seven years. The Utility Authority is applying for this grant for the third and fourth years of the seven-year AMI Project. The authorization for the last FY is included on page 590 of the Authority's 2016-2017 Operating Budget available at the following link: http://www.lahabraca.gov/DocumentCenter/Home/View/4434. The current FY authorization is included on page 587 of the Authority's 2017-2018 Operating Budget available at the following link: http://www.lahabraca.gov/DocumentCenter/View/6265.

Other than the funding provided by the Bureau of Reclamation under this grant application and the La Habra Utility Authority, there are no other sources of funding necessary to complete this project. As there are no other sources of funding other than the La Habra Utility Authority, a letter of commitment is not required for this application.

l. Cost Share Contribution: The Utility Authority will provide its cost share in monetary (cash) contributions. The AMI Project has been and is included in the Capital Budget and is funded by water sales revenue and interest income.

2. In-kind Costs Incurred Before the Anticipated Project Start Date: The Utility Authority does not anticipate any in-kind costs prior to the project start date.

3. Funding Requests from other Federal Partners: No other funding has been requested or received from other Federal partners.

4. Pending Funding Requests: There are two pending funding requests for the AMI Project. The first one for FY 2018-19 has been submitted and is expected to be approved within the next month. The second pending request is for FY 2019-20 and is expected to be approved during next year's budget process in May of next year. Both projects have been approved for inclusion on the authority's 7-year CIP plan and the budget approval process is essentially a formalized approval of the project. The likelihood that either of these two pending funding requests will be denied for funding is infinitesimally small.

Table 1. – Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non Federal Entities	
1. La Habra Utility Authority	$1,307,306.39
2.	
Non Federal Subtotal	$1,307,306.39
Other Federal Entities	$ 0.00
1.	
Other Federal Subtotal	$ 0.00
REQUESTED RECLAMATION FUNDING	$ 300,000.00

Budget Proposal

Table 2. – Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Water/Sewer Manager (Program Manager)	$60.37	1,020	hours	$61,577.40
Part-Time Water Maintenance Laborer #1	$10.50	2,856	hours	$29,988.00
Part-Time Water Maintenance Laborer #2	$10.50	2,856	hours	$29,988.00
Part-Time Water Maintenance Laborer #3	$10.50	2,856	hours	$29,988.00
Part-Time Water Maintenance Laborer #4	$10.50	2,856	hours	$29,988.00
Fringe Benefits				
Full-Time Employees- Unemplmt Ins. Rate	0.20%	$61,577.40	total salary	$123.15
Full-Time Employees- Medicare Rate	1.45%	$61,577.40	total salary	$892.87
Full-Time Employees- Worker's Comp. Rate	0.522%	$61,577.40	total salary	$321.43
Full-Time Employees- Employer PERS	14.645%	$61,577.40	total salary	$9,018.01
Part-Time Employees- Unemplmt Ins. Rate	0.20%	$119,952.00	total salary	$239.90
Part-Time Employees- Medicare Rate	1.45%	$119,952.00	total salary	$1,739.30
Part-Time Employees- Worker's Comp. Rate	10.973%	$119,952.00	total salary	$13,162.33
Travel				
Trip 1				$0.00
Equipment				
Meter Boxes - 7199	$30.00	5,001	units	$150,030.00
AMI Equipment - Capital Account	$250.00	5,001	units	$1,250,250.00
Supplies and Materials				
Item A				$0.00
Item B				$0.00
Contractual/Construction				
Contractor A				$0.00
Other				
Other				$0.00
TOTAL DIRECT COSTS				$0.00
Indirect Costs				
Type of rate	percentage	$ base		$0.00
TOTAL ESTIMATED PROJECT COSTS				$1,607,306.39

Budget Narrative

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation for, items included in the budget proposal.

Salaries and Wages

The Program Manager for this project is Brian Jones, Water/Sewer Manager for the La Habra Utility Authority. The total cost for this position is expected to be $61,577.40 with an estimated 1,020 hours of labor at a rate of compensation at $60.37. This labor rate is separate from the fringe benefit rate. The specific tasks for this position include supervising the project, preparing administrative reports and presentations and attending board meetings.

The total other personnel include four (4) Part-time Water Maintenance Laborer positions. The total cost for each of the four positions is expected to be $29,988.00 with an estimated 2,856 hours of labor at a rate of compensation at $10.50. All of the four positions have the labor rate separated from the fringe benefit rate. The specific tasks for each of the four (4) Part-time positions include shutting off the water to each meter customer being retrofitted, removing the older style meter, installing the new advanced AMI equipment, and restoring water service to the meter customer. The salary total for all four (4) positions together is $119,952.

No subcontractor labor will be used. All salaries will remain at the same rate for all of Fiscal Years 2018-19 and 2019-20 as there will not be any salary increases for the positions listed under the budget.

Fringe Benefits

For full-time employees, we use percentage rates to calculate the four different fringe benefits. The state unemployment insurance rate is set to 0.20% of the gross salary cost for a total cost of $123.15. The Medicare rate is set to 1.45% of the gross salary cost for a total cost of $892.87. The worker's compensation insurance rate is set to the clerical rate of 0.522% of the gross salary cost for a total cost of $321.43. The employer PERS rate for general employees is set to 14.645% of the gross salary cost for a total cost of $9,018.01. The total combined fringe benefit costs for all full-time employees' amounts to $10,355.46.

For part-time employees, we use percentage rates to calculate the three different fringe benefits. The state unemployment insurance rate is calculated at 0.20% of the gross salary cost for a total cost of $59.98 for each of the four (4) part-time employees. The Medicare rate is calculated at 1.45% of the gross salary cost for a total cost of $434.83 for each of the four (4) part-time employees. The worker's compensation insurance rate is calculated at the outside labor rate of 10.973% of the gross salary cost for a total cost of $3,290.58 for each of the four (4) part-time employees. Since the part-time employees do not work more than 1,000 hours in a calendar year, they do not earn employer PERS benefits as a result. The total combined fringe benefit costs for all full-time employees' amounts to $15,141.53.

Travel
There are no travel expense costs that need to be itemized under this project.

Equipment
There are two types of equipment that is being purchased for this project.

The AMI equipment includes the AMI meter, and wire connectors to enable connection to the transmitter located on the top of each meter box. This equipment is vital to the project as the AMI meters have the digital capabilities to track usage and to perform an emergency shut off. The cost of this equipment is $250 for each unit. We will install 5,001 units during the 2018-19 and 2019-20 fiscal years for a total cost of $1,500,000.

The meter boxes include a base cover, a cover plate for opening the meter box during servicing, an electronic transmitter, a battery, and wiring to connect to each AMI meter. This equipment is also vital to the project as the meter box will transmit the data to the collection station cover and protect as well as protecting the unit. The cost of this equipment is $30 for each unit. We will install 5,001 units during the 2018-19 and 2019-20 fiscal years for a total cost of $150,030.

Supplies and Materials
There are no supplies and materials expense costs that need to be itemized under this project.

Contractual
There are no contractual expense costs that need to be itemized under this project.

Environmental and Regulatory Compliance Costs
There are no environmental and regulatory compliance expense costs that need to be itemized under this project.

Other Expenses
There are no other expenses that need to be itemized under this project.

Indirect Costs
There are no indirect costs that need to be itemized under this project.

Total Costs
The total cost to implement this project is **$1,607,306.39** with a Federal cost share amount of $300,000 and a non-Federal cost share amount of $1,307,306.39.

Environmental and Cultural Resources Compliance

So that Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants must respond to the following list of questions focusing on the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), and National Historic Preservation Act (NHPA) requirements. ***Note: Applicants proposing a***

Funding Group II project must address the environmental and cultural resources compliance questions for their entire project, not just the first 1-year phase.

Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. The application should include answers to:

(1) Will the 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.

No, the AMI Project involves an upgrade to existing meters and should pose no impact to the surrounding environment. The work will be performed on property that is considered already disturbed, and no further requirements are needed.

(2) 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?

No known species listed or proposed to be listed as a Federal endangered or threatened species, or designated critical habitats are within the AMI Project area.

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

No, there are no wetlands or other surface waters inside the AMI Project boundaries that potentially fall under CWA jurisdiction as "waters of the United States." No associated impacts would occur and no mitigation is required.

(4) When was the water delivery system constructed?

The original water delivery system was built in 1925.

(5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., head gates, 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, the AMI Project will not result in any modification of or affect any individual features of an irrigation system.

(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.

There are no buildings, structures, or features listed or eligible for listing on the National Register of
Historic Places within the AMI Project sites.

(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?

The AMI Project will not have a disproportionately high and adverse effect on low income or minority populations. The AMI Project has the potential to provide positive monetary benefits to low income and minority populations by identifying water inefficiencies within their community, which after installation of AMI, will potentially decrease the costs to that population.

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

The AMI Project will not limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

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

Note, if mitigation is required to lessen environmental impacts, the applicant may, at Reclamation's discretion, be required to report on progress and completion of these commitments. Reclamation will coordinate with the applicant to establish reporting requirements and intervals accordingly.

Under no circumstances may an applicant begin any ground-disturbing activities (including grading, clearing, and other preliminary activities) on a project before environmental compliance is complete and Reclamation explicitly authorizes work to proceed. This pertains to all components of the proposed project, including those that are part of the applicant's non-Federal cost-share. Reclamation will provide a successful applicant with information once environmental compliance is complete. An applicant that proceeds before environmental compliance is complete may risk forfeiting Reclamation funding under this FOA.

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.

There are no required permits anticipated for the AMI Project. All of the AMI Project work will be conducted at current meter locations and Utility Authority property. All Project-related approvals will be handled by the Utility Authority and will be executed in a timely and efficient manner. Final approval from the Utility Authority Board of Directors would be required prior to proceeding with the AMI Project.

Letters of Support

The La Habra Utility Authority has secured five (5) letters of support from various stakeholders. These letters are to be found in Exhibit A in the Exhibit section of this application. The stakeholders and representatives are as follows:

1) United States Representative from the 39th District – The Honorable Mr. Ed Royce
2) California Assemblyman from the 55th District – The Honorable Mr. Phillip Chen
3) California State Water Resources Control Board – Chair Ms. Felicia Marcus
4) Municipal Water District of Orange County – General Manager Mr. Rob Hunter
5) Water Systems Optimization, Inc. – President/CEO Mr. Reinhard Sturm

Official Resolution

An official resolution meeting the requirements set forth above is mandatory. An official resolution of the La Habra Utility Authority is scheduled for review and adoption at the next meeting of the Board of Directors on May 21, 2018. The Resolution will be submitted following the Board Meeting and within 30 days after the application deadline or by June 9, 2018. A sample resolution has been attached to this application under Exhibit B – Sample Resolution.

The resolution verifies the Utility Authority's legal authority to enter into an agreement; the Board of Directors has reviewed and supports submittal of this application; the capability of the Utility Authority to provide the amount of funding and in-kind contributions specified in the Funding Plan; and that the Utility Authority will work cooperatively with the Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

Unique Identity Identifier and System for Award Management

(1) Be registered in the System for Award Management (SAM) before submitting its application

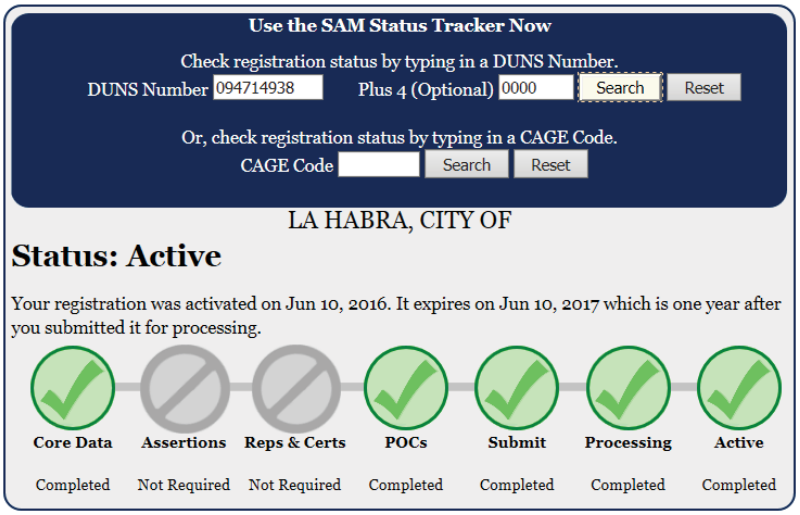
The La Habra Utility Authority is registered in the System for Award Management (SAM) under the City of La Habra.

(2) Provide a valid unique entity identifier in its application

The La Habra Utility Authority uses the DUNS number 0947149380000 for the City of La Habra as its unique entity identifier which is currently active and up to date.

(3) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

The La Habra Utility Authority under the City of La Habra has and will continue to maintain and keep current the City's active SAM registration.



Exhibits

Exhibit A – Letters of Support

2310 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0539
(202) 225-4111
FAX: (202) 226-0335

216 WEST BIRCH STREET, SUITE 201
BREA, CA 92821
(714) 255-0101
(909) 420-4810

DIAMOND PLAZA
1380 SOUTH FULLERTON ROAD, SUITE 203
ROWLAND HEIGHTS, CA 91748
(626) 964-5123

www.royce.house.gov
www.facebook.com/EdRoyce
www.twitter.com/RepEdRoyce
www.instagram.com/RepEdRoyce

UNITED STATES
HOUSE OF REPRESENTATIVES

EDWARD R. ROYCE
Thirty-ninth District–California

COMMITTEE ON
FOREIGN AFFAIRS
Chairman

COMMITTEE ON
FINANCIAL SERVICES
Subcommittees:
FINANCIAL INSTITUTIONS AND
CONSUMER CREDIT
HOUSING AND INSURANCE

May 7, 2018

Mr. Darren Olsen
Bureau of Reclamation
Financial Assistance Support Section
P.O. Box 25007, MS 84-27814
Denver, CO 80225

Dear Mr. Olsen,

I am pleased to express support for the La Habra Utility Authority's application for the Bureau of Reclamation WaterSMART Grant Application: La Habra Utility Authority "Advanced Metering Infrastructure Project" (FOA BOR-DO-18-F006). The Utility Authority plans to implement the "Advanced Metering Infrastructure Project" to provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region.

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. In addition, The Authority's water savings from this project will further aid in water conservation goals, which will reduce the demand on water imported from the Bureau of Reclamation managed watersheds.

The proposed Advanced Metering Infrastructure Project would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and leakage quantifications that will result in measurable water savings. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City of La Habra and the Western United States.

I am eager to see further investments in water conservation in Southern California that will benefit the economic and sustainable environment of the City of La Habra and the entire Western United States. I am proud to support La Habra Utility Authority's grant application and ask that it receive careful consideration. If you have any questions, please feel free to contact Stephanie Hu in my district office at 714-255-0101.

Sincerely,

Ed Royce

Edward R. Royce
Member of Congress

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0055
(916) 319-2055
FAX (916) 319-2155

DISTRICT OFFICE
3 POINTE DRIVE, SUITE 313
BREA, CA 92821
(714) 529-5502
FAX (714) 529-5548

Assembly
California Legislature

PHILLIP CHEN
ASSEMBLYMEMBER, FIFTY-FIFTH DISTRICT

COMMITTEES
VICE CHAIR: BANKING AND FINANCE
ENVIRONMENTAL SAFETY AND TOXIC MATERIALS
REVENUE AND TAXATION
RULES
UTILITIES AND ENERGY

May 9, 2018

Bureau of Reclamation
Financial Assistance Support Section
Attn: Mr. Darren Olsen
P.O. Box 25007, MS 84-27814
Denver, CO 80225

RE: Bureau of Reclamation WaterSMART Grant Application: La Habra Utility Authority "Advanced Metering Infrastructure Project" (FOA BOR-DO-18-F006)

Dear Mr. Olsen,

As a legislator representing the City of La Habra, we endorse and support the La Habra Utility Authority's plan to implement the "Advanced Metering Infrastructure Project." This project will provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region. The City of La Habra believes it is necessary to ensure a reliable water future by diversifying its water portfolio with an important component, water conservation, to help meet the future water demands of a growing population. In addition, The Authority's water savings resulting from this project will further aid Orange County in meeting state wide water conservation goals as identified within the Orange County Regional 20x2020 goals, submitted to the California Department of Water Resources.

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. The proposed Advanced Metering Infrastructure Project would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and/or leakage quantifications that will result in measurable water savings. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City and State.

We hope that this expression of support is helpful in your efforts to secure grant funding assistance to implement your plans.

Sincerely,

PHILLIP CHEN
Assemblymember, 55th District

Printed on Recycled Paper

CALIFORNIA Water Boards

Edmund G. Brown Jr. GOVERNOR

Matthew Rodriquez SECRETARY FOR ENVIRONMENTAL PROTECTION

State Water Resources Control Board

May 7, 2018

Bureau of Reclamation
Financial Assistance Support Section
Attn: Mr. Darren Olsen
P.O. Box 25007, MS 84-27814
Denver, CO 80225

BUREAU OF RECLAMATION WATERSMART GRANT APPLICATION: LA HABRA UTILITY AUTHORITY "ADVANCED METERING INFRASTRUCTURE PROJECT" (FOA BOR-DO-18-F006)

Dear Mr. Olsen:

As Chair of the California State Water Resources Control Board, I endorse and support the La Habra Utility Authority's plan to implement the "Advanced Metering Infrastructure Project." This project will provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region. The City of La Habra believes it is necessary to ensure a reliable water future by diversifying its water portfolio with an important component, water conservation, to help meet the future water demands of a growing population. In addition, the Authority's water savings resulting from this project will further aid Orange County in meeting state wide water conservation and greenhouse gas reduction goals.

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. The proposed Advanced Metering Infrastructure Project would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and/or leakage quantifications that will result in measurable water savings and greenhouse gas reductions. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City and State.

Mr. Darren Olsen - 2 - May 7, 2018

We hope that this expression of support is helpful in your efforts to secure grant funding assistance to implement your plans.

Sincerely,

Felicia Marcus
Chair

MWDOC

Street Address:
18700 Ward Street
Fountain Valley, California 92708

Mailing Address:
P.O. Box 20895
Fountain Valley, CA 92728-0895

(714) 963-3058
Fax (714) 964-9389
www.mwdoc.com

Brett R. Barbre
President

Joan C. Finnegan
Vice President

Larry D. Dick
Director

Wayne S. Osborne
Director

Megan Yoo Schneider
Director

Sat Tamaribuchi
Director

Jeffery M. Thomas
Director

Robert J. Hunter
General Manager

MEMBER AGENCIES

City of Brea
City of Buena Park
East Orange County Water District
El Toro Water District
Emerald Bay Service District
City of Fountain Valley
City of Garden Grove
Golden State Water Co.
City of Huntington Beach
Irvine Ranch Water District
Laguna Beach County Water District
City of La Habra
City of La Palma
Mesa Water District
Moulton Niguel Water District
City of Newport Beach
City of Orange
Orange County Water District
City of San Clemente
City of San Juan Capistrano
Santa Margarita Water District
City of Seal Beach
Serrano Water District
South Coast Water District
Trabuco Canyon Water District
City of Tustin
City of Westminster
Yorba Linda Water District

May 2, 2018

Bureau of Reclamation
Financial Assistance Support Section
Attn: Mr. Darren Olsen
P.O. Box 25007, MS 84-27814
Denver, CO 80225

RE: Bureau of Reclamation WaterSMART Grant Application: La Habra Utility Authority "Advanced Metering Infrastructure Project" (FOA BOR-DO-18-F006)

Dear Mr. Olsen,

As General Manager of the Municipal Water District of Orange County, we endorse and support the La Habra Utility Authority's plan to implement the "Advanced Metering Infrastructure Project." This project will provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region. The City of La Habra believes it is necessary to ensure a reliable water future by diversifying its water portfolio with an important component, water conservation, to help meet the future water demands of a growing population. In addition, the Authority's water savings resulting from this project will further aid Orange County in meeting state wide water conservation targets identified within the Orange County Regional 20x2020 goals submitted to the California Department of Water Resources

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. The proposed Citywide Water Meter Replacement Program would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and/or leakage quantifications that will result in measurable water savings and greenhouse gas reductions. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City and State.

We hope that this expression of support is helpful in your efforts to secure grant funding assistance to implement your plans.

Sincerely,

Robert J. Hunter

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

January 17, 2016

WSO

To: Mr. Jim Sadro
Executive Director, La Habra Utility Authority
201 E. La Habra Boulevard
La Habra, CA 90631

FROM: Water Systems Optimization, Inc.

Reinhard Sturm
131 Kissling Street
San Francisco, CA 94103

SUBJECT: Letter of Support for the La Habra Utility Authority's Advanced Metering Infrastructure Project

---

To Whom It May Concern,

As the President of Water Systems Optimization (WSO), I am writing to express my full support for La Habra Utility Authority's grant funding application for the Advanced Metering Infrastructure Project. Completing full-system Advanced Metering Infrastructure (AMI) installation will empower La Habra to:

- Improve customer meter accuracy
- Detect customer-side water leaks quickly
- Improve demand-side conservation programs
- Analyze and act upon opportunities for distribution-system leakage reduction through ongoing zonal leakage monitoring
- Increase its drought resilience

These outcomes will conserve water throughout the full process of water distribution and ultimate customer use and allow for more proactive system stewardship.

WSO is a consulting firm that specializes in water loss control. WSO has worked directly with more than 40 Californian water suppliers on water loss control assessment, monitoring, and reduction. Additionally, WSO has taken a lead role in defining many of the industry's best practices. WSO's water loss preeminence has been recognized by many industry leaders, ranging from the California Department of Water Resources to the Water Research Foundation to numerous water utility managers throughout the country. As the national leader in water loss control who has worked with La Habra for more than a year on proactive water loss control, WSO is uniquely qualified to evaluate the efficacy of La Habra's AMI installation plan in managing water loss.

By installing new AMI meters for all of its customers, La Habra will improve the accuracy of its customer meter stock. The majority of La Habra's meters are older than 20 years and likely register with significant inaccuracy. Improving meter accuracy through the installation of state-of-the-art metering technology will improve the billing process for both La Habra and its customer alike. Customers will be billed more equitably because far fewer meters will register inaccurately, while La Habra will gather more reliable customer use data, thereby improving the information used to set rates and plan for sustainability of supply. Furthermore, high-frequency AMI customer use data can be harnessed to plan targeted demand-side conversation measures that are much more effective than those based on monthly meter reads.

AMI will also equip La Habra to detect customer-side leaks quickly and then alert customers of their existence. As a result, water waste due to customer leaks will decrease. AMI systems collect data at an hourly or daily frequency, while traditional manual meter reading gathers customer meter reads monthly or every-other-month. La Habra can only identify potential customer leaks when meter reads are gathered frequently; as a result, the current practice of monthly billing with manual meter reading allows for leaks to run until the customer notices, sometimes months later. When AMI technology is installed, frequent data collection will significantly decrease the potential duration of customer leaks by automating leak identification.

Furthermore, full-system AMI and resulting improved meter accuracy will empower La Habra to better assess and combat ongoing distribution system leakage. The best-practice method of evaluating distribution system leakage is an American Water Works Association (AWWA) water audit. AWWA water audit methodology estimates leakage by deducting known uses from the volume of water supplied to determine water loss and then deducting apparent ("paper") losses from water loss to determine leakage. In this process of elimination, any inaccuracy or uncertainty will compound in the final estimate of leakage. Therefore, in order to accurately calculate leakage volumes and then harness appropriate leakage management strategies, a utility must first have high-quality billing data and an accurate assessment of the accuracy of customer meters. La Habra's AMI project will accomplish both of these goals by reliably tracking customer use at a high frequency and reducing the range of inaccuracy in the customer meter stock. As a result, AMI implementation will better position La Habra to cost-effectively address distribution system leakage.

Finally, AMI installation will equip La Habra to operate district metered areas (DMAs). A district metered area is a discrete section of a distribution system with fully metered sources of supply and forms of consumption. DMAs allow for local water audits that assess water losses in the zone to be conducted continuously. This zonal management approach is industry best-practice and allows distribution system leak detection and response to occur rapidly, on the order of days to weeks instead of years. By installing AMI infrastructure, La Habra will lay the essential groundwork for at least 19 DMAs. Because each DMA will be AMI-enabled, data collection in each DMA can be automated so leaks can be detected as they develop. Furthermore, the installation of each DMA will be made more precise by the Geographic Information System (GIS) capability of AMI technology.

In summary, by improving the information available to describe customer use, more quickly identifying supply-side and distribution-side leaks, and proactively engaging with infrastructure and metering management, La Habra will improve its drought resiliency and acquire the information and tools necessary to manage the distribution system in the face of changing climate and consumption patterns.

WSO has worked closely with La Habra for more than a year on water loss assessment directed toward producing a self-sustaining, cost-effective water loss control program. WSO has observed that staff are committed to proactive management that ensures system longevity and exceptional customer service. Additionally, WSO has been heartened to observe how well La Habra staff connect innovative ideas to effective implementation. As a result, WSO is fully confident that La Habra, its customers, and the sustainability of its system and supply will greatly benefit from this AMI installation program. It is WSO's distinct pleasure to wholeheartedly recommend La Habra for grant funding for the Advanced Metering Infrastructure Project.

Sincerely,

Reinhard Sturm
President/CEO, Water Systems Optimization

Exhibit B – Sample Resolution

RESOLUTION NO. _____

A RESOLUTION OF THE BOARD OF THE LA HABRA UTILITY AUTHORITY, APPROVING THE APPLICATION FOR GRANT FUNDS THROUGH THE BUREAU OF RECLAMATION FOR THE WATERSMART: WATER AND ENERGY EFFICIENCY GRANTS FOR FISCAL YEAR 2018

SECTION I:

WHEREAS, the United States Department of Interior, Bureau of Reclamation has provided funds for the program shown above; 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 Applicants governing board before submission of said application(s) to the Federal Government; and

WHEREAS, the La Habra Utility Authority, if selected, will enter into an agreement with the Federal Government to carry out the Project.

SECTION II:

NOW, THEREFORE, BE IT RESOLVED by the Board of the La Habra Utility Authority hereby:

1. Approves the filing of an application through the Bureau of Reclamation for the WaterSMART: Water and Energy Efficiency Grants for Fiscal Year 2018 for the "La Habra Advanced Metering Infrastructure Project".

2. Certifies that the La Habra Utility Authority, as applicant, understands the assurances and certifications in the application.

3. Certifies that applicant or title holder will have sufficient funds to operate and maintain the project consistent grant requirements; or will secure the resources to do so.

4. If applicable, certifies that the project will comply with any laws and regulations including, but not limited to, legal requirements for building codes, health and safety codes, disabled access laws, environmental laws and, that prior to commencement of construction, all applicable permits will have been obtained.

5. Appoints the Executive Director, or designee, as agent to conduct all negotiations, execute and submit all documents including, but not limited to applications, agreements, payment requests and so on, which may be necessary for the completion of the aforementioned project(s).

PASSED, APPROVED AND ADOPTED this 21st day of May, 2018.

_____
TIM SHAW, CHAIR

ATTEST:

_____
TAMARA D. MASON, MMC, SECRETARY

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF LA HABRA)

I, Tamara D. Mason, MMC, Secretary for the La Habra Utility Authority, do hereby certify that the above and foregoing is a true and correct copy of Resolution No. _____ introduced and adopted at a regular meeting of the La Habra Utility Authority held on the 21st day of May, 2018, by the following vote:

AYES: DIRECTORS:
NOES: DIRECTORS:
ABSENT: DIRECTORS:
ABSTAIN: DIRECTORS:

Witness my hand and the official seal of the La Habra Utility Authority this 21st day of May, 2018.

_____
TAMARA D. MASON, MMC, SECRETARY

Exhibit C – Application for Federal Financial Assistance SF-424

View Burden Statement

OMB Number: 4040-0004
Expiration Date: 12/31/2019

Application for Federal Assistance SF-424

* 1. Type of Submission:	* 2. Type of Application:	* If Revision, select appropriate letter(s):
☐ Preapplication	☒ New	
☒ Application	☐ Continuation	* Other (Specify):
☐ Changed/Corrected Application	☐ Revision	

* 3. Date Received: Completed by Grants.gov upon submission.	4. Applicant Identifier: La Habra Utility Authority
5a. Federal Entity Identifier:	5b. Federal Award Identifier:
State Use Only:	
6. Date Received by State:	7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:	La Habra Utility Authority
* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
95-6000730	0947149380000

d. Address:

* Street1:	621 W. Lambert Road
Street2:	
* City:	La Habra
County/Parish:	Orange
* State:	CA: California
Province:	
* Country:	USA: UNITED STATES
* Zip / Postal Code:	90631-6755

e. Organizational Unit:

Department Name:	Division Name:
Public Works Department	Water Division

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:	Mr.	* First Name:	Jeff
Middle Name:			
* Last Name:	Henderson		
Suffix:			
Title:	Management Analyst		
Organizational Affiliation:			
* Telephone Number:	562-383-4170	Fax Number:	562-383-4497
* Email:	jhenderson@lahabraca.gov		

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

Bureau of Reclamation

11. Catalog of Federal Domestic Assistance Number:

15.507

CFDA Title:

Water SMART (Sustaining and Manage America's Resources for Tomorrow)

* 12. Funding Opportunity Number:

BOR-DO-18-F006

* Title:

WaterSMART Grants: Water and Energy Efficiency Grants for Fiscal Year 2018

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

* 15. Descriptive Title of Applicant's Project:

La Habra Advanced Metering Infrastructure Project

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: CA-039 | * b. Program/Project: CA-039

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 07/01/2018 | * b. End Date: 06/30/2020

18. Estimated Funding ($):

* a. Federal	300,000.00
* b. Applicant	1,307,306.39
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	1,607,306.39

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an Internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Mr. | * First Name: Elias

Middle Name:

* Last Name: Saykali

Suffix:

* Title: Director of Public Works

* Telephone Number: 562-383-4170 | Fax Number: 562-383-4497

* Email: esaykali@lahabraca.gov

* Signature of Authorized Representative: Completed by Grants.gov upon submission. | * Date Signed: Completed by Grants.gov upon submission.

Exhibit D – Budget Form SF-424C

View Burden Statement

OMB Number: 4040-0008
Expiration Date: 01/31/2019

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$	$	$
2. Land, structures, rights-of-way, appraisals, etc.	$	$	$
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$	$	$
5. Other architectural and engineering fees	$	$	$
6. Project inspection fees	$	$	$
7. Site work	$	$	$
8. Demolition and removal	$	$	$
9. Construction	$ 207,026.39	$	$ 207,026.39
10. Equipment	$ 1,400,280.00	$	$ 1,400,280.00
11. Miscellaneous	$	$	$
12. SUBTOTAL *(sum of lines 1-11)*	$ 1,607,306.39	$	$ 1,607,306.39
13. Contingencies	$	$	$
14. SUBTOTAL	$ 1,607,306.39	$	$ 1,607,306.39
15. Project (program) income	$	$	$
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 1,607,306.39	$	$ 1,607,306.39

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 19 %
	$ 305,388.21

Exhibit E – Assurances Form SF-424D

View Burden Statement

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 01/31/2019

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29) U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

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11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Completed on submission to Grants.gov	
APPLICANT ORGANIZATION	DATE SUBMITTED
	Completed on submission to Grants.gov

SF-424D (Rev. 7-97) Back

2310 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0539
(202) 225-4111
FAX: (202) 226-0335

210 WEST BIRCH STREET, SUITE 201
BREA, CA 92821
(714) 255-0101
(909) 420-0010

DIAMOND PLAZA
1380 SOUTH FULLERTON ROAD, SUITE 203
ROWLAND HEIGHTS, CA 91748
(626) 964-5123

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FINANCIAL SERVICES

Subcommittees:
FINANCIAL INSTITUTIONS AND
CONSUMER CREDIT

HOUSING AND INSURANCE

EDWARD R. ROYCE
Thirty-ninth District–California

May 7, 2018

Mr. Darren Olsen
Bureau of Reclamation
Financial Assistance Support Section
P.O. Box 25007, MS 84-27814
Denver, CO 80225

Dear Mr. Olsen,

I am pleased to express support for the La Habra Utility Authority's application for the Bureau of Reclamation WaterSMART Grant Application: La Habra Utility Authority "Advanced Metering Infrastructure Project" (FOA BOR-DO-18-F006). The Utility Authority plans to implement the "Advanced Metering Infrastructure Project" to provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region.

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. In addition, The Authority's water savings from this project will further aid in water conservation goals, which will reduce the demand on water imported from the Bureau of Reclamation managed watersheds.

The proposed Advanced Metering Infrastructure Project would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and leakage quantifications that will result in measurable water savings. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City of La Habra and the Western United States.

I am eager to see further investments in water conservation in Southern California that will benefit the economic and sustainable environment of the City of La Habra and the entire Western United States. I am proud to support La Habra Utility Authority's grant application and ask that it receive careful consideration. If you have any questions, please feel free to contact Stephanie Hu in my district office at 714-255-0101.

Sincerely,

Ed Royce

Edward R. Royce
Member of Congress

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0055
(916) 319-2055
FAX (916) 319-2155

DISTRICT OFFICE
3 POINTE DRIVE, SUITE 313
BREA, CA 92821
(714) 529-5502
FAX (714) 529-5548

Assembly
California Legislature

PHILLIP CHEN
ASSEMBLYMEMBER, FIFTY-FIFTH DISTRICT

COMMITTEES
VICE CHAIR: BANKING AND FINANCE
ENVIRONMENTAL SAFETY AND
TOXIC MATERIALS
REVENUE AND TAXATION
RULES
UTILITIES AND ENERGY

May 9, 2018

Bureau of Reclamation
Financial Assistance Support Section
Attn: Mr. Darren Olsen
P.O. Box 25007, MS 84-27814
Denver, CO 80225

RE: Bureau of Reclamation WaterSMART Grant Application: La Habra Utility Authority "Advanced Metering Infrastructure Project" (FOA BOR-DO-18-F006)

Dear Mr. Olsen,

As a legislator representing the City of La Habra, we endorse and support the La Habra Utility Authority's plan to implement the "Advanced Metering Infrastructure Project." This project will provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region. The City of La Habra believes it is necessary to ensure a reliable water future by diversifying its water portfolio with an important component, water conservation, to help meet the future water demands of a growing population. In addition, The Authority's water savings resulting from this project will further aid Orange County in meeting state wide water conservation goals as identified within the Orange County Regional 20x2020 goals, submitted to the California Department of Water Resources.

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. The proposed Advanced Metering Infrastructure Project would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and/or leakage quantifications that will result in measurable water savings. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City and State.

We hope that this expression of support is helpful in your efforts to secure grant funding assistance to implement your plans.

Sincerely,

PHILLIP CHEN
Assemblymember, 55th District

MWDOC

Street Address:
18700 Ward Street
Fountain Valley, California 92708

Mailing Address:
P.O. Box 20895
Fountain Valley, CA 92728-0895

(714) 963-3058
Fax: (714) 964-9389
www.mwdoc.com

May 2, 2018

Bureau of Reclamation
Financial Assistance Support Section
Attn: Mr. Darren Olsen
P.O. Box 25007, MS 84-27814
Denver, CO 80225

RE: Bureau of Reclamation WaterSMART Grant Application: La Habra Utility Authority "Advanced Metering Infrastructure Project" (FOA BOR-DO-18-F006)

Dear Mr. Olsen,

As General Manager of the Municipal Water District of Orange County, we endorse and support the La Habra Utility Authority's plan to implement the "Advanced Metering Infrastructure Project." This project will provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region. The City of La Habra believes it is necessary to ensure a reliable water future by diversifying its water portfolio with an important component, water conservation, to help meet the future water demands of a growing population. In addition, the Authority's water savings resulting from this project will further aid Orange County in meeting state wide water conservation targets identified within the Orange County Regional 20x2020 goals submitted to the California Department of Water Resources

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. The proposed Citywide Water Meter Replacement Program would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and/or leakage quantifications that will result in measurable water savings and greenhouse gas reductions. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City and State.

We hope that this expression of support is helpful in your efforts to secure grant funding assistance to implement your plans.

Sincerely,

Robert J. Hunter

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

May 7, 2018

Bureau of Reclamation
Financial Assistance Support Section
Attn: Mr. Darren Olsen
P.O. Box 25007, MS 84-27814
Denver, CO 80225

BUREAU OF RECLAMATION WATERSMART GRANT APPLICATION: LA HABRA UTILITY AUTHORITY "ADVANCED METERING INFRASTRUCTURE PROJECT" (FOA BOR-DO-18-F006)

Dear Mr. Olsen:

As Chair of the California State Water Resources Control Board, I endorse and support the La Habra Utility Authority's plan to implement the "Advanced Metering Infrastructure Project." This project will provide increased accessibility to water supplies that would otherwise be lost or unaccounted for, in addition to promoting the critical need for water conservation throughout the Region. The City of La Habra believes it is necessary to ensure a reliable water future by diversifying its water portfolio with an important component, water conservation, to help meet the future water demands of a growing population. In addition, the Authority's water savings resulting from this project will further aid Orange County in meeting state wide water conservation and greenhouse gas reduction goals.

The La Habra Utility Authority, which is responsible for the water planning needs of over 62,000 people within the City of La Habra, continually strives to create innovative solutions to extend its water supplies and maximize its long-term water supply reliability. The distinctive hydrogeological and topographic elements of the La Habra Basin provide a vital local resource of groundwater that needs to be conserved and protected. The basin is also an important alternative source to imported water from the Colorado River. The proposed Advanced Metering Infrastructure Project would allow for the replacement of approximately 5,001 antiquated meters with advanced metering technologies. This project enhances local, state and federal water conservation objectives by measuring production and/or leakage quantifications that will result in measurable water savings and greenhouse gas reductions. It also helps to further investments in water conservation in Southern California to the economic benefit of both the City and State.

We hope that this expression of support is helpful in your efforts to secure grant funding assistance to implement your plans.

Sincerely,

Felicia Marcus
Chair

January 17, 2016

WSO

To: Mr. Jim Sadro
Executive Director, La Habra Utility Authority
201 E. La Habra Boulevard
La Habra, CA 90631

FROM: Water Systems Optimization, Inc.

Reinhard Sturm
131 Kissling Street
San Francisco, CA 94103

SUBJECT: Letter of Support for the La Habra Utility Authority's Advanced Metering Infrastructure Project

---

To Whom It May Concern,

As the President of Water Systems Optimization (WSO), I am writing to express my full support for La Habra Utility Authority's grant funding application for the Advanced Metering Infrastructure Project. Completing full-system Advanced Metering Infrastructure (AMI) installation will empower La Habra to:

- Improve customer meter accuracy
- Detect customer-side water leaks quickly
- Improve demand-side conservation programs
- Analyze and act upon opportunities for distribution-system leakage reduction through ongoing zonal leakage monitoring
- Increase its drought resilience

These outcomes will conserve water throughout the full process of water distribution and ultimate customer use and allow for more proactive system stewardship.

WSO is a consulting firm that specializes in water loss control. WSO has worked directly with more than 40 Californian water suppliers on water loss control assessment, monitoring, and reduction. Additionally, WSO has taken a lead role in defining many of the industry's best practices. WSO's water loss preeminence has been recognized by many industry leaders, ranging from the California Department of Water Resources to the Water Research Foundation to numerous water utility managers throughout the country. As the national leader in water loss control who has worked with La Habra for more than a year on proactive water loss control, WSO is uniquely qualified to evaluate the efficacy of La Habra's AMI installation plan in managing water loss.

By installing new AMI meters for all of its customers, La Habra will improve the accuracy of its customer meter stock. The majority of La Habra's meters are older than 20 years and likely register with significant inaccuracy. Improving meter accuracy through the installation of state-of-the-art metering technology will improve the billing process for both La Habra and its customer alike. Customers will be billed more equitably because far fewer meters will register inaccurately, while La Habra will gather more reliable customer use data, thereby improving the information used to set rates and plan for sustainability of supply. Furthermore, high-frequency AMI customer use data can be harnessed to plan targeted demand-side conversation measures that are much more effective than those based on monthly meter reads.

AMI will also equip La Habra to detect customer-side leaks quickly and then alert customers of their existence. As a result, water waste due to customer leaks will decrease. AMI systems collect data at an hourly or daily frequency, while traditional manual meter reading gathers customer meter reads monthly or every-other-month. La Habra can only identify potential customer leaks when meter reads are gathered frequently; as a result, the current practice of monthly billing with manual meter reading allows for leaks to run until the customer notices, sometimes months later. When AMI technology is installed, frequent data collection will significantly decrease the potential duration of customer leaks by automating leak identification.

Furthermore, full-system AMI and resulting improved meter accuracy will empower La Habra to better assess and combat ongoing distribution system leakage. The best-practice method of evaluating distribution system leakage is an American Water Works Association (AWWA) water audit. AWWA water audit methodology estimates leakage by deducting known uses from the volume of water supplied to determine water loss and then deducting apparent ("paper") losses from water loss to determine leakage. In this process of elimination, any inaccuracy or uncertainty will compound in the final estimate of leakage. Therefore, in order to accurately calculate leakage volumes and then harness appropriate leakage management strategies, a utility must first have high-quality billing data and an accurate assessment of the accuracy of customer meters. La Habra's AMI project will accomplish both of these goals by reliably tracking customer use at a high frequency and reducing the range of inaccuracy in the customer meter stock. As a result, AMI implementation will better position La Habra to cost-effectively address distribution system leakage.

Finally, AMI installation will equip La Habra to operate district metered areas (DMAs). A district metered area is a discrete section of a distribution system with fully metered sources of supply and forms of consumption. DMAs allow for local water audits that assess water losses in the zone to be conducted continuously. This zonal management approach is industry best-practice and allows distribution system leak detection and response to occur rapidly, on the order of days to weeks instead of years. By installing AMI infrastructure, La Habra will lay the essential groundwork for at least 19 DMAs. Because each DMA will be AMI-enabled, data collection in each DMA can be automated so leaks can be detected as they develop. Furthermore, the installation of each DMA will be made more precise by the Geographic Information System (GIS) capability of AMI technology.

In summary, by improving the information available to describe customer use, more quickly identifying supply-side and distribution-side leaks, and proactively engaging with infrastructure and metering management, La Habra will improve its drought resiliency and acquire the information and tools necessary to manage the distribution system in the face of changing climate and consumption patterns.

WSO has worked closely with La Habra for more than a year on water loss assessment directed toward producing a self-sustaining, cost-effective water loss control program. WSO has observed that staff are committed to proactive management that ensures system longevity and exceptional customer service. Additionally, WSO has been heartened to observe how well La Habra staff connect innovative ideas to effective implementation. As a result, WSO is fully confident that La Habra, its customers, and the sustainability of its system and supply will greatly benefit from this AMI installation program. It is WSO's distinct pleasure to wholeheartedly recommend La Habra for grant funding for the Advanced Metering Infrastructure Project.

Sincerely,

Reinhard Sturm
President/CEO, Water Systems Optimization