ADVANCED METERING INFRASTRUCTURE PROJECT

SUBMITTED MARCH 2019

BUREAU OF RECLAMATION: BOR-DO-19-F004
FUNDING GROUP I

WaterSMART Grants:
Water and Energy Efficiency Grants for Fiscal Year 2019

Yorba Linda Water District
Independent, Trusted and Reliable Service for More Than 100 Years

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Technical Proposal and Evaluation Criteria

Executive Summary

Submittal Date:	March 18, 2019
Applicant:	Yorba Linda Water District ATTN: Marc Marcantonio, General Manager 1717 E. Miraloma Avenue Placentia, CA 92870 (County of Orange) mmarcantonio@ylwd.com; (714) 701-3022
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Funding Group:	Group I
Grant Funding Requested:	$300,000
Local Matching Funds:	$1,866,308

The Advanced Metering Infrastructure Project (AMI Project) being proposed for grant funding by Yorba Linda Water District (YLWD or District) seeks to retrofit the existing 25,000+ manual or radio read meters with a fully automated system that is capable of more accurate and real-time readings. Funding from the grant will be used to purchase the new meters, radios, and registers that the automated system requires. The AMI Project contributes to the goals of this Funding Opportunity Announcement (FOA) with quantifiable water/energy savings and supports broader water reliability benefits. The new system will provide the ratepayers with real-time data that could improve water conservation and water use efficiency. The District will also have the ability to create efficient programs and quickly act on potential leakage.

The AMI Project - Phase I will commence July 2019 and be completed on or before June 2021 (2 years).

The proposed project will install new meters throughout the entire District (see map in Project Location section). The implementation of the AMI Project is not located on a Federal facility.

Background Data

The District is an independent special district, which operates under the authority of Division 12 of the California Water Code and is governed by a five-member Board of Directors, elected at large from within the District's service area. In 1959, the District formed to take possession of the assets and water service responsibilities of the Yorba Linda Water Company, a mutual company formed in 1909.

The District provides water, sewer, or a combination of both services to residents and businesses within its service area, which includes approximately 14,475 acres (22.6 miles^2) of land. The complex system of pipes, valves, pressure control stations, pump stations and reservoirs are strategically located throughout the service area to provide reliable, high quality drinking water to the customers while transporting wastewater away to Orange County Sanitation District's (OCSD) treatment plants.

The District serves a population of approximately 80,000 and currently provides water service through 25,000+ service connections. Residential meters make up approximately 92% of the District's customer base and consume approximately 73% of the water provided annually by the District. The average annual production volume is ~19,138 acre-feet and is projected to remain the same for the next few years.

The District's water supplies comes from two sources: groundwater and import water. The local groundwater basins where the District draws its water are managed by Orange County Water District (OCWD). Each year, OCWD sets the Basin Production Percentage (BPP), which states how much a retail agency like Yorba Linda Water District can pump. The District's average BPP has been 75%. The remaining 25% is import water purchased through the Municipal Water District of Orange County (MWDOC). MWDOC, in turn, purchases water from the State Water Project (Northern California source) and the Colorado River Aqueduct, through the Metropolitan Water District of Southern California (MWD). The imported water is treated at MWD's Diemer Filtration Plant, located on Valley View and Diemer Road in Yorba Linda. The District's current system has the capacity to store approximately 57 million gallons of water in its reservoirs and can produce 45 million gallons per day through its wells and import water connections. The District utilizes electricity, diesel, and natural gas to power its distribution system.

This application **does not** include hydropower or energy efficiency elements. However, the data received after implementing the AMI Project would allow the District to utilize energy more efficiently.

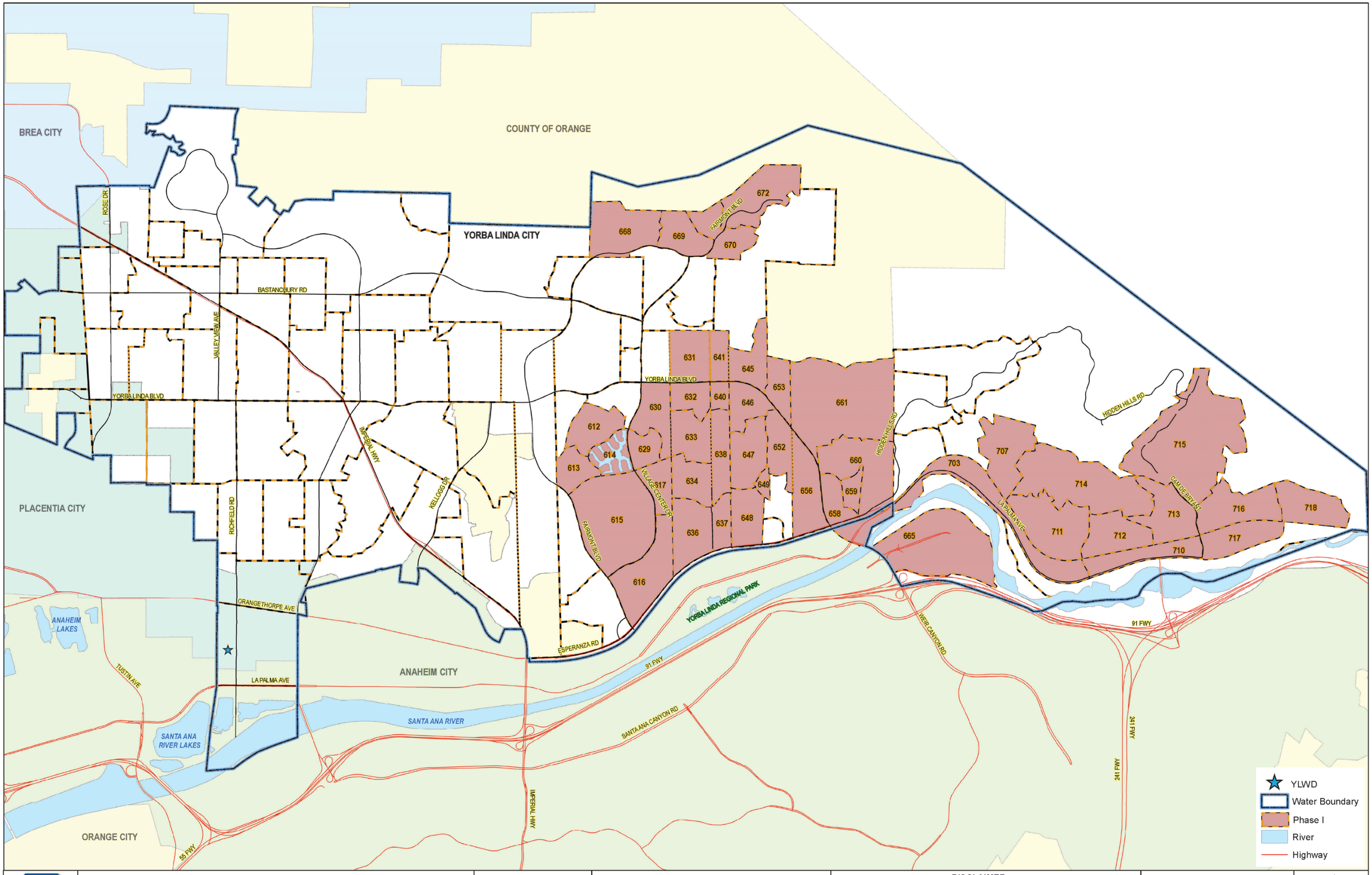
The District does not have any past working relationships with Bureau of Reclamation.

Project Location

The AMI Project is located in the District's service area which borders Chino Hills State Park to the north and the Santa Ana River to the south, encompassing the cities of Yorba Linda, portions of Placentia, Brea, Anaheim and unincorporated Orange County.

A map of the District's boundary with specific meter-reading routes can be found on the next page. The star on the map is the District's headquarters in the City of Placentia with latitude at 33°51'48.3"N and longitude at 117°49'39.8"W.

There are a total of 108 meter-reading routes within the entire service area. The first of two phases for this project will begin in the 45 routes that still have manual-read meters (shown as pink shaded areas on map).



YLW	**YORBA LINDA WATER DISTRICT**	Mar 2019	0 0.25 0.5 1 Miles NOT FOR CONSTRUCTION USE	**DISCLAIMER:** This map represent a visual aid intended to assist Public Utility Department personnel with the management of Water System facility. Data provided hereon is not a guarantee of actual field conditions nor a substitute for record drawings and field verification.	**AMI PROJECT**

Technical Project Description

The AMI Project will replace all the manual-read meters and retrofit all radio-read meters in 45 routes. The table below describes the current setup and the proposed setup:

CURRENT		PROPOSED
MANUAL READS		**AUTOMATIC (AMI) READS**
Badger Manual Meters		Replace with Sensus iPERL Meters + MXU (radio)
Neptune Manual Meters		Replace with Sensus iPERL Meters + MXU (radio)
Sensus Manual Meters		Install new register + MXU (radio)
RADIO READS		
Sensus Radio Meters		Replace MXU (radio) with new AMI version

	Phase I
# of **METER**S to be replaced	2,892 units
# of **RADIOS** to be replaced	8,027 units
# of **REGISTERS** to be replaced	3,191 units

Evaluation Criteria

Evaluation Criteria: Scoring Summary	Points:
A. Quantifiable Water Savings	30
B. Water Supply Reliability	18
C. Implementing Hydropower	18
D. Complementing On-Farm Irrigation Improvements	10
E. Department of the Interior Priorities	10
F. Implementation and Results	6
G. Nexus to Reclamation Project Activities	4
H. Additional Non-Federal Funding	4
Total	*100*

Note: Since the FOA is open to a variety of project types, Evaluation Criteria A-D may not apply to every project. For example, a water savings project (Criterion A) may not include implementation of a hydropower component (Criterion C). Please provide as much detail and support as you can for those criteria in A-D that are applicable to your project. All applicants should respond to Evaluation Criteria E-H.

A. *Quantifiable Water Savings*

All applicants should be sure to address the following:

Describe the amount of estimated water savings. *For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project. Please include a specific quantifiable water savings estimate; do not include a range of potential water savings.*

The District's non-revenue water (water loss) is 7.8% of the annual potable water produced. This percentage loss equates to 1,473 acre-feet of water that could be conserved once the AMI Project is fully implemented.

Describe current losses:

Please explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?

The water that will be conserved by the AMI Project is currently going to ratepayers (due to meter inaccuracies), seeping into the ground or home (leaks) or back to the Santa Ana River and infiltrated into groundwater recharge basins.

Describe the support/documentation of estimated water savings: *Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations. Note: projects that do not provide sufficient supporting detail/calculations may not receive credit under this section. Please be sure to consider the questions associated with your project type (listed below) when determining the estimated water savings, along with the necessary support needed for a full review of your proposal. In addition, please note that the use of visual observations alone to calculate water savings, without additional documentation/data, are not sufficient to receive credit under this section. Further, the water savings must be the result of reducing or eliminating a current, ongoing loss, not the result of an expected future loss.*

The District submits an annual water loss report in accordance to California's SB 555 (Urban Retail Water Suppliers: Water Loss Management) requirements. This report utilizes the American Water Works Association (AWWA) methodology for water loss calculation. The latest report indicated a loss of 1,473 acre-feet which would be the estimated water savings

for the District once the AMI Project is implemented. The latest water loss report has been attached as Appendix A for reference.

(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 estimated average annual water savings was calculated from the District's annual water loss report (Appendix A).

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

   System loss is generally calculated by subtracting authorized consumption volume from the system production volume. With the current meter reading system, leaks and above average consumption may not be noticed until a month after a data spike has been observed.

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.*

   Within the Orange County area, recent data from an agency that upgraded their system to AMI showed a savings of 11%. Once the AMI Project is implemented and customers have the ability to see their real-time, this would lead to behavioral changes and allow the District to upgrade its water efficiency and conservation programs.

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).*

   The District will utilize the water loss report and the data collected from new meters to calculate the water savings. The data can provide insight to the areas that must be prioritized for system leakage.

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

Materials & Supplies		PHASE I
		# of units
Meters:	**¾" Sensus iPERL**	285
Meters:	**1" Sensus iPERL**	2,344
Meters:	**1 ½" Sensus OMNI R2 TR/PL CF**	42
Meters:	**2" Sensus OMNI R2 TR/PL CF**	221
Radio Transmitter:	**Sensus MXU 520-M SP**	8,027
Register:	**5/8" – 2" Sensus SR/SRII TR/PL E-Register**	3,191

For more information: https://sensus.com/products/

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

Newly collected data from the AMI Project will be compared with historically read data on a meter-by-meter basis.

B. *Water Supply Reliability*

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:

1. Will the project address a specific water reliability concern? Please address the following:

- *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. Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)?*

  In times of drought or increased demand, the AMI Project would allow the District to focus on specific areas for water use efficiency and conservation. Having usage data in real-time allows the District to make necessary changes immediately to prevent catastrophic cut backs down the road. The District can better allocate its water sources based on the usage trends.

- *Describe how the project will address the water reliability concern? In your response, please address where the conserved water will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

  The AMI Project will provide much needed insight to understand customer behavior and allow the District to provide the most efficient and reliable water. The District's system can be modified to distribute 100% import water or 100%groundwater. If there is a restriction of either sources, the District would have the flexibility to customize the supply to its customer base. Conserved water will be left in the Delta or groundwater basins.

- *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.*
  With AMI data, the District will know exactly how much water to store in its reservoirs and when the most efficient time of use would be to produce more, if needed. The data will help the streamline many operational procedures.

- *Indicate the quantity of conserved water that will be used for the intended purpose.*
  Currently, based on the water loss report, the District may be able to conserve 1,473 acre-feet a year and utilize that for indoor use.

2. *Will the project make water available to achieve multiple benefits or to benefit multiple water users? Consider the following:*

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

  i. *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.*
     This project will not benefit or adversely affect species.

- *Will the project benefit a larger initiative to address water reliability?*
  Yes. Both import water and groundwater may be limited. Knowing the exact amount of usage would allow the District to have the flexibility it needs to develop a sustainable program for water production.

- *Will the project benefit Indian tribes?*
  There are no Indian tribes within the District's service area.

- *Will the project benefit rural or economically disadvantaged communities?*
  The District is not considered a rural or economically disadvantaged community. However, the upgraded meters can allow customers to limit their use and keep within a specific budget.

- *Describe how the project will help to achieve these multiple benefits. In your response, please address where the conserved will go and where it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*
  The AMI Project will provide much needed insight to understand customer behavior and allow the District to provide the most efficient and reliable water. The District's system can be modified to distribute 100% import water or 100%groundwater. If there is a restriction of either sources, the District would have the flexibility to customize the supply to its customer base. Conserved water will be left in the Delta or groundwater basins.

3. *Does the project promote and encourage collaboration among parties in a way that helps increase the reliability of the water supply?*

   Yes. The District works with local agencies such as the City of Yorba Linda and with its water suppliers (OCWD and MWDOC). The District also collaborate with its State and Federal representatives for legislative affairs.

   - *Is there widespread support for the project?*

     Yes. Please reference Appendix B for letters of support.
   - *What is the significance of the collaboration/support?*

     The local, regional, State, and Federal collaboration allows the District the flexibility it needs to provide the safest and most reliable water to its customers.
   - *Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?*

     Yes. With real-time data, customers have the ability to adjust the usage and keep within a set budget to comply with any required conservation efforts.
   - *Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?*

     Yes. During times of drought or reduction request, the District will have the ability to adjust its resources accordingly to prevent any conflict or tension.
   - *Describe the roles of any partners in the process. Please attach any relevant supporting documents.*

     There are no partners in the process. This grant application is a stand-alone from Yorba Linda Water District with support from local, regional, and State agencies.

4. *Will the project address water supply reliability in other ways not described above?*

   Not applicable.

C. *Implementing Hydropower*

NOT APPLICABLE.

D. *Complementing On-Farm Irrigation Improvements*

NOT APPLICABLE.

E. Department of the Interior Priorities

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior 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*

   a. *Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;*

      Data collected from the AMI Project will be used to manage water resources and adapt to any change in the environment. The District can develop robust water efficiency/conservation programs, especially during a drought or emergency declaration for water shortages.

   b. *Examine land use planning processes and land use designations that govern public use and access;*

      Not applicable.

   c. *Revise and streamline the environmental and regulatory review process while maintaining environmental standards.*

      Not applicable.

   d. *Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;*

      Not applicable.

   e. *Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;*

      Not applicable.

   f. *Identify and implement initiatives to expand access to DOI lands for hunting and fishing;*

      Not applicable.

   g. *Shift the balance towards providing greater public access to public lands over restrictions to access.*

      Not applicable.

2. *Utilizing our natural resources*

   a. *Ensure American Energy is available to meet our security and economic needs;*

      The District utilizes local electricity sources from Southern California Edison and City of Anaheim while its natural gas is provided by SoCal Gas.

   b. *Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications;*

      Not applicable.

c. *Refocus timber programs to embrace the entire 'healthy forests' lifecycle;*
Not applicable.

d. *Manage competition for grazing resources.*
Not applicable.

3. *Restoring trust with local communities*

a. *Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;*
Customers will have ability to observe their usage and assist with water conservation efforts, when required. Real-time information will also assist with leak detection, saving money and water.

b. *Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.*
The District has kept its line of communication active and will continue to work with local and State agencies/communities.

4. *Striking a regulatory balance*

a. *Reduce the administrative and regulatory burden imposed on U.S. industry and the public;*
The District collaborates with its legislators to achieve this goal.

b. *Ensure that Endangered Species Act decisions are based on strong science and thorough analysis.*
Not applicable.

5. *Modernizing our infrastructure*

a. *Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;*
This AMI Project is a prime example of modernizing infrastructure, especially with water and public health.

b. *Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;*
Not applicable.

c. *Prioritize DOI infrastructure needs to highlight:*
   1. *Construction of infrastructure;*
   2. *Cyclical maintenance;*
   3. *Deferred maintenance.*

Not applicable for this grant application. Operation and maintenance of materials and supplies will be completed by the District utilizing non-Federal funding.

F. *Implementation and Results*

Up to 6 points may be awarded for these subcriteria.

E.1.6.1. Subcriterion F.1— Project Planning
Points may be awarded for proposals with planning efforts that provide support for the proposed project.

Does the applicant 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.

The District works with MWDOC and its Water Conservation Plan. Once data is collected from this project, the District can create a plan that is more specific to its service area and conduct a SOR. MWDOC's plan can be reviewed on their website: https://www.mwdoc.com

Provide the following information regarding project planning:

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

Currently, Water Conservation Plan and Drought Contingency Plan are done on a regional basis by MWDOC and OCWD. Data collected from AMI Project will help the District with its own specific plans. The District will conduct a SOR once it has enough data from the AMI Project to analyze.

(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).

This project conforms to the District's strategic plan of updating its distribution system with proven technology, improving customer satisfaction, providing efficient and responsive operations, and ensuring reliable infrastructure.

E.1.6.2. 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 Measure Guidance.

All Water and Energy Efficiency Grant applicants are required to propose a "performance measure" (a method of quantifying the actual benefits of their project once it is completed). A provision will be included in all assistance agreements with Water and Energy Efficiency Grant recipients describing the performance measure and requiring the recipient to quantify the actual project benefits in their final report to Reclamation upon completion of the project. If information regarding project benefits is not available immediately upon completion of the project, the financial assistance agreement may be modified to remain open until such information is available and until a Final Report is submitted. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of Water and Energy Efficiency Grants.

Note: program funding may be used to install necessary equipment to monitor progress. However, program funding may not be used to measure performance after project construction is complete (these costs are considered normal operation and maintenance costs and are the responsibility of the applicant).

The AMI Project will install new meters or retrofit existing meters for individual water users. The project is focused on upgrading current manual and radio-read meters to automatic metering. The new communication dataset will allow the District to be more proactive with leak detection/correction. In addition, the District can improve its demand assessment, customer billing, and compliance reporting.

The District currently employs a uniform rate structure that charges a meter fee and commodity rate. Based on the data received from the AMI Project, the District will have the ability to keep the same structure or explore (1) uniform rate + drought rates, (2) tiered rates, or (3) budget-based rates.

The District has AMR and manual-read data for each meter and will compare those to new data that the AMI Project will collect to quantifying any water savings.

The project will greatly improve the water management system and yield water and energy savings. Existing utility bills will be used to calculate the energy required to produce and/or distribute an acre-feet of water. Having AMI data will allow the District to better assess the system demand and find operational efficiencies that would yield energy savings such as reduced pump operations or reduced vehicle usage for manual reading of meters.

The anticipated costs savings is estimated at 5% until data can confirm more accurate analysis of energy usage.

E.1.6.3. Subcriterion F.3— Readiness to Proceed
Points may be awarded based upon the extent to which the proposed project is capable of proceeding upon entering into a financial assistance agreement.

Applicants that describe a detailed plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.

- *Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.*
  The estimated project timeline (2 years or sooner) includes:
  - Finalizing agreement(s) with Bureau of Reclamation; 1-3 months
  - Procurement of materials and supplies; 1-6 months
  - Installation; 1-1.5 years

- *Describe any permits that will be required, along with the process for obtaining such permits.*
  The AMI Project does not require any permits. Grant funding will only be utilized to purchase new materials and supplies. Once the District receives the materials and supplies, installation of the new meters, radios, and registers will be conducted at current meter locations throughout the service area by District personnel.

- *Identify and describe any engineering or design work performed specifically in support of the proposed project.*
  The District will utilize materials and supplies manufactured by Sensus and approved for use in its standards and specifications, see Appendix C.

- *Describe any new policies or administrative actions required to implement the project.*
  Not applicable.

- *Describe how the environmental compliance estimate was developed. Has the compliance cost been discussed with the local Reclamation office?*
  According to Reclamation's standards, the minimum amount budgeted for environmental compliance should be approximately 2% of the total project costs. The District believes that this project could be categorically exempt; however, it will budget $42,869 for this line item. The District have tried to contact Reclamation staff (Tina Mullis @ 702-293-8139), but was unable to receive confirmation on this estimate before the due date of this application.

G. Nexus to Reclamation Project Activities

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.

- *Is the proposed project connected to Reclamation project activities? If so, how? Please consider the following:*
  - *Does the applicant receive Reclamation project water?*
  - *Is the project on Reclamation project lands or involving Reclamation facilities?*
  - *Is the project in the same basin as a Reclamation project or activity?*
  - *Will the proposed work contribute water to a basin where a Reclamation project is located?*

  The AMI Project does not involve Reclamation facilities nor project lands, but it could potentially save water that is received from the Colorado River Aqueduct (via MWDOC).

- *Will the project benefit any tribe(s)?*
  There are not tribe(s) in the District's service area.

H. Additional Non-Federal Funding

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:

$$\frac{\text{Non-Federal Funding}}{\text{Total Project Cost}} \qquad \frac{1{,}886{,}308}{2{,}186{,}308} = 86.3\%$$

Project Budget

Funding Plan and Letters of Commitment

The District has the non-Federal share of the AMI Project costs available in its Unrestricted Reserve funds for water projects. Project costs above anticipated grant funding will be contributed by the District.

The AMI Project does not have any third party in-kind costs or cash requested/received from other non-Federal entities; therefore, no letters of commitment are required.

The District is submitting concurrent grant applications for the AMI Project. The other funding request is also from Bureau of Reclamation, but from the Bay-Delta Restoration Program: CalFED Water Use Efficiency Grants for a total of $500,000. The District will not use the grants to match one another and has sufficient funding to meet both matching fund requirements.

In addition, the District does not anticipate any costs to be incurred prior to award from the Bureau of Reclamation.

Budget Proposal

Funding Sources	Amount	Percentage
Requested Reclamation Grant Funding: BOR-DO-19-F004, Group I	$300,000	13.7%
Required Non-Federal Grant Match Funding (50%): Yorba Linda Water District	$300,000	13.7%
TOTAL PROJECT COST:	***$2,186,308***	***100%***
Remaining Non-Federal Grant Match Funding Required: Yorba Linda Water District	$1,586,308	72.6%

Budget item description	Computation		Quantity type (hours/days)	Total cost
	$/Unit	Quantity		
Salaries and wages				*n/a*
Fringe benefits by $ or %				*n/a*
Travel				*n/a*
Equipment				*n/a*
Supplies/materials				
PHASE I				
Meters: ¾" Sensus iPERL	*$188.42*	*285*	*per unit*	*$53,699.70*
Meters: 1" Sensus iPERL	*$209.61*	*2344*	*per unit*	*$491,325.84*
Meters: 1 ½" Sensus OMNI R2 TR/PL CF	*$489.03*	*42*	*per unit*	*$20,539.26*
Meters: 2" Sensus OMNI R2 TR/PL CF	*$686.15*	*221*	*per unit*	*$151,639.15*
Radio Transmitter: Sensus MXU 520-M SP	*$143.79*	*8,027*	*per unit*	*$1,154,202.33*
E-Register: 5/8" – 2" Sensus SR/SRII TR/PL	*$85.25*	*3,191*	*per unit*	*$272,032.75*
Contractual/construction				
Other				*n/a*
Environmental	*2%*	*1*	*report*	*$42,869*
Reporting				*n/a*
Total direct costs				*n/a*
Indirect costs - __%				*n/a*
Total project costs				***$2,186,308***

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. The types of information to describe in the narrative include, but are not limited to, those listed in the following subsections. Costs, including the valuation of third-party in-kind contributions, must comply with the applicable cost principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations (www.ecfr.gov).

1. *Salaries and Wages*

Not applicable. Grant funding will only be utilized to purchase materials and supplies.

2. *Fringe Benefits*

Not applicable. Grant funding will only be utilized to purchase materials and supplies.

3. *Travel*

Not applicable. Grant funding will only be utilized to purchase materials and supplies.

4. *Equipment*

Not applicable. Grant funding will only be utilized to purchase materials and supplies.

5. *Materials and Supplies*

Please refer to cost table on previous page for details of the types of meters, radios, and registered required for this project and their cost.

6. *Contractual and Construction*

Not applicable. Grant funding will only be utilized to purchase materials and supplies.

7. *Environmental and Regulatory Compliance Costs*

However, if an environmental and regulatory compliance report is required, the District will utilize non-Federal funds. The minimum estimate is $42,869 (2% of budget proposal) and can be funded by the District's Operating Funds.

8. *Other*

Not applicable. Grant funding will only be utilized to purchase materials and supplies.

9. *Indirect Costs*

Not applicable. Grant funding will only be utilized to purchase materials and supplies.

Environmental and Cultural Resources Compliance

According to Reclamation's standards, the minimum amount budgeted for environmental compliance should be approximately 2% of the total project costs. The District believes that this project could be categorically exempt; however, it will budget $42,869 for this line item. The District have tried to contact Reclamation staff (Tina Mullis @ 702-293-8139), but was unable to receive confirmation on this estimate before the due date of this application.

There will be no earth-disturbing work. Water service will be turned off and new equipment will be installed. Once the work is completed, water will be flushed prior to activating the line again. This flushing may range from 1-5 gallons and will be directed to nearby pervious soil. This project will not threaten or endanger any species or critical habitats. In addition, there is no impact to open waters of the United States within the region (Santa Ana River).

Required Permits or Approvals

The AMI Project does not require any permits. Grant funding will only be utilized to purchase new materials and supplies. Once the District receives the materials and supplies, installation of the new meters, radios, and registers will be conducted at current meter locations throughout the service area by District personnel.

The District's Board of Directors will grant approval for implementation of the AMI Project.

Letters of Project Support

The District received letters of project support from the following agencies:

(1) Municipal Water District of Orange County
(2) Orange County Sanitation District
(3) Orange County Water District
(4) City of Yorba Linda
(5) City of Anaheim
(6) Senator Ling Ling Chang's Office
(7) Assemblyman Phillip Chen's Office

A copy of each of these letters may be found in Appendix B.

Official Resolution

The official resolution adopted by the Board of Directors on March 12, 2019 is attached for reference on the following pages. The matching funds to install, operate, and maintain the grant project is budgeted in the District's Capital Improvement Program.

RESOLUTION NO. 2019-10

RESOLUTION OF THE BOARD OF DIRECTORS OF THE YORBA LINDA WATER DISTRICT AUTHORIZING THE GENERAL MANAGER, OR DESIGNEE, TO APPLY FOR, RECEIVE, AND ENTER INTO A COOPERATIVE AGREEMENT, AND ADMINISTER GRANT(S) FROM THE BUREAU OF RECLAMATION'S WATERSMART: WATER AND ENERGY EFFICIENCY GRANT PROGRAM

WHEREAS, the United States Department of the Interior, Bureau of Reclamation, Policy and Administration 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 require a resolution certifying the approval of application(s) by the Applicant's governing board before submission of said application(s) to the Federal Government; and

WHEREAS, the Yorba Linda Water District, if selected, will enter into an agreement with the Bureau of Reclamation to carry out the Advanced Metering Infrastructure Project.

NOW, THEREFORE, the Board of Directors of Yorba Linda Water District does find, determine, and resolve:

Section 1: The General Manager, or designee, is hereby authorized to acknowledge, approve, and submit all required documents pertaining to the grant application.

Section 2: The General Manager, or designee, is hereby authorized to certify that the District will have sufficient matching funds to operate and maintain the grant project requirements in the amount not to exceed $1,500,000.

Section 3: The General Manager, or designee, will work with Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

Section 4: The General Manager, or designee, as agent to conduct all negotiations, execute and submit all required documents including, but not limited to, agreements, payment requests and so on, which may be necessary for the completion of the project.

PASSED AND ADOPTED this 12th day of March 2019 by the following called vote:

AYES: Directors Hall, Hawkins, Jones, Miller, and Nederhood
NOES: None
ABSTAIN: None
ABSENT: None

Brooke Jones, President
Yorba Linda Water District

ATTEST:

Annie Alexander, Board Secretary
Yorba Linda Water District

Reviewed as to form by General Counsel:

Andrew B. Gagen, Esq.
Kidman Gagen Law LLP

Resolution No. 2019-10 Application for BOR WaterSMART: Water & Energy Efficiency Grant Program 2

Appendix A: Water Loss Report for Calendar Year 2017

AWWA Free Water Audit Software: Reporting Worksheet

? Click to access definition
\+ Click to add a comment

Water Audit Report for: Yorba Linda Water District
Reporting Year: 2017 | 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

<----------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

	Grade	Value	Unit	Adj. Grade	Pcnt	Value	Unit
Volume from own sources:	5	10,904.120	acre-ft/yr	9		5.810	acre-ft/yr
Water imported:	7	7,912.570	acre-ft/yr	9			acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr
WATER SUPPLIED:		**18,810.880**	acre-ft/yr				

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

	Grade	Value	Unit
Billed metered:	5	17,338.01	acre-ft/yr
Billed unmetered:	n/a		acre-ft/yr
Unbilled metered:	9	4.235	acre-ft/yr
Unbilled unmetered:	10	14.947	acre-ft/yr
AUTHORIZED CONSUMPTION:		**17,357.190**	acre-ft/yr

Unbilled unmetered — Pcnt: ; Value: 14.947 acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

1,453.690 acre-ft/yr

Apparent Losses

	Grade	Value	Unit	Pcnt	Value	Unit
Unauthorized consumption:		47.027	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

	Grade	Value	Unit	Pcnt	Value	Unit
Customer metering inaccuracies:	2	175.174	acre-ft/yr	1.00%		acre-ft/yr
Systematic data handling errors:	5	43.345	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **265.546** acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **1,188.144** acre-ft/yr

WATER LOSSES: **1,453.690** acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: **1,472.872** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

	Grade	Value	Unit
Length of mains:	9	367.1	miles
Number of active AND inactive service connections:	9	25,021	
Service connection density:		68	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 | 82.9 psi

COST DATA

	Grade	Value	Unit
Total annual cost of operating water system:	10	$25,737,228	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$2.70	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	5	$733.81	$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 64 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

Water Audit Report for: Yorba Linda Water District
Reporting Year: 2017 | 1/2017 - 12/2017

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 64 out of 100 ***

System Attributes:

	Apparent Losses:	265.546	acre-ft/yr
+	Real Losses:	1,188.144	acre-ft/yr
=	**Water Losses:**	**1,453.690**	acre-ft/yr
?	Unavoidable Annual Real Losses (UARL):	532.94	acre-ft/yr
	Annual cost of Apparent Losses:	$312,314	
	Annual cost of Real Losses:	$871,872	Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumpiton

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	7.8%	
	Non-revenue water as percent by cost of operating system:	4.7%	Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	9.47	gallons/connection/day
	Real Losses per service connection per day:	42.39	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	0.51	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	1,188.14	acre-feet/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	2.23	

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

Level 1 Validation – Water Supplier Confirmation

This document confirms participation in and endorsement of the Level 1 Validation as completed.

This acknowledgement is required for submission – alongside your Level 1 validated water audit software file – to the California Department of Water Resources.

Water Supplier Name:	Yorba Linda Water District
Water Supplier Public Water System ID:	CA3010037
Water Audit Period:	2017

Water Audit & Water Loss Improvement Steps

Steps taken in the audit period timeframe to increase data source accuracy, reduce real losses, and/or reduce apparent losses, as informed by the water audit.

YLWD investigates anamolies and utilizes SCADA. YLWD owns an in-house test bench used to test flagged meters. Large meters are tested by a neighboring agency. YLWD has set protocols within their operations group where any operational use is monitored and logged, daily. YLWD owns and operates their own leak detection equipment to survey their system.

Certification Statement by Water Supplier Executive:

This water loss audit report meets the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34 and has been prepared in accordance with the method adopted by the American Water Works Association, as contained in their manual, *Water Audits and Loss Control Programs, Manual M36, Fourth Edition* and in the Free Water Audit Software version 5.

Executive Name (print):	Marc Marcantonio
Executive Position:	General Manager
Signature:	
Date	September 19, 2018

Appendix B: Letters of Support

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

March 13, 2019

Marc Marcantonio
General Manager
Yorba Linda Water District
1717 E. Miraloma Avenue
Placentia, CA 92870

RE: Support for Yorba Linda Water District's Project and Applications to the U.S. Bureau of Reclamation: (1) WaterSMART – Water and Energy Efficiency Grant Program and (2) CalFED Water Use Efficiency Grant Program

Dear Mr. Marcantonio,

On behalf of the Municipal Water District of Orange County, we would like to express our support for Yorba Linda Water District's U.S. Bureau of Reclamation WaterSMART – Water and Energy Efficiceny Grant and CalFED Water Use Efficiency Grant applications for their Advanced Metering Infrastructure (AMI) Project.

The AMI project will provide the District and its customers with near real-time water usage data. The District can improve their water conservation and water use efficiency programs with this information. In addition, the upgraded system would allow the District to accurately detect leaks and system losses quicker. The dataset can also provide insight into time-of-use behavior, resulting in energy conservation within the distribution system. Once AMI is implemented, meter readings will be done automatically by the new meters and software instead of utilizing trucks to radio/manual read; thereby, reducing fuel (energy) consumption and greenhouse gas emissions.

We strongly support the District's applications for their AMI project and am confident that the grant funding would allow the District to continue to improve water and energy efficiency in Orange County.

If you have any questions, please feel free to contact Damon Micalizzi, Director of Public Affairs, at (714) 593-5014 or DMicalizzi@mwdoc.com.

Sincerely,

Joan Finnegan
Vice President
Municipal Water District of Orange County

Serving:
Anaheim
Brea
Buena Park
Cypress
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Los Alamitos
Newport Beach
Orange
Placentia
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
County of Orange
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District
Yorba Linda Water District

Orange County Sanitation District
10844 Ellis Avenue, Fountain Valley, CA 92708
714.962.2411 • www.ocsd.com

March 12, 2019

Marc Marcantonio
General Manager
Yorba Linda Water District
1717 E. Miraloma Avenue
Placentia, CA 92870

RE: Support for Yorba Linda Water District's Project and Applications to the U.S. Bureau of Reclamation: (1) WaterSMART – Water and Energy Efficiency Grant Program and (2) CalFED Water Use Efficiency Grant Program

Dear Mr. Marcantonio,

On behalf of the Orange County Sanitation District, we would like to express our support for Yorba Linda Water District's U.S. Bureau of Reclamation WaterSMART – Water and Energy Efficiency Grant and CalFED Water Use Efficiency Grant applications for their Advanced Metering Infrastructure (AMI) Project.

The AMI project will provide the District and its customers with near real-time water usage data. The District can improve their water conservation and water use efficiency programs with this information. In addition, the upgraded system would allow the District to accurately detect leaks and system losses quicker. The dataset can also provide insight into time-of-use behavior, resulting in energy conservation within the distribution system. Once AMI is implemented, meter readings will be done automatically by the new meters and software instead of utilizing trucks to radio/manual read; thereby, reducing fuel (energy) consumption and greenhouse gas emissions.

We strongly support the District's applications for their AMI project and am confident that the grant funding would allow the District to continue to improve water and energy efficiency in Orange County.

If you have any questions, please feel free to contact me at (714) 962-2411.

Sincerely,

David John Shawver

David John Shawver
Board Chairman

SINCE 1933

ORANGE COUNTY WATER DISTRICT

ORANGE COUNTY'S GROUNDWATER AUTHORITY

March 15, 2019

Marc Marcantonio
General Manager
Yorba Linda Water District
1717 E. Miraloma Avenue
Placentia, CA 92870

RE: Support for the Yorba Linda Water District Advanced Metering Infrastructure (AMI) Project

Dear Mr. Marcantonio:

On behalf of the Orange County Water District (OCWD), I would like to express our support for Yorba Linda Water District's (YLWD) Advanced Metering Infrastructure (AMI) Project and its applications for funding from the U.S. Bureau of Reclamation WaterSMART – Water and Energy Efficiency and CalFED Water Use Efficiency grant programs.

The AMI project will provide YLWD and its customers with more accurate, real-time water usage data. With this information, YLWD aspires to improve its water conservation and water use efficiency programs. In addition, the upgraded system would allow YLWD to detect leaks and system losses with greater accuracy and in a timelier manner. The dataset will also provide insight into time-of-use patterns, resulting in energy conservation within YLWD's distribution system.

Once the AMI Project is implemented, YLWD's meter readings will be done automatically by the new meters and software instead of utilizing trucks to radio/manual read; thereby, reducing fuel consumption and greenhouse gas emissions.

OCWD supports Yorba Linda Water District's applications for its AMI project to help improve water and energy efficiencies in Orange County. If you have any questions, please feel free to contact Michael Markus, General Manager of OCWD, at mmarkus@ocwd.com or (714) 378-3305.

Sincerely,

Vicente Sarmiento, Esq.
President

PO Box 8300
Fountain Valley, CA 92728-8300

18700 Ward Street
Fountain Valley, CA 92708

(714) 378-3200
(714) 378-3373 fax

www.ocwd.com

CITY OF YORBA LINDA

4845 CASA LOMA AVENUE
YORBA LINDA, CALIFORNIA 92886

(714) 961-7110
FAX (714) 993-7530

OFFICE OF THE CITY MANAGER

March 18, 2019

Marc Marcantonio
General Manager
Yorba Linda Water District
1717 E. Miraloma Avenue
Placentia, CA 92870

RE: Support for Yorba Linda Water District's Project and Applications to the U.S. Bureau of Reclamation: (1) WaterSMART – Water and Energy Efficiency Grant Program and (2) CalFED Water Use Efficiency Grant Program

Dear Mr. Marcantonio,

On behalf of The City of Yorba Linda, I would like to express support for Yorba Linda Water District's U.S. Bureau of Reclamation WaterSMART – Water and Energy Efficiency Grant and CalFED Water Use Efficiency Grant applications for their Advanced Metering Infrastructure (AMI) Project.

It is my understanding; the AMI project will provide the District and its customers with near real-time water usage data. The District can improve their water conservation and water use efficiency programs with this information. In addition, the upgraded system would allow the District to accurately detect leaks and system losses quicker. The dataset can also provide insight into time-of-use behavior, resulting in energy conservation within the distribution system. Once AMI is implemented, meter readings will be done automatically by the new meters and software instead of utilizing trucks to radio/manual read; thereby, reducing fuel (energy) consumption and greenhouse gas emissions.

We strongly support the District's applications for their AMI project and am confident that the grant funding would allow the District to continue to improve water and energy efficiency in Orange County.

Sincerely,

Mark Pulone, City Manager
City of Yorba Linda

City of Anaheim
PUBLIC UTILITIES DEPARTMENT
General Manager's Office

March 14, 2019

Mr. Marc Marcantonio
General Manager
Yorba Linda Water District
1717 E. Miraloma Avenue
Placentia, CA 92870

Re: Support for Yorba Linda Water District's Project and Applications to the U.S. Bureau of Reclamation: (1) WaterSMART – Water and Energy Efficiency Grant Program and (2) CalFED Water Use Efficiency Grant Program

Dear Mr. Marcantonio:

On behalf of Anaheim Public Utilities, we would like to express our support for Yorba Linda Water District's (District) U.S. Bureau of Reclamation WaterSMART – Water and Energy Efficiency Grant and CalFED Water Use Efficiency Grant applications for their Advanced Metering Infrastructure (AMI) Project.

The AMI project will provide the District and its customers with near real-time water usage data. The District can improve their water conservation and water use efficiency programs with this information. In addition, the upgraded system would allow the District to accurately detect leaks and system losses quicker. The dataset can also provide insight into time-of-use behavior, resulting in energy conservation within the distribution system. Once AMI is implemented, meter readings will be done automatically by the new meters and software instead of utilizing trucks to radio/manual read; thereby, reducing fuel (energy) consumption and greenhouse gas emissions.

We strongly support the District's applications for their AMI project and I am confident that the grant funding would allow the District to continue to improve water and energy efficiency in Orange County.

If you have any questions, please feel free to contact Michael Moore at (714) 765-4956 or at mrmoore@anaheim.net

Sincerely,

Dukku Lee
Public Utilities General Manager

201 S. Anaheim Blvd.
M.S. #1101
Anaheim, CA 92805
TEL: 714.765.5173
FAX: 714.765.4138

California State Senate

SENATOR
LING LING CHANG
TWENTY-NINTH SENATE DISTRICT

CAPITOL OFFICE
STATE CAPITOL
ROOM 4062
SACRAMENTO, CA 95814
TEL (916) 651-4029

DISTRICT OFFICE
1800 E. LAMBERT ROAD
SUITE 150
BREA, CA 92821
TEL (714) 671-9474

SENATE.CA.GOV/CHANG
SENATOR.CHANG@SENATE.CA.GOV

COMMITTEES
BANKING AND FINANCIAL INSTITUTIONS
VICE CHAIR
BUSINESS, PROFESSIONS AND ECONOMIC DEVELOPMENT
VICE CHAIR
EDUCATION
ENERGY, UTILITIES AND COMMUNICATIONS
GOVERNMENTAL ORGANIZATION

18 March 2019

To Whom It May Concern,

I would like to express my support for Yorba Linda Water District's U.S. Bureau of Reclamation WaterSMART – Water and Energy Efficiceny Grant and CalFED Water Use Efficiency Grant applications for their Advanced Metering Infrastructure (AMI) Project.

The AMI project will provide the District and its customers with near real-time water usage data. The District can improve their water conservation and water use efficiency programs with this information. In addition, the upgraded system would allow the District to accurately detect leaks and system losses quicker. The dataset can also provide insight into time-of-use behavior, resulting in energy conservation within the distribution system. Once AMI is implemented, meter readings will be done automatically by the new meters and software instead of utilizing trucks to radio/manual read; thereby, reducing fuel (energy) consumption and greenhouse gas emissions.

I strongly support the District's applications for their AMI project and am confident that the grant funding would allow the District to continue to improve water and energy efficiency in Orange County.

If you have any questions, please feel free to contact my district office at (714) 671- 9474 or email me at Senator.Chang@sen.ca.gov.

Sincerely,

Senator Ling Ling Chang
Senate District 29

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
VICE CHAIR: ENVIRONMENTAL
SAFETY AND TOXIC MATERIALS
INSURANCE
UTILITIES AND ENERGY

3/12/2019

Marc Marcantonio
General Manager
Yorba Linda Water District
1717 E. Miraloma Avenue
Placentia, CA 92870

RE: Support for Yorba Linda Water District's Project and Applications to the U.S. Bureau of Reclamation: (1) WaterSMART – Water and Energy Efficiency Grant Program and (2) CalFED Water Use Efficiency Grant Program

Dear Mr. Marcantonio,

As the Assemblyman for the 55th Assembly district representing the cities of Yorba Linda and Placentia in which the Yorba Linda Water District serves, I would like to express my support for the Yorba Linda Water District's U.S. Bureau of Reclamation WaterSMART – Water and Energy Efficiency Grant and CalFED Water Use Efficiency Grant applications for their Advanced Metering Infrastructure (AMI) Project.

The AMI project will provide the District and its customers with near real-time water usage data. The District can improve their water conservation and water use efficiency programs with this information. In addition, the upgraded system would allow the District to accurately detect leaks and system losses quicker. The dataset can also provide insight into time-of-use behavior, resulting in energy conservation within the distribution system. Once AMI is implemented, meter readings will be done automatically by the new meters and software instead of utilizing trucks to radio/manual read; thereby, reducing fuel (energy) consumption and greenhouse gas emissions.

I strongly support the District's applications for their AMI project and am confident that the grant funding would allow the District to continue to improve water and energy efficiency in Orange County.

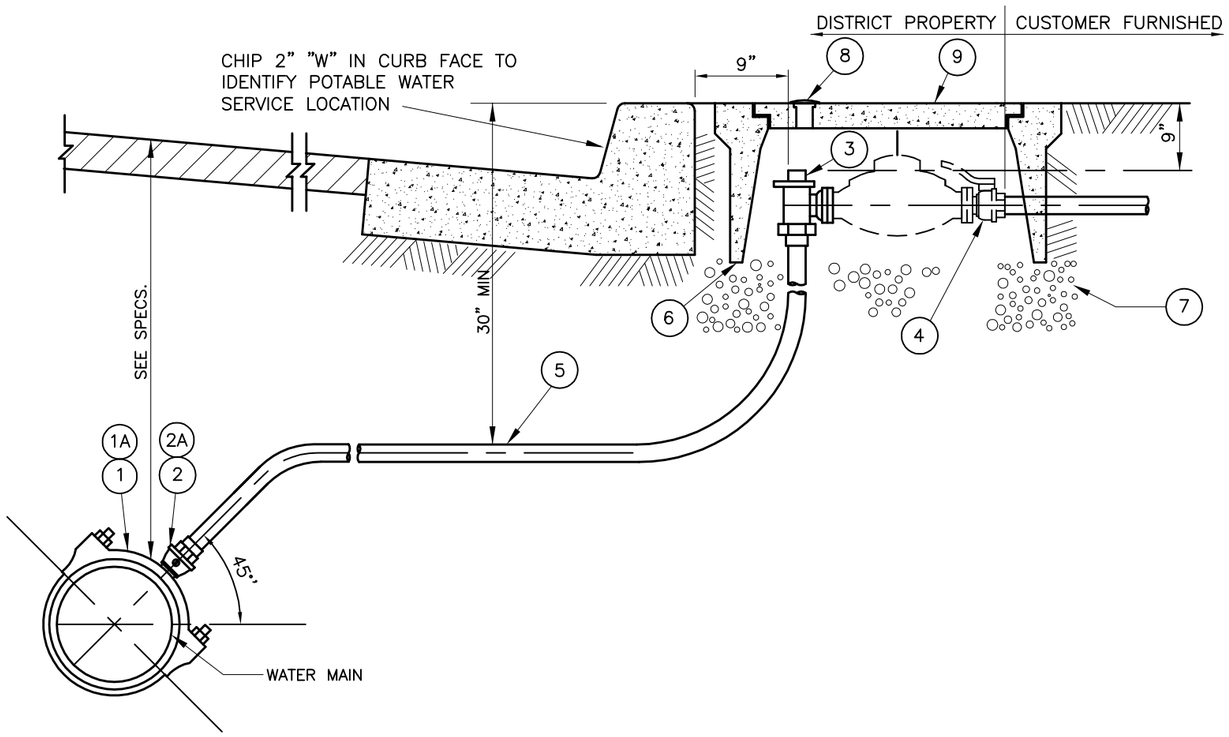
If you have any questions, please feel free to contact my District Director, Steven Nguyen, at Steven.Nguyen@asm.ca.gov or 714-529-5502.

Sincerely,

Phillip Chen

PHILLIP CHEN, Ed.D
Assemblymember, 55th District

Appendix C: Meter Installation Standards/Specifications



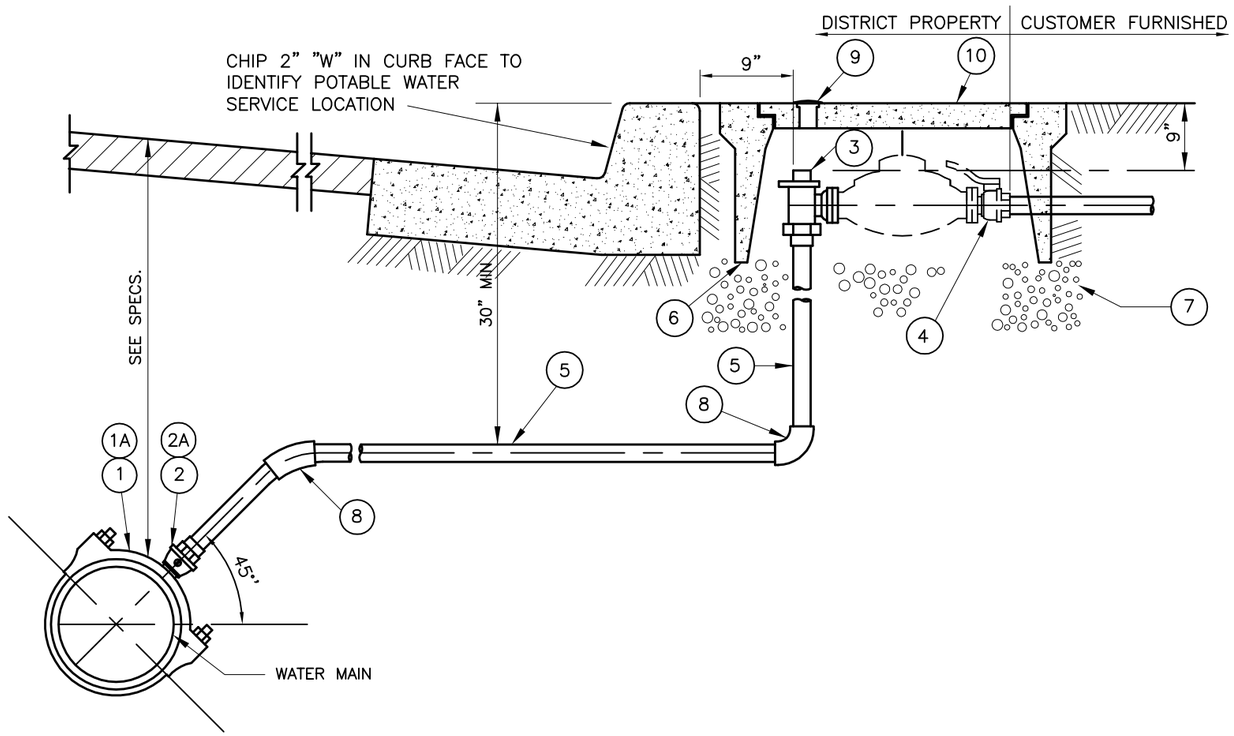
MATERIALS

ITEM NO.	DESCRIPTION	MANUFACTURER	MODEL NO.
1	DOUBLE STRAP SERVICE SADDLE WITH F.I.P. OUTLET (FOR DUCTILE IRON OR ASBESTOS CEMENT PIPE MAINS)	JONES MUELLER FORD	J-979 IP (DI) OR J-969 IP (ACP) BR2B-IP (DI) OR BR2S-IP (ACP) 202B
1A	SERVICE SADDLE WITH F.I.P. OUTLET (FOR C900 PVC PIPE MAIN)	JONES MUELLER FORD	J-969 I.P. H-13490 TO H-13494 S91
2	INSULATED CORPORATION STOP M.I.P. THREAD X COMPRESSION (FOR DUCTILE IRON PIPE MAIN)	MUELLER JONES FORD	P-35028 300 SERIES (MIP X PJ) SI-FB1100-3-AWT-Q-NL SI-FB1100-4-AWT-Q-NL
2A	CORPORATION STOP M.I.P. THREAD X COMPRESSION (FOR C900 PVC MAIN)	JONES MUELLER FORD	E-1935, E-3403 P-25028 FB1100-3-NL FB1100-4-NL
3	ANGLE METER STOP W/LOCKWING (COMPRESSION TYPE)	JONES MUELLER FORD	E-4201 P-14258 KV43-444W-NL KV43-332W-NL
	FOR SYSTEMS OVER 100 PSI WORKING PRESSURE		
		JONES MUELLER FORD	E-1963W P-24258 BA43-444W-NL BA43-332W-NL
4	BRONZE OR BRASS SERVICE VALVE BALL TYPE WITH LEVER HANDLE, METER SWIVEL NUT X F.I.P. (SUPPLIED BY YLWD)	FORD	B13-444W-NL B13-332W-NL WITH HB-34S HANDLE
5	COPPER TUBING. SEE NOTE 2.	MUELLER HALSTEAD	COPPER TYPE "K" SOFT
6	METER BOX (SUPPLIED BY YLWD)	OLD CASTLE	FL30
7	6" BASE OF 3/4" ROCK		
8	SENSUS FLEX NET PROBE (SUPPLIED BY YLWD)	SENSUS	520M
9	METER BOX LID (SUPPLIED BY YLWD)	OLD CASTLE	FL30

NOTES:

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 18" OF VALVE, COUPLING, JOINT OR FITTING. DIRECT TAP IS NOT PERMITTED.
2. SERVICE SADDLE SHALL BE WRAPPED WITH MIN. 8 MIL P.E. ENCASEMENT AND COPPER TUBING SHALL BE ENCASED WITH MIN. 6 MIL P.E. SLEEVE OR TAPE WRAPPED. SEE YLWD STD. SPEC. SECTION 15057.
3. INSTALL CORPORATION STOP WITH KEY SIDEWAYS IN OPEN POSITION.
4. SET TOP OF METER BOX FLUSH WITH SIDEWALK OR CURB AS SHOWN.
5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP.
6. NO SPLICES ARE ALLOWED ON NEW SERVICES.
7. SERVICE VALVE IS REQUIRED ON DOWNSTREAM SIDE OF METER AND PROVIDED BY THE DISTRICT. METER IS INSTALLED BY THE DISTRICT.
8. BORINGS ARE NOT ALLOWED FOR SERVICE INSTALLATIONS.
9. ALL BRASS MATERIAL SHALL CONFORM TO ANSI/AWWA C800 WITH A MAX. LEAD CONTENT OF 0.25% BY AVERAGE WEIGHT.

APPROVED BY ENGINEERING MANAGER DATE 3/2019	YL W	YORBA LINDA WATER DISTRICT 3/4" AND 1" COPPER SERVICE INSTALLATION	STD. DWG. W-1 SHEET 1 OF 1



MATERIALS

ITEM NO.	DESCRIPTION	MANUFACTURER	MODEL. NO.
1	DOUBLE STRAP SERVICE SADDLE WITH F.I.P. OUTLET (FOR DUCTILE IRON OR ASBESTOS CEMENT PIPE MAINS)	JONES MUELLER FORD	J-979 IP (DI) OR J-969 IP (ACP) BR2B-IP (DI) OR BR2S-IP (ACP) 202B
1A	SERVICE SADDLE WITH F.I.P. OUTLET (FOR C900 PVC PIPE MAIN)	JONES MUELLER FORD	J-969 I.P. H-13490 TO H-13494 S91
2	INSULATED CORPORATION STOP M.I.P. THREAD X COMPRESSION (FOR DUCTILE IRON PIPE MAIN)	MUELLER FORD JONES	N-30046 (2" MIP X FIP) SI-FB1100-7-AWT-Q-NL 300 SERIES (2" MIP X PJ)
2A	CORPORATION STOP M.I.P. THREAD X COMPRESSION (FOR C900 PVC PIPE MAIN)	JONES MUELLER FORD	E-1935 P-25028 FB-1100-6-NL FB-1100-7-NL
3	ANGLE METER STOP W/LOCKWING (COMPRESSION TYPE)	JONES MUELLER FORD	E-4205 P-14277 FV43-666W-NL FV43-777W-NL
	FOR SYSTEMS OVER 100 PSI WORKING PRESSURE		
		JONES FORD	E-1975W BFA43-666W-NL BFA43-777W-NL
4	BRONZE OR BRASS SERVICE VALVE BALL TYPE WITH LEVER HANDLE, METER FLANGE X F.I.P. (SUPPLIED BY YLWD)	FORD	BF13-777W-NL BF13-666W-NL WITH HB-67S HANDLE
5	COPPER TUBING. SEE NOTE 2 AND 10.	MUELLER HALSTEAD	COPPER TYPE "K"
6	METER BOX (SUPPLIED BY YLWD)	OLD CASTLE	FL36
7	6" BASE OF 3/4" ROCK		
8	45° OR 90° BRASS FITTING (COMPRESSION TYPE)		
9	SENSUS FLEX NET PROBE (SUPPLIED BY YLWD)	SENSUS	520M
10	METER BOX LID (SUPPLIED BY YLWD)	OLD CASTLE	FL36

NOTES:

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 18" OF VALVE, COUPLING, JOINT OR FITTING. DIRECT TAP IS NOT PERMITTED.
2. SERVICE SADDLE SHALL BE WRAPPED WITH MIN. 8 MIL P.E. ENCASEMENT AND COPPER TUBING SHALL BE ENCASED WITH MIN. 6 MIL P.E. SLEEVE OR TAPE WRAPPED. SEE YLWD STD. SPEC. SECTION 15057.
3. INSTALL CORPORATION STOP WITH KEY SIDEWAYS IN OPEN POSITION.
4. SET TOP OF METER BOX FLUSH WITH SIDEWALK OR CURB AS SHOWN.
5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP.
6. NO SPLICES ARE ALLOWED ON NEW SERVICES EXCEPT WHEN NEW SERVICE LENGTH EXCEEDS 20 FEET.
7. SERVICE VALVE IS REQUIRED ON DOWNSTREAM SIDE OF METER AND PROVIDED BY THE DISTRICT. METER IS INSTALLED BY THE DISTRICT.
8. BORINGS ARE NOT ALLOWED FOR SERVICE INSTALLATIONS.
9. ALL BRASS MATERIAL SHALL CONFORM TO ANSI/AWWA C800 WITH A MAX. LEAD CONTENT OF 0.25% BY AVERAGE WEIGHT.
10. FOR 2" SERVICE LINE TO 1-1/2" METER, INSTALL 2" ANGLE METER STOP AND 1-1/2" X 2" METER FLANGE ADAPTER.

APPROVED BY ENGINEERING MANAGER DATE 3/2019	YL W	YORBA LINDA WATER DISTRICT 1-1/2" AND 2" COPPER SERVICE INSTALLATION	STD. DWG. W-2 SHEET 1 OF 1