

**REQUEST FOR PROPOSALS (RFP)
FOR ADVANCED WATER METERING
INFRASTRUCTURE (AMI) SYSTEM
FOR ALLENSWORTH, CA**



Date Released: June 17, 2020

Pre-Bid Conference: June 25, 2020 at 10:00 a.m. PDT

Due Date and Time: July 6, 2020 at 4:30 p.m. PDT

Available from: <https://therenewablesRFP.com>

ADVANCED METERING INFRASTRUCTURE SYSTEM

REQUEST FOR PROPOSALS

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INTRODUCTION AND OVERVIEW

Introduction

Allensworth Community Service District (ACSD) intends to acquire an AMI system and related products, software, and services (collectively, the “System”), for all of its approximately 160 water meters. The ACSD wants all of the old meters removed and replaced with new AMI meters, and an AMI system installed with associated hardware and software. Both ACSD ownership and Network as a Service (NaaS) and Software as a Service (SaaS) bids are requested.

The basic components sought by ACSD include the following:

- Cold water meters with AMI-compatible registers to replace existing meters.
- AMI-compatible lids for outside set meter boxes, or the modification of existing lids.
- Installation of new meters, registers, and AMI endpoints.
- Disposal of old meter reading equipment and disposal of old meters [and meter box lids].
- Endpoints (meter interface units, or “MIUs”) capable of encoding, storing, and transmitting meter reading and other data, such as tampering alerts.
- A communication network capable of collecting reads and alert information from the MIUs and transmitting it to a head-end computer system.
- Head-end computer hardware and software, or a service, to collect, store, and manage the data which is delivered through the network.
- A meter data management system (MDMS) which can store meter reads and consumption data and allow that data to be queried, exported, and summarized, and from which standard reports and bills can be generated.
- A customer web portal to display interval consumption data and other information.
- The design, installation and testing of information interfaces between the AMI system’s software components and ACSD’s customer information system (CIS) and other systems, such as its field work order system.
- All related documentation, including technical manuals and operating procedures.
- Training of ACSD’s employees in maintenance, diagnosis, and troubleshooting, as well as system use, operation, and maintenance.
- Shipping and managing the inventory of AMI equipment during the course of project deployment.
- Installation of fixed data collection units, including the communications links between those collection units and the head-end system.
- Provision of all necessary radio licenses, firmware, third party software or operating systems to ensure a complete and working system.

- Satisfactory testing of all software, hardware and procedures prior to the deployment of the system according to the system testing and acceptance process set forth in the contract, and satisfactory testing of system performance at the completion of the project or at major milestones.
- Coordination, scheduling, communications, and documentation of all installation services.
- Project management to ensure all products and services are coordinated.

Optional Services. ACSD wishes to consider the following optional services:

- Network as a Service (NaaS)
- Hosting of the head-end software
- Hosting of the meter data management system and customer web portals.
- Monitoring of the status of the endpoints and the data collection network.
- Operation and maintenance of the data collection network.

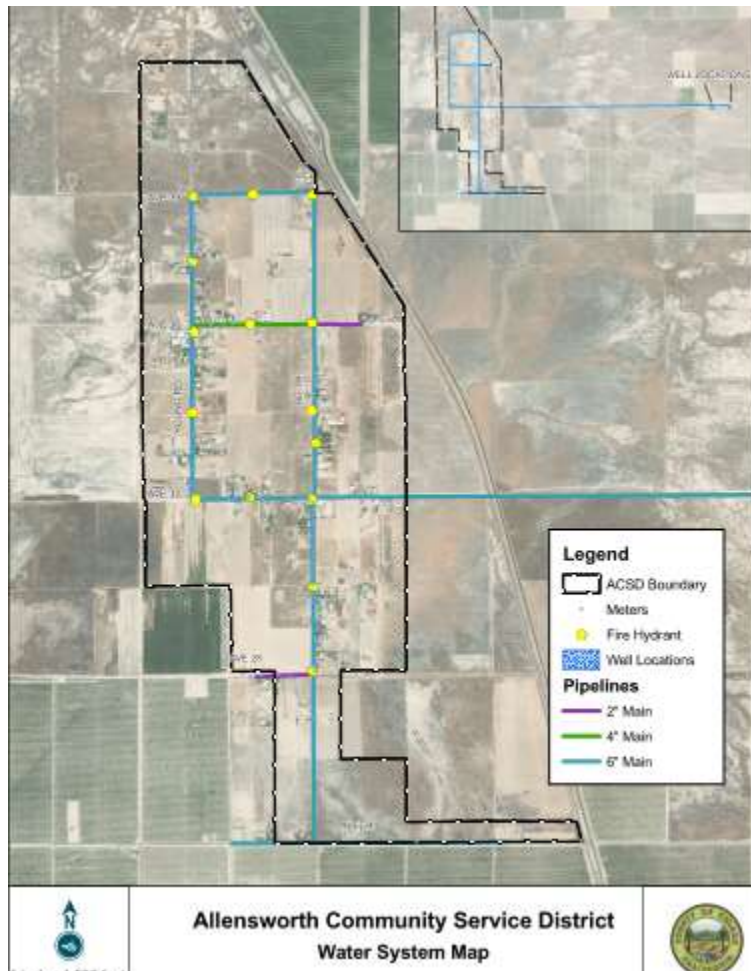
Background

Allensworth, California, is a small town the Central Valley of California (Coordinates: [35°51'00"N 119°23'21"W](#)). The Allensworth Community Service District serves the Allensworth Community distributing water to local residents and providing streetlights.



Allensworth, CA Location. Coordinates: [35°51'00"N 119°23'21"W](#)

ACSD has about 160 water meters: 150 residential (¾ inch), 3 commercial (2-3 inch), one school (2 inch) and the state park (4 inch). ACSD supplies about 4.4 million cubic feet per year from two wells drilled about 3 miles east of the community. The terrain is typical Central Valley terrain – flat.



ACSD is currently using RVS software (<https://www.rvssoftware.com/>) for metering and billing. Meter information is gathered on a Unitech HT630 handheld computer and transferred to the billing software.

Organization of RFP

Section 1 of this RFP contains the RFP instructions including important dates.

Section 2 contains the technical requirements of the RFP that should be addressed in proposals.

Section 3 contains pricing instructions.

Attachment 1 contains required signature pages that need to be included with any RFP proposal.

Attachment 2 provides project management terms and conditions.

Attachment 3 provides workers compensation requirements.

Attachment 4 has bonding, insurance, and prevailing wage requirements.

Attachment 5 provides the ACSD meter locations.

Attachment 6 provides ACSD Community Outreach Pamphlet re this Project. Both English and Spanish Versions were provided to ACSD customers – only the English version is provided on <https://therenewablesRFP.com>.

Attachment 7 Photos of ACSD water meters. Available at <https://therenewablesRFP.com>.

SECTION 1 - AMI RFP INSTRUCTIONS

RFP General Instructions

General Conditions

1. Each proposer is responsible for reviewing and understanding all terms of this RFP. Failure to thoroughly examine or request clarification on RFP terms may result in disqualification.
2. Any proposal may be withdrawn at any time prior to the due date with a written request signed by the authorized proposer representative. Revised proposals may be submitted up to the original due date/time.
3. Issuance of this RFP and receipt of proposals does not commit the ACSD to move forward with an award or complete the project described. ACSD reserves the right to postpone the RFP award process, to cancel the RFP at any time, to accept or reject any or all proposals received in response to this RFP, and to modify the scope of the project at any time. ACSD further reserves the right to develop a short list of providers and negotiate final price or provision, task order, or service.
4. Each proposer to this RFP must comply with the specified communication requirements. Any proposer who communicates concerning this RFP with parties or via methods not provided for in this RFP, may be subject to disqualification. Such communication includes contact with ACSD officials, staff, or members of the evaluation committee regarding this RFP through channels or with persons other than as designated in this RFP.
5. Pursuant to Government Code section 1090 and any other laws, rules and regulations that may apply, the proposer covenants that neither it, its subcontractors nor employees presently have an interest, and shall not acquire any interest, direct or indirect, financial or otherwise that would conflict in any manner or degree with contract awarded from this RFP. Proposer certifies that to the best of its knowledge, no one who has or will have any financial interest in the contract awarded from this RFP is an officer or employee of ACSD. Through its submittal of a proposal, proposer acknowledges that it is familiar with Section 87100 et seq. and Section 1090 et seq. of the Government Code of the State of California and will immediately notify ACSD if it becomes aware of any facts concerning the contract to be awarded that constitute a violation of said provisions.
6. Each proposer is expected to fully inform themselves as to the conditions, requirements, and specifications of the RFP before submitting proposals. Failure to do so will be at proposer's own risk, and they cannot secure relief on the plea of error.
7. Proposers are not allowed to submit more than one proposal.
8. The successful proposer shall pay all federal, state and local taxes, levies, duties, and assessments of every nature due in connection with any work under the contract and

- shall indemnify and hold harmless ACSD from any liability on account of any and all such taxes, levies, duties, assessments, and deductions. proposal prices shall include said taxes
9. ACSD shall not have any obligation whatsoever and in any manner for any proposer's proposal preparation, interview, fee negotiation or other marketing costs associated with this RFP. Such costs shall be borne solely by the proposer.
 10. In submitting a proposal in response to this RFP, proposer is certifying that it takes no exceptions to this RFP including, but not limited to Attachment 3 (workers compensation). If any exceptions are taken, such exceptions must be clearly noted in the proposal and may be reason for rejection of the proposal. As such, proposer is directed to carefully review the attached Attachment 3 and, in particular, the insurance and indemnification provisions therein.
 11. Pursuant to *Michaelis, Montanari, & Johnson v. Superior Court* (2006) 38 Cal.4th 1065, proposals submitted in response to this RFP shall be held confidential by ACSD and shall not be subject to disclosure under the California Public Records Act (Cal. Government Code section 6250 *et seq.*) until after either ACSD and the successful proposer have completed negotiations and entered into an Agreement or ACSD has rejected all proposals. All correspondence with the ACSD including responses to this RFP will become the exclusive property of the ACSD and will become public records under the California Public Records Act. Furthermore, ACSD will have no liability to the proposer or other party as a result of any public disclosure of any proposal or the Agreement. If a proposer desires to exclude a portion of its proposal from disclosure under the California Public Records Act, the proposer must mark it as such and state the specific provision in the California Public Records Act which provides the exemption as well as the factual basis for claiming the exemption. For example, if a proposer submits trade secret information, the proposer must plainly mark the information as "Trade Secret" and refer to the appropriate section of the California Public Records Act which provides the exemption as well as the factual basis for claiming the exemption. Although the California Public Records Act recognizes that certain confidential trade secret information may be protected from disclosure, ACSD is not in a position to establish that the information that a proposer submits is a trade secret. If a request is made for information marked "Confidential", "Trade Secret" or "Proprietary", the ACSD will provide proposers who submitted the information with reasonable notice to seek protection from disclosure by a court of competent jurisdiction.
 12. An award under this RFP may not be based solely on the lowest price but will be made to the proposer with the overall best value proposal. The successful proposal will meet the project site design guidelines and provide service level acceptable to the ACSD.
 13. Proposals shall remain valid for 60 days after proposal is submitted

14. Upon award, successful proposer shall secure all appropriate licenses and permits to complete the scope of work included in this RFP.
15. Successful proposer will enter into a formal agreement with the ACSD following successful negotiation.
16. While ACSD intends to award a contract as a result of this RFP, it reserves the right to short list a provider (s) and negotiate the terms of a final contract.

Proposal Selection Schedule

<u>Activity</u>	<u>Date</u>
Issue RFP	June 17, 2020
Pre-proposal Conference	June 25, 2020 at 10AM
Proposals Due	July 6, 2020
Preferred Proposal Selected	July 13, 2020
Contract Negotiation	TBD
Award and Notice to Proceed	TBD

Pre-Proposal Conference

A non-mandatory Pre-Proposal Conference will be held on June 25 at 10 am. Representatives from ACSD departments will be available to answer questions at this meeting. The purpose of the pre-proposal conference is to provide assistance to interested contractors in the interpretation of the Request for Proposal (RFP) and other technical and contractual matters.

Pre-Proposal Conference will be conducted via Zoom meeting. Here are the specifics:

Topic: ACSD AMI RFP

Time: Jun 25, 2020 10:00 AM Arizona

Join Zoom Meeting

<https://us04web.zoom.us/j/74788609108?pwd=dFFmOCtYTG5oRHRIWW9SSGljYUNRZz09>

Meeting ID: 747 8860 9108

Password: OieUg7

One tap mobile

+16699006833,,74788609108#,,,,0#,,536475# US (San Jose)

+12532158782,,74788609108#,,,,0#,,536475# US (Tacoma)

Dial by your location

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

+1 346 248 7799 US (Houston)

+1 929 205 6099 US (New York)

+1 301 715 8592 US (Germantown)

+1 312 626 6799 US (Chicago)

Meeting ID: 747 8860 9108

Password: 536475

Find your local number: <https://us04web.zoom.us/j/feMzvMJQM>

Nothing stated or discussed during the course of this Pre-Proposal Conference shall be considered to modify, alter, or change the requirements of the RFP, unless it shall be subsequently incorporated into an addendum to the RFP. All questions asked during the pre-proposal conference deemed to be pertinent by ACSD will be addressed in an Addendum following the pre-proposal conference.

Preparation and Submission of Proposals

Electronic submission required by July 6, 2020 at 4:30 pm PDT. One electronic copy of all response and all files should be emailed to david.duda@4-creeks.com and lonhouse@waterandenergyconsulting.com. If files are too large to be emailed proposers should establish a drop site and provide access information.

Signed affidavits (RFP Transmittal and Noncollusion) as found in Attachment 1 must be included with RFP response.

Proposal Contents

The Proposal shall include the following:

- Title Page - List the RFP title, the name of the Proposer, managing office address, telephone number, name and email address of contact person, date and signature of person binding the Proposer's application.
- Table of Contents
- Summary - two (2) pages.
- Responses to AMI RFP Technical Requirements
- Response to the RFP Pricing Requirements (Completed Table 1 of Section 3)
- References.
- Financial Data.
- Signed affidavits (RFP Transmittal and Noncollusion (Attachment 1))

Evaluation of Proposers' Responses and Proposals

After the Proposal packages have been opened, ACSD's Evaluation Committee¹ will evaluate the Proposers' responses, including financial data, Proposers' references, Proposers' experience, and other data relating to the Proposers' responsibility and qualifications to perform the Project satisfactorily. Proposers may be asked to submit additional or supplemental information to ACSD, if necessary, for ACSD to determine whether the Proposer(s) meet all of the standards outlined.

Evaluation Criteria

A winning proposer may be selected by the Evaluation Committee. However, a short list of the top respondents may be created. The short-listed proposers may be invited to present their qualifications to and answer questions from the evaluation committee. The evaluation committee will then rescore each short-listed proposal.

Weights	Evaluation Criteria
60%	Total Life Cycle Cost: Total present value of initial and ongoing costs to acquire, install, operate, repair and maintain the system, including DCU site and backhaul communications costs (if relevant) over 15 years, discounting uniformly at ACSD's inflation-adjusted cost of capital. Reasonableness of proposed pricing.
5%	Project/Implementation Plan: Proposed procedures and policies for project management, risk management, QA/QC, security, safety, training of installers, customer contact, scheduling appointments, troubleshooting and problem solving. Ability to keep to schedule.
15%	IT Integration: Plans for integration between AMI system, MDMS, customer portal and ACSD's information systems; minimization of customization; configuration procedures and testing; and functionality. The ability of the system to manage and maintain data integrity, security, accessibility, flexibility, and nonproprietary interfaces. The Proposer's ability to develop, document, and support interfaces with ACSD's billing system and other IT systems.
5%	Warranties and Support: Period and extent of warranty coverage on meter reading system components. Overall system performance guarantees. Protection in the event of excessive failures. How the Proposer will deliver maintenance and operational support, as well as training. Response modes and times. Upgrade history.

¹ Consisting of participants from 4Creeks, Self Help, Water and Consulting, and ACSD staff.

10%	Ease of Operation and Maintenance: The ease of ongoing use and maintenance of the system’s software and hardware components, including component installation, programming, software upgrades and repair, effective use of the software, and diagnostic and reporting capabilities.
5%	Experience with Proposed System: History of deployment of proposed system, including number of units installed, number of systems and their sizes, and ages of deployments. History of adherence to proposed budgets.

References

AMI References. Proposer shall provide information for three (3) projects where Proposer has installed AMI Equipment and where the installation contract has been substantially completed within the past three (3) years. References should be from utilities of size and circumstances most comparable to ACSD. Include contact names, ACSD, phone numbers, and email addresses. To the greatest extent possible, describe the projects including the AMI equipment, meters, and installation.

Financial Information. Proposer must provide a minimum of one of the following in support of the financial stability of the firm as a separate document:

- a) A statement regarding the firm’s financial stability, including information as to any current or prior bankruptcy proceedings.
- b) A Dun & Bradstreet (D&B) Supplier Evaluation Report (SER), or similar type report. All costs associated with this report shall be borne by the Proposer.
- c) A copy of a certified financial statement for each of the last three years prepared by an independent certified public accounting firm or Federal Tax Return for previous years.

If the Proposer is an incorporated subsidiary or joint venture, Proposer shall include relevant financial information of its parent companies.

Loss of Agreement and/or Inability to Fulfill Requirements

Proposer shall submit full details of all terminations for default, settlements to avoid litigation, or pending terminations experienced in the past five (5) years including the other party’s name, address, and telephone number. Termination for default is defined as notice to stop performance due to Proposer’s non-performance or poor performance, and the issue was either: (a) not litigated; or (b) litigated and such litigation determined Proposer to be in default. Proposer shall also present its position on the matter.

ACSD shall evaluate the facts and at its sole discretion may reject the Proposer’s response if the facts discovered indicate that completion of an agreement resulting from this RFP may be jeopardized by selection of Proposer.

If Proposer has experienced no such settlement or termination for default in the past five (5) years, and has no pending terminations, it must affirmatively declare to be so.

SECTION 2 - TECHNICAL REQUIREMENTS

Terms & Abbreviations

The following terms and definitions are used herein:

AASHTO – American Association of State Highway and Transportation Officials

ACSD – Allensworth Community Service District

AMI Compatible Meter – A meter that requires a change of register to an encoder type register with a connector ready to connect to an MIU.

AMI Ready Meter – A meter that has a register and connector ready to connect to an MIU. All AMI-Ready meter registers will be of the dial position or electronic encoder type.

ANSI – American National Standards Institute

ASCII – American Standard Code for Information Interchange, character encoding standard

ASQ – American Society for Quality

AWWA – American Water Works Association

CIS – Customer Information System

DCU – Data Collection Unit

FM – Factory Mutual (Global), a testing laboratory

FDCU – Fixed Network Data Collection Unit

FTP – File Transfer Protocol

GIS – Geographical Information System

GPS – Global Positioning System

HMRCC – Handheld Meter Reading Control Computer

HMRU – Handheld Meter Reading Unit

Installation Period – The period that begins on the Commencement Date stated in the ACSD's issued Notice to Proceed and ends upon the certification of Substantial Completion.

IEC – International Electrotechnical Commission

IP Code – Ingress protection code (referring to enclosure protection and resistance to ingress of foreign solids or liquids)

LAN – Local Area Network

MDCU – Mobile Data Collection Unit
MDMS - Meter Data Management System
MIU – Meter Interface Unit (Endpoint)
NSF – National Sanitation Foundation
ODBC – Open Database Connectivity, a standard application programming interface
PFPTU – Portable Field Programming and Testing Unit
PSI – Pounds per Square Inch
SAML – Security Assertion Markup Language
SQL – Structured Query Language
UL – Underwriters Laboratory
WAN – Wide Area Network
XML – eXtensible Markup Language, used to store and transport data

Meter and Meter Interface Unit (MIU)

Meters

Provide name of manufacturer and model number(s) of all meters.

MUI Specifications and Physical Characteristics

Provide specifications of the proposed MIU(s), including physical characteristics and dimensions.

Describe features of the MIU that prevent corrosion or degradation of mechanical or electrical performance (e.g., encapsulation or coating). The MIU shall be provided in a waterproof casing rated IP8 or better (submersion up to 1 meter of depth) in accordance with the IP code, IEC standard 60529. The MIU enclosure should be composed of ultraviolet (UV)-inhibiting ABS or similar material. All materials used in the MIU must be non-hazardous under normal conditions.

Transmission Characteristics

Indicate the interval, duration, and strength of radio signals from the MIU in normal or default mode.

Antennae

Indicate if an external antenna is required or whether one is optional. Indicate under what circumstances an external antennae is needed. Please indicate dimensions of available antennae. Please indicate maximum length of wire between antennae and meter.

Mobile Operation

Indicate whether the MIU can be read in both mobile and fixed mode, and if so, whether it needs to be programmed from one to the other mode. If so, describe the procedures for converting the MIU from one mode to the other and indicate whether it can be programmed to do so with mobile DCU or programmer and/or fixed DCU.

Data Storage

Indicate how many meter readings at what intervals, and what resolution are normally stored in the MIU (e. g., 120 days of one hour reads). Indicate the maximum number of reads that can be recovered in mobile and fixed collection.

Describe what happens when capacity is exceeded. For example, does new data overwrite old data?

Battery Life

The MIUs should be designed for a 20-year operating life including battery, transmission strength and all other system performance.

Describe the MIU's low battery warning system, the warning time in months provided before failure under normal conditions, and how this is accomplished (e.g., based on battery voltage or the number of transmissions). Indicate the differences in expected MIU battery life, if any, when reading different types and makes of meter registers.

If the MIU can be read in a mobile configuration as well as fixed, indicate if there is a different expected battery life for each reading method.

Indicate to what extent the following functions would affect battery life: (a) installing firmware over the air; (b) extracting 5 minute reads from the meter for a one week period (as part of use study or evaluation of meter sizing); (c) on-demand reads more than 4 times per year; and activating a control valve (if available) more than 2 times per year.

ID Number and Labeling

Each MIU shall have a unique, permanent ID number that is transmitted with the meter readings. Indicate the number of digits. The MIU shall be permanently labeled on the outside with the manufacturer's name, model number, MIU identification or serial number, bar code of this number, required FCC labeling, input/output connections, and date of manufacture. The label should be weatherproof and attached to the MIU where normal installation will not obscure it.

ACSD desires that the MIU be shipped with one permanent bar code label and one removable adhesive bar code label for installation control purposes.

Programmability

Describe MIU programming requirements (including equipment), procedures and options (e.g., transmission interval) and if the MIU can be pre-configured in the factory.

Tampering

Describe physical features (seals, tamper resistant bolts, etc.) to minimize and detect tampering with the MIU.

Describe safeguards that prevent accidental or malicious effects to the MIUs, such as disruption of the MIU's firmware, parameter or clock changes, continuous waking of MIU leading to battery failure, or unwanted activation of water shutoff (if supported).

Connection to Meter Registers

Describe the proposed normal wiring connection between the MIU and the meter, and any options. The ACSD requires a tamper-resistant, weatherproof connection that is immune to submergence in water as well as to oils and salts.

Describe any proposed method (such as a wire connection designed to release under tension) for connecting registers to endpoints attached to a vault lid that might prevent damage to the meter reading equipment or wires if vault lids are removed abruptly.

Describe any provisions for rodent proofing connector cable.

Meter Register Number

To ensure data integrity and detect meter swaps, indicate whether the MIU can store a meter register number, if this number is transmitted with the meter reading data, and if this number can be captured automatically by the MIU or can be programmed into the MIU from a field programming unit.

Mounting and Installation

ACSD desires to obtain maximum signal strength, within reason, from MIUs in vaults and boxes. Indicate whether concrete or metal meter box or vault lids, respectively, are to be drilled, replaced, and/or left alone in order for the Proposer's system to operate to the specified performance criteria.

Indicate whether concrete or metal meter box or vault lids, respectively, are to be drilled, replaced, and/or left alone in order for the Proposer's system to operate to the performance criteria specified in paragraphs 0 and 0.

Describe the requirements of the meter box lid (e.g., material construction, maximum thickness, diameter of hole if required).

Indicate if any remote antennae will be used (where the portion protruding through the lid relays the signal to an endpoint below the lid), the specifications around such device, and whether such device is traffic rated. Indicate how far above the lid the MIU antenna protrudes. ACSD prefers that no part of the MIU or remote antenna be higher than the plane of the top of the lid, particularly for meters in pedestrian areas.

Prices for mounting brackets, if separate from lids, must be included in the prices for the MIUs in the Price Proposal.

For large meters in vaults, the endpoint shall not be mounted on the underside of the lid.

Manufacturing Facilities

List the manufacturing facility, facility location (country and state/province), ISO9000 or equivalent certifications for the endpoint manufacturing facilities.

Meter Box or Vault Lids

All non-ferrous lids must have sufficient weight or a locking mechanism that prevents them from being dislodged or from floating. All non-ferrous lids must have a ferrous element (e.g. section of rebar) that enables them to be discovered by a metal detector when buried.

If any replacement lids are needed, the replacement lid shall not rest higher than the existing one.

The cost of any lid replacements or modifications, mounting hardware or remote antennas must be included in Proposer's pricing.

All lid configurations must be submitted to and approved by ACSD before installation.

Lids in Traffic Areas

Any replacement lid or remote antenna mounted above the lid or otherwise exposed in a paved area where there is a reasonable chance that it could be subject to vehicular traffic or parked on by a heavy vehicle must be rated heavy duty AASHTO H-20/HS-20. Any replacement lid or remote antenna mounted above the lid or otherwise exposed and installed in residential sidewalks separated by a parkway from the street must be rated as least medium duty.

Overall System Characteristics

ACSD recognizes that AMI system features, characteristics, and performance result from the interaction of system components, and are to be addressed in this section. Proposer should address individual component requirements and characteristics in response to the appropriate sections below.

Description of System

Provide a schematic depicting the system's components and configuration. Provide a brief overview of the architecture and normal functioning of the system.

Time Synchronization and System Commands

Indicate if meter readings from MIUs are time-synchronized (e.g., meters are all read at the top of the hour). If so, explain how this is achieved and the clock in the MIU is set. Indicate the accuracy of the synchronization (e.g., +/-15 seconds).

In addition to time-synchronization, describe other commands or information that may be sent to the MIU from the head-end control computer or data collection unit in the course of the normal operation and maintenance of the system.

Meter Reading Interval

Indicate the default interval at which the MIU interrogates the meter (e.g., once per hour), and whether the interval can be changed for individual meters or a selected group of MIUs at the same time. If so, indicate the settable range of this interval. Describe the procedure required to change the interval and reset it. Indicate if changing the interval can be accomplished over-the-air from the head-end software.

Transmitting Interval

Indicate the default interval for transmitting readings from the MIU (e.g., once per day), and whether the interval can be changed. If so, indicate the settable range of this interval. Describe the procedure required to change the interval and reset it. If changing the interval will change the expected MIU battery life, provide specific parameters or examples (e.g., “4-hour interval will reduce expected battery life by X”).

Indicate how many full meter register readings and how many increment count reads are transmitted by the MIU at one time.

Elapsed Time (Latency)

Indicate the longest possible elapsed time from a when a meter is read by the MIU to when that meter reading is available at the AMI control computer. (For example, if the meter is read every hour and the data is transmitted every 4 hours to a data collector, and every hour to the head-end software, then the longest elapsed time would be 6 hours.)

Read on Demand

Indicate if the system can obtain a real-time read on demand “over-the-air” from the MIU/meter by sending the MIU a signal. Indicate the expected time interval between a user’s on-demand reading request and the response.

Radio Communication Band and Licenses

Indicate what radio frequencies are used for interactions between the MIUs and DCUs. Indicate what FCC license(s), if any, the system will require. Include the cost of licenses in the price schedule as part of the Price Proposal.

Indicate the expected length of time to acquire such licenses. Proposer shall be responsible for obtaining all necessary licenses on behalf of ACSD and in ACSD’s name. Local frequency licenses shall be assigned to ACSD.

For national frequencies, ACSD must be provided an irrevocable right to use the license for its System, so long as the system is in service. Indicate the separate charges, if any, for this right in the pricing proposal.

Protection from Interference

Describe procedures that will be used to regularly check for, identify and remove interlopers on its licensed frequency(ies) or overpowered signals on unlicensed frequencies. Indicate who will be responsible for this effort. If ACSD, describe provisions offered by Proposer or its system to assist in this effort. If Proposer, indicate the length of time such protection will be offered in association with this proposal/contract.

Data Transmission Accuracy, Integrity and Security

Describe measures, such as encryption, error checking and retransmission, transmission of prior reads, etc., used to ensure the accuracy, integrity and security of data transmitted between the MIU and the head-end system.

Describe how missing reads may be recovered/retransmitted from the endpoint, including automatically backfilling missing interval data on a daily basis.

Describe any security certifications currently held related to the proposed solution.

Indicate the frequency of and type of security audits and penetration tests conducted by the Proposer on the system.

Tamper Detection

Provide a list of the tamper conditions that will be provided to the system operator (e.g., Missing MIU, cut wire, meter register separation, tilting of meter, empty pipe). For each, indicate whether the alarm is transmitted instantly or with the next MIU transmission. Indicate the number of times or over what period of time a tamper indication will be provided to the system operator before it is automatically cancelled. Indicate whether the tamper indication can or must be reset or reprogrammed by the system operator or field service technician, and how this is accomplished.

Leak and High Flow Detection

Briefly describe the system's approach to detecting (a) continuous flow (that is, consecutive non-zero intervals), (b) low flow leaks (many but not all consecutive intervals non-zero), and (c) abnormally high flow ("broken pipe"). Indicate if the threshold levels for reporting of these anomalies are definable by ACSD, and if so, for individual customers or groups of meters.

Questionable Reads and Rollovers

Describe system capabilities to validate meter readings for reasonableness, such as unusually high or low readings. Describe how system handles potential meter rollovers. (If these functions are provided by the MDMS, so indicate and include response with that section.)

Other Detection Features

List other conditions (for example, reverse flow) the system can detect. Describe how these are accomplished, and how they are reported.

Additional Features

Describe any additional current capabilities of the proposed system not already described above, such as remote shut-off or turn-on, pressure monitoring, temperature monitoring, chemical concentration monitoring, smart city applications, etc. List specific third-party sensors or controllers that are supported (such as acoustic leak detection devices) and their capabilities.

Describe the system's ability to add instrumentation (pressure, temperature, chemical, leak, etc.) and to collect distribution system performance information and transmit the information from such endpoints. Indicate whether additional software would be required for any additional feature listed.

Planned/Future Capability

Indicate any planned future capabilities for the equipment being proposed, the anticipated development and availability schedule, and the expected procedures for upgrading the ACSD's system, if applicable. Include a product roadmap of planned future capabilities.

Read Success Rate

The data collection network shall be sufficient to obtain:

- At least one-meter register reading within a three-day interval from at least 99.5 percent of all meters on which the system is installed;
- At least one meter register read per day from at least 97.5 percent of meters on which the system is installed; and
- At least 95 percent of all readings taken hourly or at more frequent intervals

Meters with MIUs from which transmissions are blocked by readily identifiable temporary physical barriers beyond the control of ACSD or Proposer are not included in the calculation of these success rates.

Within the requirements above, meters from which readings are not received shall not be geographically clustered.

Describe how network performance is tracked and reported.

Redundancy

The data collection network shall be sufficient to ensure that at least 70% of all the MIU transmissions are received by two or more different data collectors, repeaters or, alternatively, via two or more distinct pathways back to the control computer.

Component Firmware

Enumerate firmware releases in the past 12 months for each system component and provide firmware release notes.

Proposer shall provide any available upgrades or patches to MIU, DCU, repeater and other collection network component firmware for a minimum of 15 years, at no additional cost beyond annual maintenance fees for this equipment.

Indicate if and how firmware patches or upgrades would be applied to each system component.

Interoperability

Interoperability shall be defined for the purposes of this RFP as the ability for two or more systems, applications or components to interact in a pre-defined manner to perform the tasks that are effectively communicated by at least one of those systems or applications using a defined interface established through voluntary standards, or agreements and licenses. For AMI tasks will include, but not be restricted to, communication of meter reads, various alarms, and data from acoustic monitors, and the operation of shutoff valves.

Component Interoperability

Indicate whether or not Proposer shall comply with interoperability for each of the following:

- 4.1.1 Two-way communication between the Proposer's meter and other vendors' MIUs, including meter reading, alarms, and other instrumentation and control functions imbedded in the meter.
- 4.1.2 Two-way Communication between the Proposer's MIUs and other vendors' handheld programming devices or software.
- 4.1.3 Two-way communication between the Proposer's MIU and other vendors' data collection units.
- 4.1.4 Communication between the Proposer's data collection units and other Vendors' MIUs.
- 4.1.5 Data exchange and database synchronization between Proposer's DCUs and other Vendors' head-end AMI system management software.
- 4.1.6 Data exchange and database synchronization between Proposer's head-end AMI system management software and other Vendors' DCUs.
- 4.1.7 Data exchange and database synchronization between Proposer's head-end AMI system management software and other Vendors' meter data management systems.
- 4.1.8 Data exchange and database synchronization between Proposer's meter data management system and other Vendors' head-end AMI system management software.
- 4.1.9 Data exchange and database synchronization between Proposer's meter data management system and other Vendors' customer portals.

Data Collection Units, Repeaters and Other Network Devices

Provide in Pricing Proposal estimates for the installation, operation (including electric service, if required, and backhaul communications) and maintenance costs of each device. For sites where ACSD has no facilities, estimates must include tower or roof leasing costs for an ACSD-dedicated or shared network.

Proposer shall perform a radio frequency (RF) propagation study to determine the installation locations for any and all data collection units and repeaters. If communication equipment is to be installed on third-party sites, the successful Proposer shall obtain or assist ACSD in obtaining, 20-year rights for installing and operating that equipment; these rights will be transferred to ACSD at no additional cost at the time of successful system acceptance testing.

Mode of Operation and Communication to Control Computer

Describe the method and schedule by which the DCU/repeater captures, stores, and retransmits data received from MIUs back to the AMI control computer. Indicate available options (cellular, Wi-Fi, Ethernet, etc.) and the preferred or recommended method for communicating with the head-end system. Describe what is involved in switching from one WAN technology to another.

Number of Units, Redundancy

Proposer is solely responsible for determining the mix of data collectors and repeaters (if relevant), MIU placement strategies, and MIU communication configuration needed to meet or exceed the performance requirements of paragraphs 0 and 0.

Indicate the proposed number of data collection units and repeaters to achieve the levels of system performance described in response to paragraphs 0 and 0.

Indicate the percentage of MIUs from which transmissions are expected to be received by only 1 collector, 2 collectors, and 3 or more data collectors in the proposed system.

If repeaters are used, indicate, based on the propagation study, the average number of MIUs from which signals would no longer be received if a repeater failed.

Mounting

Indicate proposed options for mounting DCUs/repeaters. Indicate minimum and maximum required and recommended heights for antennae. DCUs/repeaters installed on ACSD facilities must not interfere with access by ACSD personnel to any part of the building or structure on which they are mounted, nor in any way compromise the structural integrity. For each device installed on ACSD facilities, mountings, support system, cabling, etc., must be pre-approved, as well as inspected and accepted, by an ACSD engineer.

Power Supply

Describe the proposed primary power source for DCUs/repeaters. Indicate expected kilowatt-hours per month of electrical consumption, and expected maximum watts per device. Describe DCU battery and recommended preventive maintenance battery change interval.

Programming

Describe the default transmission interval for sending data from the DCU to the control computer.

Describe any programmable features, such as data reporting schedules, for DCUs, and procedures for programming or configuring them.

Briefly describe the procedures by which a DCU/repeater is installed and incorporated onto the network.

Diagnostics, Maintenance and Repair

Describe the DCU and repeater diagnostic information, including tamper and other alarms, which are recorded and transmitted by the DCUs and repeaters. Describe the DCU diagnostic information that is normally monitored by the head-end system.

For dedicated networks, describe recommended DCU and repeater preventive maintenance intervals and procedures. Indicate in terms of FTEs the level of effort required to maintain the proposed network solution. Describe the type of work expected if ACSD performs the maintenance internally.

Briefly describe maintenance procedures in the event of a device malfunction or damage.

Data Retention

Describe the available memory capacity of the DCU in terms of the number of meter readings and usage intervals stored (in total and per endpoint). Specify what combination of full meter readings and consumption increments are stored. Indicate if the resolution of the consumption increments stored is less than the transmitted meter resolution (e.g., gallons versus tenths of gallons). Indicate how many days of meter readings the DCU will store in the event it is disconnected from the network.

Site Costs

For non-ACSD dedicated networks, include in the cost proposal the estimated monthly lease cost for collectors or repeaters that are not proposed to be installed on ACSD-owned facilities.

Mobile (Vehicle-Mounted) Data Collector

If Proposer's system includes an option for vehicle-mounted mobile meter reading of the endpoints proposed above, provide responses to this section. If mobile reading capability is provided by a portable-handheld device, even though it can be operated from a vehicle (for example, with a roof antenna), do not respond to this section, but include the relevant information in response to Section 0 below.

General Operation

Describe the proposed solution for collecting meter reads with a mobile collector, specifically describing the collection of both daily and hourly meter reads.

Describe the process for loading routes to and from the mobile collector. If data can be transmitted wirelessly, describe this process and requirements.

Hardware Components

Describe the hardware components of the mobile data collection system.

Indicate which components are ruggedized and/or in weatherproof enclosures.

Indicate any vehicle-specific requirement for the successful operation of the mobile data collection system.

Mobile Data Collection Software

Describe the software for the mobile data collection system.

Indicate what map based-features are included (such as navigation, ability to identify new meters identified, and audio/visual indicators during the collection of meter reads). Provide screen shots.

Indicate whether the software has the ability to accept a manual reading and/or notes in the account record.

Capacity and Collection Speed

Indicate the maximum vehicle speed for the normal collection of meter readings.

Indicate the storage capacity of the mobile data collector (number of meter reads).

Indicate the average time required to collect a meter read (both daily and hourly) using the mobile data collector.

Describe any events that would require the driver to stop the vehicle to collect data.

Communications Protocol

Indicate if and how the communication protocol from and to the MIU for the mobile data collector is different from the communications protocol used fixed network data collectors.

Accessories

Indicate connecting hardware and software, including cables, modem, cradle, battery, charger, etc., are required for the unit to be fully functional.

Portable Interrogation, Field Programming, and Testing Devices

Portable interrogators may be required to capture readings from MIUs that are in radio "dead" spots, or for other special reading situations. Portable programming units may be required to program MIUs or meter registers. Portable field test units may be required to diagnose problems with meter registers, MIUs, or the system. The possible functions are aggregated in this section. Proposer shall respond to this subsection separately for each separate device if there is more than one, denoting the responses 0.#a, 0.#b, etc.

Number of Units

Proposer shall supply all units required for Proposer and its installers. An additional 10 units are required for System maintenance by ACSD employees. Pricing and totals for these latter units, including extra batteries, cradles, car chargers, cables, etc., shall be included in the price proposal. ACSD may purchase additional units for no more than the unit prices included in the pricing proposal.

Physical Characteristics

Describe the dimensions, weight, environmental tolerances, resistance to dropping and submergence, and other physical characteristics of the proposed unit.

Functions/Modes of Operation

Describe the functions of the unit. Describe the capabilities of the unit's software for programming, testing and portable interrogation of meters and MIUs. Indicate the options and exception codes for each of these operations.

Portable Interrogation

Indicate if the unit is capable of alerting (if necessary) and receiving the signals from MIUs. Indicate if the unit is capable of downloading all the consumption profile data stored in an MIU, if that is a capability of the MIU. Indicate how far away an MIU can be and still be read by the device.

Field Programming and Installation

The unit shall be capable of capturing, at a minimum, the new meter reading, register number, old meter reading and address manually. ACSD prefers that the new meter reading and register number be captured automatically through the MIU and visually displayed. Indicate if the unit is capable of programming the MIU with any information required for operation that was not factory pre-programmed into the MIU.

Field Testing and Diagnostics

The unit shall be able to diagnose problems with a meter register or MIU unless the system incorporates an alternate way to make such diagnoses. Indicate if the unit is able to ascertain the remaining life of the battery in an MIU.

Capacity

Identify how much data, or how many work orders, each unit can accommodate, and how many meter readings a portable interrogator can accommodate.

Accessories

Indicate what connecting hardware and software, including cables, modem, cradle, battery, charger, etc., are required.

Bar Code Reader

The unit shall include or be capable of capturing and recognizing bar codes to capture meter or MIU identification numbers from bar code labels on these components.

GPS Receiver

The unit shall be capable of capturing GPS coordinates within two-meter accuracy.

Camera

The unit shall be equipped with a digital camera, including flash, for capturing medium-resolution images of meter registers, meters, site conditions, etc., in conjunction with installation, maintenance and troubleshooting.

Batteries

Provide the unit operation life in hours on a fully charged battery when the unit is involved in installation and programming, including taking up to 3 pictures of each installation. Provide time it takes to fully recharge the unit's battery after a full day of normal use. Indicate if the battery can be recharged outside of the unit and/or from a 12-volt vehicle system. Explain how the unit ensures against accidental data loss in case of a dead battery. Explain how a battery can be replaced.

User Interface

Indicate the angular range of readability.

Describe any audible tones used by the unit (e.g., confirming a reading or successful programming, warning of an out-of-limits condition, low battery, etc.).

Manual Entry

Indicate whether the unit permits manual entry of meter readings and other information (for example, the information necessary to complete a meter or MIU investigation or repair work order). Provide screen shots for this other information, including notes or comments.

Portable Interrogator Vehicle Mounting

Describe any provisions for mounting and operating the unit within a vehicle.

Installation/Field Testing Control Hardware and Software

System Overall Description

Include a detailed description of any hardware (e.g., cradles) or software needed to support portable programmer/reader/ field test units. Describe in detail the functions of the software used to manage this operation, and the reports produced.

Interface to AMI Head-End Computer

Describe the mechanism and procedure for downloading and uploading data from installation control computer to the AMI head-end system and/or any other information system normally used in the maintenance of the AMI system.

Interface to ACSD CIS

Describe the mechanism and procedure for downloading and uploading data from the AMI control computer and/or any other information system to ACSD's customer information system and/or its mobile field work order management system.

AMI Head-End Hardware, Network Configuration and Software

Head-End Hardware (non-hosted)

Provide detailed specifications of all the computer hardware needed for a complete and working system stand-alone system. In addition to the production system, Proposer shall also provide a development environment on which to test and configure system software changes. (Include the separate cost, if any, of the non-production system in the pricing proposal.) Provide minimum and recommended hardware/software and operating system requirements as well as any third-party software required.

List any other proposed system environmental requirements (i.e. climate control, power requirements, surge protection, system backup, emergency power backup, LAN, network, etc.) Required servers, network switches, hubs or additional infrastructure changes must be proposed. Describe the proposed system architecture. Indicate which components can run in a virtual environment. All estimated costs must be reflected in the cost proposal.

Describe proposed measures (e.g., uninterruptible power supply, fail-over to backup system, etc.) to ensure the constant availability of the system's data.

Head-End Hardware (hosted)

If Proposer only offers a hosted configuration of the head-end software, or offers this as an option, Proposer shall provide pricing for this. Briefly describe the Proposer's facilities to provide a hosted head end solution.

AMI System Head-End Software

The software shall enable ACSD to effectively obtain all of the meter readings and other data generated by the system, monitor and manage the AMI system, including underperforming or nonperforming MIUs, repeaters, data collection units and backhaul communications, and determine remediation measures. The software shall interface with the MDMS and/or ACSD's CIS.

Indicate normal modes of operation of the AMI system software, including batch processing and single meter reading query processing. Describe the steps a system operator must perform to obtain meter readings from the meters at the customers' premises if the functions are not totally automated. ACSD prefers that meters readings for billing are provided automatically in response to an automated request from the billing system following a billing calendar. ACSD prefers that database synchronization also be automated. If these functions are performed by

the meter data management system instead of the system control/head-end software, then so indicate.

Operating System and Database

Indicate which operating systems and versions the head-end system requires if the system is installed at ACSD. (ACSD prefers a Microsoft Windows Server with Microsoft SQL Server). The database should be directly accessible by ACSD (read-only, replication or placement in a data warehouse). Indicate procedures for correcting misinterpreted or mis-assigned data.

Any database file structure used to store and manage meter readings at the AMI head-end should be non-proprietary, ODBC-compliant and SQL-compliant, and provided by a standard commercial database supplier.

Indicate if the data structure of the head-end database allows new data elements. Changes in database table structures shall be transparent to ACSD from one revision of the AMI head-end to another.

Event Data Storage

Indicate what data is stored in the head-end system and database. Indicate how much data, in terms of number of months of data, number of meters, full reads versus increments, meter resolution, and number of reads per day are stored.

Backup and Failover

Describe the back-up capabilities and procedures to ensure that the AMI head-end system and consumption data is not corrupted or lost.

The system software and functions should be quickly and easily accessible to users even in the event of a failure of a computer or server. Describe how this could be accomplished.

Access

Describe how the system provides secure remote access to AMI system functions, reports and data from other workstations or web browsers on or outside the ACSD's network.

Indicate how many users can simultaneously access the system for queries and for data entry.

Interface to CIS and MDMS

The AMI system head-end software should automatically transfer appropriate data to the MDMS in a standard, nonproprietary format (e.g., fixed field ASCII). Each record provided to the MDMS shall contain at a minimum: account number, MIU ID number, port number (if the MIU is multi-port), meter ID number and/or meter register number, meter readings, units (size of smallest digit), date and time for each meter reading, and tamper indications.

Alerts

Describe any provisions for the system to trigger e-mail or electronic message notification to subscribed users of certain alarms or conditions.

System Administration and Security

Describe normal procedures for system administration.

Describe the security infrastructure of the proposed head-end software; how security is implemented at the presentation, application, database, and network levels; logging of system access and database transactions for all actions, and items captured as part of the security log.

The AMI head-end system shall authenticate and authorize users of the system through user login names and encrypted and masked passwords, configurable role and function-based controls to limit access to data, limit access to software functions and features of the system, and provide traceability and thorough user audit logging. Describe the process for establishing user access privileges. Describe support for secure access and authentication, role-based security and permission-based functionality for internal and external users and Application Programming Interfaces (APIs), and the level to which security is granted (e.g., function, user, data element). Describe control of administrative or super user access over the Internet.

The AMI head-end system shall provide automated methods of preventing cross-site scripting (XSS) attacks or SQL injection attacks from compromising the databases or software functions of the AMI head-end system.

Reports

Provide a list, with brief descriptions and screen shots or sample pages, of all the standard reports provided for system and component performance; missing or late data; errors, anomalies, tampering, and alarm conditions; and data transfer, management, and administration.

Reports must be able to be directed to a printer, screen, or data file. The system should be able to export data from analyses and reports in standard CSV format.

The standard reports should include:

- Number/percentage of reads received from MIUs
- A list of meters (including address or identifying information) that are being interrogated at a higher than normal rate (e.g., every 15 minutes instead of hourly)
- MIUs from which no transmissions have been received, and the ability to sort them by the number of missing days
- MIUs from which there are cut-wire alarms, and the ability to sort them by the number of days the condition has persisted
- Any other flags created by meters and MIUs, such as empty pipe, low battery, reverse flow, or magnetic tamper
- Duplicate MIU or meter serial numbers; meters/registers associated with more than one MIU; MIUs registered to more than one meter/register

- Mismatch between a meter register ID number and MIU (indicating possible meter change)
- “Orphan” MIUs; that is, MIUs transmitting but not associated with an account
- Data retrieval times/data latency
- Network component status, including communication retries, memory errors, connection errors, and whether the network components pass or fail the Proposer’s operating specifications
- A listing of current AMI control system hardware, software and firmware versions and configurations for routine maintenance purposes
- A list of components that required time synchronization within specified dates
- Installation records

Ad-Hoc Reports and Export

The software should support ad hoc queries and custom reports, using a built-in report writer or a third-party commercially available report writer that is included with the control computer software. Permissible report customization shall not void any software product warranties, nor prevent any overlay of future software releases.

Meter Data Management System

Software is required to manage the database of meter readings and other information created by the AMI system. This software may be distinct from the control computer software used to manage the AMI system. Meter reading data management capabilities shall be described in response to this section.

System Architecture

Provide a software architecture diagram and a description of all of the proposed software, including all third-party middleware, database engine, report generator, etc.

Mode of Operation

The software shall collect and maintain historical meter read data, including at a minimum: meter identification number, meter attributes, meter location, account and premises identification, meter reads, read dates and times, failures to read, tampering alerts, and leak detection, for each meter in the system.

The MDM software shall provide reports of the current status and reading history of individual accounts and selectable groups of accounts. The software shall be able to sort and list accounts and their meter reading data. The software shall also be able to create user-defined account groups and aggregate consumption profiles.

Indicate normal modes of operation of the AMI system software, including batch processing and single meter reading query processing.

On-line Storage

The system shall maintain at least thirteen months of “live” (that is, instantly accessible) hourly meter reads, and an additional two years’ of “live” daily reads for all of ACSD’s meters. Additional data shall be available on a retrieval basis.

Indicate the maximum number of meters the MDMS can support with live storage of data as defined above. Indicate the maximum number of years of live data that can be supported.

Interface to CIS

The MDMS must interface to ACSD’s CIS system to provide monthly or on demand meter readings both individually and in batch upon request by the system; synchronize data related to meters, service locations and customers; and provide status reports of alerts for accounts.

Customer information shared and synchronized with the CIS should include billing cycle, rate class, customer account-premise-meter relationship, meter type, etc.

Indicate if Proposer has integrated the proposed MDMS with the CIS software make and version used by ACSD.

Briefly describe the process by which the MDMS is integrated with ACSD’s CIS.

ACSD prefers that meters readings for billing are provided automatically in response to an automated request from the CIS following a billing calendar. ACSD prefers that database synchronization also be automated. Describe the steps a system operator must perform to obtain meter readings from the meters at the customers’ premises for billing purposes if the functions are not totally automated. Describe the process by which the MDMS would be synchronized with ACSD’s CIS. Indicate the recommended synchronization frequency.

Meter Reads/General

Describe the functions provided by the system including:

- Input, process, store, and analyze consumption, and interval data from multiple AMI technology collection systems, field tools, and ACSD’s existing meter reading data transfer systems.
- Input, process, store, and analyze consumption pressure and other sensor measurements, if available.
- Identify and report tamper flags and missing or incomplete meter data.
- Support scheduled and on-demand meter readings.

Validation, Editing and Estimation

Describe the system’s capability, if available, for handling gaps, overlaps, or implausible reads, estimating missing reads, and backfilling missing or estimated reads with valid reads that are obtained later. The process should provide an audit history of any data modified or added as a result of the process.

Indicate procedures for correcting misinterpreted or mis-assigned data.

Meter, Meter Register and Meter Interface Unit Asset Management

Describe meter configuration data and the process for changing it. Describe how an MIU is assigned to a premises ID, customer ID, meter body ID, register ID, and geographic location. Show how the software maintains asset data, including installation date, model number, etc. Describe how total consumption is tracked including meter rollover.

AMI Installation Support

Describe any functionality of the MDMS for specifically managing installations of meters, meter register retrofits, and MIU-only installations. Indicate if the software can associate old MIU and new ID numbers with a service address, customer account and unique premises ID to maintain account continuity. Indicate if the software can associate old meter body ID, old register ID, old meter final reading, and new meter ID and reading from a meter exchange process with a service address, customer account or unique premises ID for continuous consumption profiling. Describe the process for inputting a meter or MIU change in the MDMS, maintaining the continuous consumption history for an account while keeping track of the point of change-out.

Customer Service Representative Interface

A ACSD Customer Service Representative (CSR) or other employee shall be able to access an account by at least the following fields: account number, name, address, premises ID number, meter body ID number, register ID number, MIU ID number. Indicate available customer search parameters.

A ACSD CSR or other employee shall be able to view latest or current reading (with time of read), consumption history over a selectable date range, meter information, usage statistics (e.g., max flow rate, usage by day of week, etc.), historical events (tamper, alerts, etc.). The employee shall be able to view consumption with selectable granularity (e.g., hourly, daily), compare usage to same period last year, or to comparable meters, and display data both in bar graph and table form. Describe the process by which an ACSD employee will view or generate a file of this information.

Indicate the ability of the MDMS to display consumption data minimum hourly flows in each 24-hour period

Indicate the ability of the MDMS to display consumption data in conjunction with external data such as temperature.

Indicate if the CSR can see through the MDMS a screen identical to what a customer sees through the customer portal.

Describe any other features available to an ACSD CSR or other employee.

Indicate if the software can associate more than one account number or meter number with an individual customer.

Analysis of Usage

Describe how potential leaks, high consumption, misuse and water theft are identified by the software from the data, and what analysis reports are generated, including:

- Identification of possible low flow rate leaks (e.g., extended periods when interval reads are always above zero or above user defined thresholds; “interpolated” leaks when several but not all interval reads are non-zero) by account.
- Identification of possible continuous high consumption events at individual customers’ premises.
- Monitoring “usage on inactive” (registered reads above configurable thresholds without an active customer account).
- Water theft analysis, use after shut off, and reverse flow.
- Identification of intermittent backflow situations.
- Identification of any meter with little or no change in registration (zero or low consumption) for a configurable number of days.
- Identification of accounts where usage violates temporary restrictions (e.g., apparent outdoor irrigation usage during non-allowed times or days).
- Consumption profiles by season and day type (weekday, weekend, month, holiday, etc.) and by rate class, customer type, and/or any user-specified collection of meters.
- Combining consumption from two registers of a compound meter, including handling the scaling of different registers.
- Consumption histograms to help right size meters.

Indicate which of these conditions can trigger automatically generated alerts and notifications

Analytic Capabilities

Describe any capabilities of the software to provide customer, consumption, and meter analytics, such as: meter underperformance, unauthorized consumption, non-revenue water analysis, etc.

Grouping of Meters

The software shall be capable of generating consumption profiles for groups of meters (“virtual meter”), such as all meters in a consumption class. Describe the process for setting up groups. Indicate by what parameters or data fields meters may be grouped for this purpose. Describe the procedure for assigning meters in the MDMS to district metered areas (DMAs).

The system should enable the comparison of consumption between an individual meter and a group of meters, or between two or more groups of meters.

The system shall enable the comparison of consumption from all of the meters within a demand management area and the master meter(s). Describe the options for obtaining and synchronizing the appropriate master meter data.

Describe the options for reporting this data, including graphical and tabular, and maps.

System Event Reporting and Tamper Management

Describe how the MDMS can be used to track and report on potential system status issues, including:

- A normal meter change out or installation, authorized by a work order (including a meter with higher resolution than the meter it is replacing).
- Identification of a meter that has been changed or installed without a work order.
- Missing reads. Show how the system can triage or prioritize recommended work orders based on number of missing reads, proximity to billing read dates, severity of the problem, etc.

Describe how the proposed system analyzes meter or MIU tampering flags and automatically generates alerts and notifications, including: logging event messages, and changes, and reporting status of logged event messages (i.e. ignored, fixed, etc.); storing all collected event and alarm data; and performing trending analytics and correlating failures with a variety of attributes and time frames.

The MDMS shall enable the users to set start and end date report filters for the above.

The system shall provide a list of accounts with one or more of the above conditions.

Notification Support and Administration

Describe capabilities of the software to provide data files to generate field service order requests based on configurable settings, and the ability to send service orders to other work order management systems

Describe capabilities of the software to provide data files to CIS and/or outbound dialing IVR with messages concerning possible leaks, high consumption, unauthorized irrigation, etc. Describe capabilities to generate letters, emails, or text messages for customers. Indicate data required from CIS to provide this capability. Describe ability to provide flags to account records in CIS of conditions or messages created.

Describe capabilities to keep track of notifications (e.g., about continuous flow) that have been sent and whether they have been received, and to schedule subsequent notifications if the condition still persists.

Data Validation and Exception Handling

Describe detection and prevention of logical data errors when the data is input by users.

Indicate the error codes and descriptions which can be used to help facilitate debugging end user problems. Error codes must reference the specific exception.

Describe provisions for detection, prevention and reporting of logical data errors when data files are imported from other systems.

Database

Describe responsibilities if an ACSD database administrator (DBA) if required to maintain database.

Describe backups, either incremental or full, without stopping any operational processes.

Describe automated data archiving, purging, and restoration.

System Configurability

Describe the types of configuration changes that would require a system restart.

Describe functionality to allow ACSD to set up and change data validation and estimation rules, without modifying source program code and without any proprietary language skills.

Describe functionality and process to make changes to and alarm/event notifications.

Describe functionality and tools to change format, content or functionality of user screens and online help contents.

Information Protection and Encryption

Describe the security infrastructure of the proposed software system; how security is implemented at the presentation, application, database, and network levels; logging of system access and database transactions for all actions, and items captured as part of the security log attributes.

Describe procedures for system administration.

Describe the process for establishing user access privileges. Describe support for secure access and authentication, role-based security and permission-based functionality for internal and external users and Application Programming Interfaces (APIs), and the level to which security is granted (e.g., function, customer, data element). Describe control of administrative or super user access over the Internet.

Support and Maintenance

Describe Proposer Help Desk availability (e.g., hours, time zone, etc.) and escalation procedure.

Describe upgrade frequency and notification process.

Indicate whether upgrades can be implemented by ACSD staff or whether Proposer assistance is required.

Describe any plans for sun-setting the proposed system.

Describe prior version support.

Customer Web Portal

The proposed solution shall include a web portal for ACSD's customers to access detailed data from their meters. The data must be presented in simple graphs that are easily understood by most users. Describe and show how the software provides the following capabilities.

Log in and Passwords

The platform should have a configurable interface that can be presented as a seamless extension of ACSD's own web site.

The software shall be accessible to customers using web browsers from major manufacturers.

The software shall allow the customer to initialize an account for access using address and account number. Initializing a customer account shall require no involvement of ACSD staff. Account initiation should be completed using an emailed or texted authorization code.

The software should provide support for ACSD account file import and account and password authentication, or two-step authentication. Describe password requirements.

Indicate if the customer portal can be accessed by a customer from ACSD's website or e-billing page. If so, indicate if the customer portal supports single sign-on and if it is SAML compliant

The software shall allow the customer to retrieve or re-set a forgotten password via the previously established email.

The software should provide for backdoor support for ACSD CSRs to manage forgotten usernames and passwords.

The customer web portal should include a mobile application.

Multiple Meters and Accounts

The software shall allow customers to access and view all meters or accounts they are responsible for in a single logged on session.

Where a meter has more than one register, the software shall be able to aggregate the consumption into a single view with proper multipliers applied.

Customer Display

The software's main customer display screen shall have ACSD's logo and branding on it.

The display will provide all account, address, and meter information relating to that particular customer.

The software will display the customer consumption history in a graph that can be configured to a customer-specified start and end date. The default period should be the customer's latest complete billing period.

The software shall be able to display daily and hourly usage up to the most recent data available in the MDMS.

Describe the ability of the software to clean up data errors and alarms on customer display. Indicate what options ACSD has to only show validated usage data, or a manual estimation done by a CSR to customer, and to show or suppress register or MIU errors and other alerts.

The graph shall allow the customer to compare consumption history for different time periods on a single graph (e.g., consumption by month this year versus last year).

The customer shall be able to select the resolution of the consumption interval displayed (hourly, daily, monthly, and yearly). Indicate the number of data that can be displayed for each interval (e.g., 6 months, 31 days, 24 hours).

Describe the capability to show cost data for individual consumption profiles based on the customer's rates, tiers, wastewater charges, or total estimated cost and consumption for the current (unbilled) billing period.

Describe the capability to provide a graph of the customer's consumption history against the average consumption of similar customers.

Describe the capability to provide recommended or ACSD-supplied water budgets based on number of occupants, weather, landscape area, special features, customer type, etc.

Alerts

Describe from where (head-end system for alarms, MDMS for consumption profiles, etc.) and how (e.g., FTP interface) the customer portal gets its information.

Indicate the alarms that can be provided to the customer through outbound notification, such as persistent or intermittent consumption indicative of a leak, excessive consumption, excessive charges, or usage over a threshold for a specific period of time (e.g., when the premises are vacant).

Describe the provisions for the consumer to designate emails, cellphone numbers (for text messages), or other communications for various alarms. Can the consumer enable multiple contact emails or phone numbers, or contact emails or phone numbers for different conditions? Can the CIS be updated from contact information submitted by the customer to the web portal?

Indicate if the software has provisions to allow consumers to opt in or opt out of notifications.

The software should be able to inform a customer of a violation of certain ACSD-defined usage restrictions (such as excessive flow rates or volumes indicative of outdoor water use on certain days or at certain times).

Describe capabilities of the software to provide data files to CIS and/or outbound dialing IVR with messages concerning possible leaks, unauthorized irrigation, etc. Describe capabilities to generate letters, emails, or text messages for customers. Indicate data required from CIS to provide this capability. Describe ability to provide flags to account records in CIS of conditions or messages created.

Describe capabilities to keep track of notifications (e.g., about continuous flow) that have been sent and whether they have been received, and to schedule subsequent notifications if the condition still persists.

Describe the portal's capabilities to provide ACSD defined special messaging

Describe the portal's ability to have links to other on-line resources (e.g., conservation web sites).

Briefly describe the portal's online help screens and tutorials.

Reporting

The software shall allow the customer to download both graphical and chart-based reports of their consumption. The downloaded reports shall be available in PDF and Excel.

The Proposer shall be responsible for developing up to five custom reports at ACSD's direction that the customer will be able to view and download.

AMI System and Component Acceptance

Software and Integration Testing and Acceptance

AMI head-end software acceptance testing shall include testing functionality of features described in the proposal, testing of all interfaces to ACSD's IT systems developed by Proposer in conjunction with ACSD, testing capacity of systems to perform when processing large quantities of data and transactions, and testing capacity of the system to detect and reject input data that would fail reasonableness checks (i.e., reading dates in the future, or non-numeric meter readings).

Acceptance testing should be conducted in stages as follows:

- Head-end system and network management hardware and software, which will capture meter readings and other data from endpoints installed at customers' meters as well as provide reports on the performance of the network components, redundancy, endpoint battery life, etc.
- Network communications (i.e., point-to-point from MIU through network to head-end system).
- MDMS and customer portal software.
- Interfaces to ACSD's CIS and other information systems specified in the RFP or proposed by the Proposer, which will enable the system to make accessible or deliver readings to and synchronize data with these systems for work orders, asset management, etc.
- Software used to control and manage the Proposer's endpoint installations to ensure that all installation data is captured correctly. This includes integration to any handheld devices used in the installation.

Prior to any work being performed, the Proposer shall submit to ACSD for approval a system testing plan covering functional requirements of each software component; integration between network components, AMI software and hardware, the MDMS and customer portal, the installation control system, and ACSD's CIS; and end-to-end performance

Proposer's representatives together with ACSD representatives shall perform the acceptance testing. Acceptance testing shall be performed at ACSD's facilities unless the parties agree otherwise.

ACSD will provide Proposer written notice of acceptance upon successful completion of each test. Progress payments will be tied to successful testing at each stage.

Software and integration acceptance testing shall take place prior to the acceptance by ACSD of any network components.

For individual failed tests that require fixing, ACSD may require retesting the entire component if it reasonably expects that the fix could compromise other functions. ACSD may reasonably require repeating any tests for which it determines the test results are unclear.

Overall System Acceptance

ACSD and Proposer will conduct a Final System Acceptance Test when all endpoint installation work orders provided to Proposer are completed and endpoints accepted by ACSD. Final System Acceptance criteria shall include:

- **Uniform System Performance** - The System must provide performance that is substantially uniform throughout ACSD's service territory, defined as: within 0.25 miles of any MIU from which a standard consumption message was not received, there are not more than 20 other MIUs from which a standard consumption message was also not received.
- **Billing Read Performance** - The system shall on the day of system acceptance testing provide meter register readings not more than 3 days old from at least 99.5% of the endpoints determined to be **available** on that day.
- **Daily Read Performance** - The system shall on the day of system acceptance testing provide meter register readings not more than 1 day old from at least 97.5% of the endpoints determined to be **available** on that day.
- **Interval Read Performance** - The system shall on the day of system acceptance testing provide not less than 95% of all the hourly interval readings from all of the endpoints determined to be **available** on that day, and not less than 80% of the interval reads from any one endpoint.
- **Network Device redundancy**. Not less than 70% of the **available** endpoint devices shall be recognized by two or more network devices, as reported by the control computer.

An endpoint shall be deemed **available** if it has been: (1) accepted by ACSD; (2) not damaged or vandalized by a third party; (3) mounted according to agreed-upon installation procedures; (4) not subject to a pending investigation or maintenance work order, and (5) its signal is not subject to unanticipated blocking (e.g., permanent or temporary structure installed after endpoint installation and acceptance, vehicle parked over endpoint, etc.).

Proposer should be responsible for preparing a report evaluating system acceptance parameters for review by the ACSD.

Except for the redundancy criteria above, final system acceptance may be by zones or groups of routes, to be agreed upon by ACSD.

This performance shall be sustained for 30 days. Performance measures shall be averaged over this 30-day period. Overall system performance measurement for System Acceptance shall commence upon notification from the Proposer and will be concluded the first time the average performance measures over any consecutive 30 days meets or exceeds the performance measures. Should Final System Acceptance fail, Proposer shall fix all defects and reinitiate Final System Acceptance Test.

System Documentation

All system documentation and manuals shall be provided prior to the commencement of training of ACSD employees.

Proposer shall provide in electronic portable media (CD/DVD, etc.) all standard manuals and additional customized (for ACSD) written procedures sufficient for complete operation and maintenance – including:

- Technical architecture
- Functional and technical specifications
- MIU Installation instructions
- Data collection unit and repeater installation instructions
- Hardware Configuration
- Data collection unit and repeater installation (if the network is dedicated)
- System administrative operation, performance monitoring, diagnostics, and maintenance
- Backup and recovery procedures
- MIU field diagnostics and repair
- Network component diagnostics and repair

The electronic versions shall be indexed, searchable, and printable. Proposer shall make standard manuals available online to ACSD employees.

Third-party Software Manuals

Manuals for any third-party software components incorporated into the system shall be available online or on CD/DVD in searchable and printable format.

Updates and Revisions

Proposer shall promptly update online documents whenever there are any revisions or additions to the manuals. Describe notification and update procedure. Proposer shall provide a method to track and monitor all changes to software, hardware, operation, and maintenance procedures.

Training

Prerequisite to Installation

Proposer must provide proper training to designated ACSD staff prior to the commencement of installations.

Training Location and Equipment

All training shall be performed at ACSD's offices and facilities, or in the field in ACSD's service territory. Proposer shall provide all additional training on ACSD's AMI system equipment

(including the control computer and database) after it is installed, tested, and accepted by ACSD. Training should use real data from ACSD's own system. Proposer shall restore, repair, or replace any ACSD equipment damaged in training, and restore any hardware or software modified in training.

At its discretion ACSD may videotape and/or record all on-site training.

Training Curriculum

Proposer shall provide thorough training of ACSD employees in all areas required to install, operate, and maintain the system and obtain and use data from it. This shall include, but not be limited to training in the following areas for the designated number of people. Proposer shall specify teaching method and duration for each of these training sessions.

- All aspects of the AMI system's operation, including obtaining reads and consumption data from the system, transferring reads and other information between the AMI system and the CIS; creating, analyzing, and customizing system performance reports, diagnosing potential problems with system components, and changing or adding customer accounts/MIUs/ meters to the system, for a minimum of 5 ACSD employees or agents.
- Meter reading database management for a minimum of 5 ACSD employees or agents.
- Use of the MDMS and customer portal for a minimum of 5 ACSD employees or agents.
- Use of the Proposer's installation management and project control software in association with proposer's handheld programming devices for a minimum of 5 ACSD employees or agents.
- Field installation of MIUs, as well as MIU field diagnostics and maintenance, for a minimum of 5 ACSD employees or agents.
- AMI system maintenance, including the use of system management and diagnostic software, and server and control computer hardware management, as well as guidance on staff skills and resources needed for these maintenance functions, for a minimum of 5 ACSD employees or agents.
- Network component (including data collection units and repeaters, if used) installation and field maintenance, for a minimum of 5 ACSD employees or agents.

Testing

Proposer's training shall include an evaluation of trainees to ensure that they have learned the course content and can perform all necessary functions on the system. Evaluation criteria and testing shall be approved in advance by ACSD. Proposer shall notify ACSD of any employees who fail this evaluation and provide them additional training as required.

Training Aids

Proposer shall provide trainees' workbooks, training aids (including software and video), and system technical manuals prior to or during the training session at no additional cost. Proposer shall provide copies of workbooks for the number of employees trained for each type of

training plus 5 extra copies. If training aids include the technical manuals, then Proposer shall provide the appropriate manual for each trainee in the training class that the manual covers.

Supplemental Training

Proposer shall provide a schedule of costs for additional training beyond the initial training proposed. List each training type and provide the cost for each.

Instructors

Proposer shall provide trained and experienced instructor(s), and ensure that they do not perform other duties during the training period that will interrupt instruction.

Instructor will provide a checklist to trainees to evaluate presentation of course materials for effective feedback from ACSD.

Support

NOTE: All or parts of this section of the RFP may be eliminated if ACSD takes software as a service.

Support Periods

Proposer shall provide onsite support commencing when system software is delivered to ACSD and continuing through ACSD's issuance of a Notice of Completion following Final System Acceptance. The charge for this support shall be included in Proposer's cost proposal.

Support shall be provided during any warranty periods for the equipment covered by the support service and during active maintenance agreements.

Support Severity Levels

Proposer shall provide a schedule of maximum response times based on severity of system problems. Severity ratings should be comparable to the following:

Level 1. A problem for which there is no work-around or failover and that causes the software or system to be unavailable.

Level 2. A problem for which there is no work-around and results in essential features of the software or system not working.

Level 3. A problem that has a material impact on the functionality of the software or system, but for which a work-around is available and significant business functions are not materially impaired.

Level 4. A non-critical problem in the software or the system.

Level 5. A request for an enhancement.

During normal business hours (Monday through Friday 08:00 – 17:00), response time to Level 1 or 2 problems shall be within one hour of ACSD reporting an inability to use the system. Outside of normal business hours, response time shall be within four hours of ACSD reporting an inability to use the system.

For a Level 3 problem, these response times shall be 2 hours and 1 business day, respectively. Response to Level 1 and 2 problems that cause the software or system to be unavailable shall be provided on a 24x7 basis until the problem is cured.

Responses shall consist of telephone support, remote access to address system problems, and on-site service, depending on the severity of the problem.

Proposer shall provide in its pricing proposal a schedule of any incremental increase in license, maintenance and support fees charged to ACSD if ACSD increases the number of installed endpoints.

Telephone Support.

Proposer shall provide trained persons to answer technical questions and guide ACSD employees through the use or diagnosis of the system through a toll-free number.

Telephone support shall be available at a minimum from 7:00 a.m. through 6:00 p.m. Monday through Friday and at any time for Level 1 and Level 2 problems as defined in Section 0 above. Indicate telephone support hours proposed. Response time to an ACSD telephone query shall be within 30 minutes.

Describe Proposer's current support operations (number of persons, location, hours, etc.).

Remote Access Monitoring and Support

Proposer shall be able to remote connect to the control computer or database server to monitor performance, diagnose problems, load patches and upgrades, etc., subject to ACSD's firewall provisions.

Supplemental Onsite Support

Proposer shall provide onsite assistance at the request of ACSD. Onsite support should be rendered within two (2) business days of receiving a request for support. Proposer shall provide a schedule of minimum response times for onsite support, and a schedule of costs.

Information Technology Security

The AMI system software, including head-end system, MDMS and customer portal, shall authenticate and authorize users of the system through user login names and encrypted and masked passwords, configurable role and function-based controls to limit access to data, limit access to software functions and features of the system, and provide traceability and thorough user audit logging. Describe the process for establishing user access privileges. Describe support for secure access and authentication, role-based security and permission-based functionality for internal and external users and Application Programming Interfaces (APIs), and the level to which security is granted (e.g., function, user, data element). Describe control of administrative or super user access over the Internet.

The AMI software shall provide automated methods of preventing cross-site scripting (XSS) attacks or SQL injection attacks from compromising the databases or software functions.

Provide an overview of Proposer's processes to identify, quantify, and prioritize its AMI system IT and Infrastructure risks against defined risk acceptance levels and objectives. Describe Proposer organization's IT Risk Governance, IT Risk Life Cycle, and Information Security Policy, including how and how often the policy set is reviewed and maintained.

Indicate how Proposer vets IT security and risk management of its suppliers and subcontractors.

For hosted software, describe: Proposer's data center physical controls and environmental controls; operational security controls, including logging and monitoring system and network activity; intrusion detection methodology; data backup and restoration process; Proposer's change control process; and its access control policy and rights administration.

Describe Proposer's policies and program to protect the privacy of ACSD and customer data through its life cycle of collection, storage, usage, sharing, transferring, securing, retention and destruction. Describe how and by whom the program is administered, and how it ensures compliance by all subcontractors and third parties.

Indicate the development lifecycle for each of the software components of the AMI system, including the frequency of application and system security review, and its application and system patching strategy.

Describe Proposer's incident management program and business continuity plans for the AMI system software, and how often the plan is tested.

Describe AMI system software design considerations and compensating controls for threats caused by malicious or negligent administrators or authorized users of the system operating maliciously or negligently, threats involving AMI audit logs, cyberattacks, eavesdropping threats, threats that arise due to an incorrect or insecure implementation, and threats transmitted by other information systems to the AMI system interfaces.

Warranties

ACSD shall have sole discretion to choose the applicable warranty should there be a conflict between warranties.

Meters

Proposer shall include warranty information for all meter sizes and types incorporated into its proposal.

MIUs/Endpoints

All MIUs supplied in connection with this proposal shall be guaranteed to be free from defects in workmanship for a period of at least 10 years from the date of installation acceptance. Any

MIU that fails during this period shall be repaired or replaced at manufacturer's sole cost and expense. MIUs shall be guaranteed against failure for an additional 10 years such that a failed component will be replaced on a pro-rated cost basis. Proposer shall provide a schedule of the pro-rata costs in its pricing tables. Pro rata costs to ACSD shall be based on the original purchase price adjusted for inflation, or the then currently available purchase price, whichever is less. These costs shall be submitted in the Price Proposal.

Fixed Data Collection Units and Repeaters

Mobile data collection units shall be guaranteed to be free from defects in workmanship for a minimum of twelve (12) months from date of delivery. Fixed data collection units and repeaters shall be guaranteed for a minimum of twelve (12) months from date of installation acceptance.

Handheld Meter Reading Equipment

The handheld units, data cradles or data transfer devices (including memory cards and memory card readers), and all accessories (including batteries, straps, cables and cases) shall be guaranteed for a minimum of twelve (12) months from date of delivery. Any handheld device or accessory found to be defective upon delivery must be exchanged for new and shall not be repaired or exchanged for a remanufactured device.

Other System Components

All other system components not specifically noted above shall be guaranteed for one (1) year from the date of installation acceptance, including parts and labor.

Maintenance Agreements

Proposer shall provide ACSD with equipment maintenance agreements, which may be renewed annually by ACSD for at least fifteen (15) years.

Should handheld unit firmware updates require sending the devices to the factory or authorized repair center, Proposer shall provide a loaner device for each device being upgraded so that meter reading activities can continue.

For each piece of hardware or software, state any required or optional maintenance programs beyond the warranty period. Include program features and any additional charges such as hourly rate for on-site and/or remote support. State the location of and procedures for obtaining such support.

Installation

All installation work, including materials used in the installation performed under this contract, shall be guaranteed against defects in workmanship for a period of one (1) year from the date of installation acceptance.

Repair Turnaround

Repairs to handheld units or data collectors shall be accomplished either locally, at ACSD facilities, or at the manufacturer's factory or authorized repair center, within ten (10) working days. Shipments from ACSD for out of warranty repairs will be at ACSD's cost and the return shipments will be at Proposer's cost. For repairs not completed and returned within ten (10)

working days, Proposer shall provide a loaner HMRU or MDCU until the ACSD's unit is returned in working condition.

Failure Analysis

Describe the failure analysis process that is used when product is returned.

On a quarterly basis Proposer will provide a failure analysis report for any and all product returned by ACSD to Proposer. For failures of 25 units or more in any quarter, the report should include a diagnosis of the root causes of any failures such as software error, communication error, excessive retries, failed component, water intrusion, etc. The report will include an analysis of similar failures that have occurred on other projects, the cause of such failures, the actions that Proposer is taking to minimize such failures, and an assessment regarding the likelihood of continued failure.

Software, Firmware

Proposer shall provide a written guarantee that no changes in the software, firmware, or hardware design of components of its MIUs, DCUs or Repeaters that it provides to ACSD for twenty (20) years from the Commencement Date will be made without prior testing and verification that such changes will result in no loss of functionality for the meters incorporated in ACSD's AMI system. In the event of such incompatibility or loss of full functionality, Proposer shall be responsible for repairing or replacing all of its equipment that is not working, including labor. Firmware updates for handheld devices shall be provided by Proposer at no additional cost to ACSD for twenty (20) years from the date of delivery of the unit.

Proposer warrants that any and all software provided as part of its system to ACSD does not contain any program code, virus, worm, trap door, back door, timer, or clock that would erase data or programming or otherwise cause the software to become inoperable, inaccessible, or incapable of being used in accordance with its user manuals, either automatically, upon the occurrence of Proposer-selected conditions, or manually on the command of Proposer, or upon occurrence of user-selected conditions.

General Nonperformance or Excessive Failures

Should the system be subject to excessive failures of components, Proposer acknowledges that ACSD will incur maintenance costs, loss of savings and productivity, loss of credibility and interruptions in cash flow in excess of reasonable expectations.

The Proposer of the AMI equipment shall warrant the MIUs, DCUs and Repeaters against failures that exceed the guaranteed maximum failure rates as defined (by Proposer) in the Pricing Proposal. Should the failure rates exceed these levels, or should the system in its totality substantially fail to perform such that ACSD, in its sole and good faith discretion, cannot reliably use the system for billing, or should the occurrence of erroneous or inaccurate meter readings exceed 20 per thousand per year, then the ACSD may notify Proposer of this condition, whereupon Proposer shall be responsible for promptly restoring the system to its normal level of reliability and accuracy at its sole cost and expense.

Should Proposer be unable to restore the system within a reasonable period of time, ACSD may declare the system to be non-functioning, and may exercise its rights and seek remedies under its contract with Proposer.

SECTION 3. PRICING INSTRUCTIONS

Proposer shall supply unit prices and related annotations that will enable ACSD to reasonably determine the total life cycle cost of owning, operating, using, and maintaining Proposer's system over a 15-year period from the date of Notice to Proceed. Proposer shall indicate explicitly if any of the recurring prices (e.g., for annual license fees or maintenance costs) shall be subject to an inflator, and if so, what that inflator will be.

- Cost of entire system including installation – by meters, endpoints, AMI network components, CIS system and integration, annual licensing and maintenance, training, support.
- Cost of meters and installation
- For an ACSD-dedicated network, cost to supply and install AMI network components, system software and server hardware, and provide training and support, as well as cost of annual licensing and maintenance contracts .
- If Proposer proposes software hosting and managed services or network management options, they should be included.
- Cost to provide supplemental services during installation involving configuration, repair or upgrades to meter boxes, lids, and appurtenances.
- Component failure rate and replacement cost information

Prices shall include all material, labor, shipping, tools, equipment, hardware and software, taxes, supervision, bonds, insurance, material, rental, parking, permitting, engineering certificates, indirect costs, and profits to perform any unit of work.

Proposers are also asked to provide hosted services, Network as a Service (NaaS) and Software as a Service (SaaS) annual costs as an option

ACSD reserves the option of accepting or rejecting individual components of each proposal as needed to best serve the needs of the ACSD.

Table 1. Costs of Entire System

COMPONENT	COMPONENT COST	INSTALLATION
Meters		
Endpoints		
AMI Network		
CIS/MDMS System		
Training		
Support		
Licensing and Maintenance (annually)		
Total System Cost		
SERVICES ALTERNATIVE	ANNUAL COST	
Optional Hosting and Management Services (NaaS and SaaS)		

Meters, Registers, MIUs, Lids – Supply and Installation

Proposer shall provide pricing for meters and MIUs for all meters.

Installation prices indicated shall be for normal installations, exclusive of repairs to or modification or replacement of service lines, meter boxes (other than the replacement or modification of lids), valves or customers’ plumbing.

Replace Old Meters, Including Labor to Replace or Modify Lids

ACSD intends that the Proposer remove the existing meter and meter reading device, if any. Proposer shall connect the cable to the MIU using waterproof, dustproof and corrosion resistant connection.

Replacement Lids

Standard size meter box lids present in significant quantities, if they are not composite, shall be replaced with composite lids conforming to the Technical Requirements or may be drilled (provided they are not located areas where vehicles could travel over or park on top of them).

Proposer shall indicate whether it intends to modify or replace meter box and vault lids. The cost of labor to replace or drill lids shall be included in the unit installation prices.

Network, Software and Other Equipment and Services – Purchase Option

In the case of a ACSD-dedicated network, Proposer shall list and provide pricing for all equipment and services required for a complete and working AMI system throughout the entire service territory in accordance with the technical and performance requirements outlined in this RFP. Proposer shall include estimates of site preparation and installation costs.

Annual costs shall also be entered as applicable. Annual costs shall include software licensing and maintenance fees, proposed annual equipment maintenance agreement costs and any other expected costs associated with normal system maintenance. Proposer shall include expected annual costs for rental of fixed DCU and repeater sites, if required, and expected power and backhaul communication costs. Proposer shall detail each cost item if necessary (adding additional rows to the table if necessary), rather than presenting a summary in the cell in the table. Indicate if these costs are to begin at a time other than after the first year of ACSD ownership or control. If Proposer is proposing costs that change from one year to the next because of inflation or other factors, Proposer shall explicitly state the annual adjustment factor as a percentage to be applied.

For a ACSD-dedicated network, should they be required to achieve minimum required performance levels, Proposer shall be responsible for the cost of any additional data collectors and repeaters, including installation, backhaul, annual maintenance fees and any other cost associated with installation and long-term operation, for any devices in excess of 10% of the quantities proposed in the table (not including spares).

Proposer shall indicate the number of spare parts of each system component ACSD should acquire and maintain on-hand.

Network, Software and Other Equipment and Services – Hosting/Managed Services

Proposers should submit a Network as a Service (NaaS) and Managed Services/Software-as-a-Service (SaaS) options for the network devices and software applications. The cost of data collectors and other network components, hardware and software, and professional services that must still be purchased by ACSD under a managed services scenario shall be included. Proposer should accompany this table with a list of any services not included in its hosted and managed services and network monitoring pricing, including optional services, and specific prices for each item not included for which it intends to levy a separate charge.

ATTACHMENT 1. RFP Required Signature Pages

Please include signed copies of these documents in the RFP Response.

RFP Transmittal

I/We, the undersigned, certify and declare that I/We have read and understand the Request for Proposal. The information provided in this proposal, including documentation, is complete, current, and accurate and I/We agree to be bound by the statements and representations contained herein. I/We understand and acknowledge that any false, misleading, or fraudulent statements on the application will result in immediate disqualification. I/We authorize Allensworth Community Service District (ACSD) to contact any entity named herein for the purpose of verifying information provided, or to develop other information deemed relevant. I/We understand and acknowledge that ACSD reserves the sole right to determine qualifications based on its evaluation criteria pursuant to the best interests of the company, its customers, and the general public.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

_____ Proposer Name	(Person, Firm, Corp.)	_____ Title of Authorized Representative
_____ Address		_____ Name of Authorized Representative
_____ City, State, Zip		
_____ (Date)		_____ (Signed at (Place))

NonCollusion Declaration

The undersigned declares:

I am the _____ of _____, the party making the foregoing proposal.

The proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The proposal is genuine and not collusive or sham. The Proposer has not directly or indirectly induced or solicited any other Proposer to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any Proposer or anyone else to put in a sham proposal, or that anyone shall refrain from bidding. The Proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the Proposer or any other Proposer, or to fix any overhead, profit, or cost element of the proposal price, or that of any other Proposer, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract. All statements contained in the proposal are true. The Proposer has not, directly or indirectly, submitted its proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham proposal and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Proposer that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the Proposer.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

Proposer Name	(Person, Firm, Corp.)	Title of Authorized Representative
Address		Name of Authorized Representative
City, State, Zip		
(Date)		(Signed at (Place))

ATTACHMENT 2. Project Management Terms and Conditions

Project Milestones

Goals and milestones for deliveries or accomplishments shall be incorporated within the Project Schedule. Should Contractor fail to meet a key milestone within a reasonable period of time, ACSD shall provide notice of Default, and shall be entitled to collect damages until the milestone is met.

Network Device Acceptance

Within 15 business days of being notified of the installation of a network device, ACSD will physically inspect the installation site for proper installation; will attempt to obtain confirming readings from endpoints through the Network device; and will confirm that the correct information for the installation has been captured in the AMI network control system database and/or ACSD's project management database.

Should ACSD fail to inspect the network device within 15 business days of being notified of its installation, ACSD will conditionally accept and pay for the device. However, such conditional acceptance shall not relieve the Proposer of any responsibilities for curing defects in the installation or performance of the device during the warranty period.

Meter and MIU Installation Acceptance

If installed by a subcontractor, meters and MIUs will be accepted and the installation paid for as they are installed and confirmed to be operational, in accordance with Section 0(Installation Acceptance) of the Technical Requirements, or if Proposer prefers, by meter reading route or other geographic area, provided the successful installations meet or exceed the route saturation criteria.

ACSD Project Manager

ACSD will designate an employee or agent who will manage the project on behalf of ACSD, coordinate with the Proposer and ensure compliance by the Proposer with the specifications. The designation of a Project Manager shall not relieve the Proposer of its full responsibility to comply with the terms of the Contract and all plans and specifications.

No Solicitation

No contractor, or its employees or agents, may solicit business from ACSD's customers while engaged on any contract associated with this project.

Proposer Staff

Proposer will designate a Contract Manager, who shall have the authority to handle and resolve any disputes or contract issues with ACSD. Disputes that cannot be resolved at this level must be resolved in accordance with the dispute section of this Contract.

Proposer will designate an Installation Manager, who shall be responsible for managing the entire installation project on a day-to-day basis on behalf of the Proposer and for seeing that all installations are carried out in a professional manner and in compliance with the procedures required by the AMI system manufacturer, ACSD, and all other applicable local, state, and federal regulations. The Installation Manager should be onsite continuously throughout the duration of the project, except for holidays and vacations, during which the Proposer shall provide a qualified substitute. The Installation Manager shall be experienced in supervising water meter installation contracts, and familiar with applicable regulations and safe and proper installation procedures. ACSD shall approve the Installation Manager or a change in the Installation Manager. Successful Proposer shall submit résumé and references of candidate(s) for Installation Manager.

All of Proposer's employees or subcontractors shall be fully trained by the Proposer in the removal of existing meters and the installation of new meters and MIUs. They shall also be trained in retrofitting newer meters as requested by ACSD with AMI-compatible registers and MIUs, regardless of size. Proposer's employees or subcontractors are not permitted to engage any ACSD customer in an argumentative way. Should those conditions evolve, Proposer's employee shall immediately call an ACSD Field Representative to handle the situation. ACSD reserves the right to require Proposer to retrain, reassign, or remove from the project any employee or subcontractor who fails to perform in a workmanlike manner.

Warranties

ACSD shall have sole discretion to choose the applicable warranty should there be a conflict between warranties.

MIUs/Endpoints

All MIUs supplied in connection with this proposal shall be guaranteed to be free from defects in workmanship for a period of at least 10 years from the date of installation acceptance. Any MIU that fails during this period shall be repaired or replaced at manufacturer's sole cost and expense. MIUs shall be guaranteed against failure for an additional 10 years such that a failed component will be replaced on a pro-rated cost basis. Proposer shall provide a schedule of the pro-rata costs in its pricing tables. Pro rata costs to ACSD shall be based on the original purchase price adjusted for inflation, or the then currently available purchase price, whichever is less. These costs shall be submitted in the Price Proposal.

Fixed Data Collection Units and Repeaters

Mobile data collection units shall be guaranteed to be free from defects in workmanship for a minimum of twelve (12) months from date of delivery. Fixed data collection units and repeaters shall be guaranteed for a minimum of twelve (12) months from date of installation acceptance.

Handheld Meter Reading Equipment

The handheld units, data cradles or data transfer devices (including memory cards and memory card readers), and all accessories (including batteries, straps, cables and cases) shall be guaranteed for a minimum of twelve (12) months from date of delivery. Any handheld device or accessory found to be defective upon delivery must be exchanged for new and shall not be repaired or exchanged for a remanufactured device.

Meters

Proposer shall include warranty information for all meter sizes and types incorporated into its proposal.

Other System Components

All other system components not specifically noted above shall be guaranteed for one (1) year from the date of installation acceptance, including parts and labor.

Maintenance Agreements

Proposer shall provide ACSD with equipment maintenance agreements, which may be renewed annually by ACSD for at least fifteen (15) years.

Should handheld unit firmware updates require sending the devices to the factory or authorized repair center, Proposer shall provide a loaner device for each device being upgraded so that meter reading activities can continue.

For each piece of hardware or software, state any required or optional maintenance programs beyond the warranty period. Include program features and any additional charges such as hourly rate for on-site and/or remote support.

Installation

All installation work, including materials used in the installation performed under this contract, shall be guaranteed against defects in workmanship for a period of one (1) year from the date of installation acceptance.

Repair Turnaround

Repairs to handheld units or data collectors shall be accomplished either locally, at ACSD facilities, or at the manufacturer's factory or authorized repair center, within ten (10) working days. Shipments from ACSD for out of warranty repairs will be at ACSD's cost and the return shipments will be at Proposer's cost. For repairs not completed and returned within ten (10) working days, Proposer shall provide a loaner HMRU or MDCU until the ACSD's unit is returned in working condition.

Failure Analysis

Describe the failure analysis process that is used when product is returned.

On a quarterly basis Proposer will provide a failure analysis report for any and all product returned by ACSD to Proposer. For failures of 25 units or more in any quarter, the report should include a diagnosis of the root causes of any failures such as software error, communication error, excessive retries, failed component, water intrusion, etc. The report will include an analysis of similar failures that have occurred on other projects, the cause of such failures, the actions that Proposer is taking to minimize such failures, and an assessment regarding the likelihood of continued failure.

Software, Firmware

Proposer shall provide a written guarantee that no changes in the software, firmware, or hardware design of components of its MIUs, DCUs or Repeaters that it provides to ACSD for twenty (20) years from the Commencement Date will be made without prior testing and verification that such changes will result in no loss of functionality for the meters incorporated in ACSD's AMI system. In the event of such incompatibility or loss of full functionality, Proposer shall be responsible for repairing or replacing all of its equipment that is not working, including labor. Firmware updates for handheld devices shall be provided by Proposer at no additional cost to ACSD for twenty (20) years from the date of delivery of the unit.

Proposer warrants that any and all software provided as part of its system to ACSD does not contain any program code, virus, worm, trap door, back door, timer, or clock that would erase data or programming or otherwise cause the software to become inoperable, inaccessible, or incapable of being used in accordance with its user manuals, either automatically, upon the occurrence of Proposer-selected conditions, or manually on the command of Proposer, or upon occurrence of user-selected conditions.

General Nonperformance or Excessive Failures

Should the system be subject to excessive failures of components, Proposer acknowledges that ACSD will incur maintenance costs, loss of savings and productivity, loss of credibility and interruptions in cash flow in excess of reasonable expectations.

The Proposer of the AMI equipment shall warrant the MIUs, DCUs and Repeaters against failures that exceed the guaranteed maximum failure rates as defined (by Proposer) in the Pricing Proposal. Should the failure rates exceed these levels, or should the system in its totality substantially fail to perform such that ACSD, in its sole and good faith discretion, cannot reliably use the system for billing, or should the occurrence of erroneous or inaccurate meter readings exceed 20 per thousand per year, then the ACSD may notify Proposer of this condition, whereupon Proposer shall be responsible for promptly restoring the system to its normal level of reliability and accuracy at its sole cost and expense.

Should Proposer be unable to restore the system within a reasonable period of time, ACSD may declare the system to be non-functioning, and may exercise its rights and seek remedies under its contract with Proposer.

Installation by Contractors

The following provisions will apply to work performed by Proposer's installation subcontractor(s).

Proposer shall manage installation of AMI equipment. The Proposer shall:

- Specify the installation methods
- Train the installation service providers
- Manage the installation performance
- Be responsible for the quality control and quality assurance of the AMI network and endpoint installations
- Be responsible for the overall performance of the completed AMI system

Describe the proposed approach to managing the network, meter, and endpoint installations.

Installation Schedule

ACSD and the Proposer shall establish an overall schedule for installation of the entire project. On the first work day of each week, the Proposer will provide ACSD an updated schedule of where work is planned for the next 3 weeks.

By 7:30 AM on the first business day of each week, Proposer will provide ACSD a schedule of where work is planned for that day and each subsequent day of that week, to enable coordination and communication between ACSD and Proposer for the work. If the schedule changes for whatever reason, an updated daily schedule shall be forwarded to ACSD within 24 hours.

Work Hours

Indicate normal installation work hours, which must be approved by ACSD. Installers must be available for evening (until at least 8:00 PM) and Saturday installations, as well as for installations that must be conducted at other times because of special needs. Indicate the number of installers proposed for all installation periods, including those that will be allocated to evenings and weekend times.

Daily Reports

A listing of all installation appointments to be visited by Proposer's installers each day shall be electronically transmitted to ACSD each work day prior to 7:30 a.m.

At the end of each day, the Proposer shall transmit electronically to ACSD information on all work orders performed in an ACSD-approved file format, so that ACSD can respond to customer inquiries.

Twenty-Four (24) Hour Customer Access

For 5 days after the installation has been accepted by ACSD and ACSD has been notified of a given installation, Proposer must respond on a 24 hour-per-day basis to calls from the customer

associated with that installation or from ACSD, concerning leaks, loss of service, low pressure, and other problems associated with installation.

Should the Proposer receive a call or complaint from a customer or ACSD regarding installation, the Proposer/Installer shall immediately log the call, including caller's name, address, account number if available, date and time of call, nature of problem, the action taken and the resolution. Copies of all call logs shall be forwarded to a designated ACSD Customer Service Manager not less than once per day using e-mail or another mutually acceptable electronic means.

Proposer must respond within one (1) hour of receiving the call and arrive at customer's premises ready to correct any problems within three (3) hours of receiving the call, unless otherwise directed by ACSD. Describe the procedures for response to customer problems.

If Proposer fails to respond within these time limits, ACSD may at its option assess liquidated damages of \$300 plus \$100 per hour until Proposer responds or ACSD makes repairs, plus ACSD's direct costs if ACSD makes repairs. Such penalties and costs shall be deducted from the amount owed to Proposer in the next billing cycle.

Installation Acceptance

Each installation will be accepted by ACSD conditioned upon:

- Electronic submission of a list of completed installations containing for that installation the premises identification number, address, meter serial number, old and new meter readings, MIU serial number, MIU and meter GPS coordinates or location description, installer's name, Proposer's inspector's name, and all other information relevant to the installation;
- Receipt or access to required digital photographs taken before and after installation;
- Satisfactory inspection by Proposer and ACSD in the case of anomalies or if part of inspection sample;
- Confirmation that MIU ID numbers, meter register numbers, and other information have been correctly captured in the AMI control system database and/or ACSD's project management database for each customer's premises; and,
- Successful capture of at least 90 percent of the scheduled readings over 2 days for meters being read hourly or more frequently. The readings shall be gathered by ACSD operating the AMI system in a normal way.
- However, if ACSD finds discrepancies in the conditions of acceptance for 12 months after the date it was notified of installation, ACSD shall notify the Proposer for corrective work which shall be completed by the Proposer at no cost to ACSD.

Payments

Payment for installation services shall be based on accepted installations. Proposer shall provide documentation to ACSD including the list of individual jobs completed, the unit price

for each job, a date and time stamp showing endpoint coverage, overall route network coverage, and other details to be specified.

Proposer shall provide to ACSD electronically on a weekly basis its list of newly completed installations and any authorized additional work in an itemized format.

Bonding, Background Checks

All Licensed Plumbers shall be bonded. Proposer shall subject all employees to a criminal offense background check and drug and alcohol testing as directed by ACSD. Proposer shall not employ as an Installer any person who fails to meet the requirements of ACSD. ACSD shall be entitled to review the background check before the prospective employee is engaged and prevent any person who fails to meet requirements from working on ACSD projects. Describe Proposer's ongoing random testing programs for drugs and alcohol.

Proposer Employees and Services

Uniforms and Identification

Proposer's field personnel shall wear easily recognizable uniforms containing the Proposer's name, as well as prominently displayed picture identification badges containing Proposer's name, employee name, title and signature, employee picture, and employee I.D. number at all times when performing contract work. Proposer's employees who are no longer employed by the Proposer shall be required to return their uniforms and identification cards immediately upon termination of employment, and the Proposer shall immediately notify ACSD of all such terminations and if identification cards were received from terminated employee.

Items to Be Supplied by Proposer

Proposer will supply the following components and aspects of installation: overall project management; training and direct supervision of installers; appointment scheduling; problem solving and complaint handling; and inspection, testing, and quality control.

Proposer shall furnish all supplies, materials, tools, and equipment necessary for the successful and timely completion of all meter and AMI installations as specified herein. This includes wiring and waterproof connectors between the meter and MIU in situations where the meter and/or wiring has to be replaced, and meter seal wires and seals where the meter has to be replaced.

Vehicles

Proposer shall be responsible for all vehicles it uses on the project. Proposer should provide service vehicles onsite stocked with common fittings and supplies needed for normal service restoration and/or replacement. Any employee of the Proposer or its subcontractors who drives a vehicle in connection with this project must have a valid driver's license for the class of vehicle being driven and must be insured as set forth in ACSD's insurance requirements.

Parking

ACSD requires that Proposer deploy vehicles to minimize parking problems and avoid blocking any streets. Proposer is required to follow all parking laws. Proposer shall be responsible for all parking violations.

Local Office, Warehousing and Materials Management

Proposer shall at all times maintain security and control of inventory of equipment in its possession, regardless of whether ACSD or Proposer owns equipment. Equipment paid for ACSD prior to installation may be subject to a bailment agreement with ACSD.

Describe procedures for cross-docking of materials and inventory control and audit, including frequency of inventory counting and reporting.

Call Center

Proposer should provide a call center, web site, and a toll-free number that customers can call to schedule installation appointments, to ask questions concerning the project, or to report problems concerning installations. The call center should incorporate an automatic call distribution (ACD) system capable of receiving and queuing calls; routing calls to waiting agents; and collecting and reporting data on call volumes, waiting times, abandoned rates, and durations. Proposer must answer at least 85 percent of all calls within one minute. The call center should be staffed at least between the hours of 7:00 a.m. and 8:00 p.m., Monday through Saturday. Indicate proposed call center hours and availability of web access for scheduling appointments and questions. ACSD prefers a call center physically located within the United States of America.

Field Communications

ACSD requires that all of the Proposer's installers, plumbers, inspectors, and supervisory personnel be equipped with cellular phones or radios so that problems or questions can be addressed immediately and the Installation Manager or ACSD Project Manager can be contacted immediately, if needed.

Account Data File

Prior to the start of the installations, the ACSD will provide the Proposer with an electronic file containing the information necessary to create work orders for meter/AMI installation. ACSD will provide the Proposer with periodic updates to this file for routes where the AMI system has not yet been installed. For each meter, the data file will indicate the meter size, make and serial number, whether or not the meter shall be replaced, the meter location, access notes to the meter, and the name and phone number that may be listed on the account.

Notification of Customers

Between 4 and 5 weeks prior to the commencement of installations for a particular group of customers, Proposer shall send ACSD-approved letters informing customers of the project. At least 2 weeks prior to the commencement of installations for a particular group of customers, Proposer shall send ACSD-approved notices to those customers indicating the time when installations will occur and requesting that customers call the Proposer for appointments if the

meter is to be replaced and (1) the meter is inside, or (2) the customer has special needs regarding the momentary disruption of water service. The text of all Proposer letters, door hangers, and other communications with customers must be submitted to ACSD Project Manager for approval at least 2 weeks prior to use. Proposer shall also develop and submit to ACSD the scripts for any telephone conversations with customers for approval by the ACSD Project Manager at least 1 week prior to use.

Proposer must notify the owner of a building of its intent to install the AMI system at a particular customer's premises if inside access is required. The owner may authorize the Proposer to make an appointment with an adult (age 18 or over) tenant or the owner's adult (age 18 or over) representative. Proposer shall document such authorization. Customers who have multiple meters shall be given the opportunity to schedule the installation of MIUs on all of those meters in a short period of time, provided those meters are located near each other.

Appointment Scheduling and Installation

Appointments shall not be required if the meter is not designated for replacement, or if the meter is readily accessible. However, customer notification is still required. Proposer shall be responsible for scheduling and handling all installation appointments. ACSD desires that installation appointments be made with 2-hour precision. Whenever possible, Proposer shall notify customers of any changes in schedule at least 1 day in advance of the original appointment. ACSD reserves the right to impose a penalty for each instance where the Proposer has failed to properly notify the customer at least 24 hours in advance of the appointment time of the need to reschedule for another day.

Inaccessible Meter and/or MIU

In the event a meter is obstructed or is not accessible, the Proposer will make at least three different types of attempts at any reasonable time within 30 days of encountering the inaccessible meter to notify the customer to remove the obstruction or provide access to the meter. These attempts must be documented on the work order. After three documented attempts to make the installation, the Installation Manager may request the ACSD Project Manager schedule the meter change-out. The Proposer shall only be paid for completed installations and is expected to provide all reasonable support in resolving difficult installation situations.

Proposer will be responsible for installation if ACSD secures an appointment or access to the meter within 30 days of receiving written or electronic notice from Proposer.

Installation Procedures Approval and Testing

Proposer shall submit detailed scheduling and installation procedures to ACSD for approval within 30 days after Notice to Proceed. The procedures should be designed to optimize the work of the Installers, ACSD field inspectors, and all other staff working on the project.

Prior to the commencement of full-scale installation of all endpoints, but after the Proposer has installed the AMI system control computer, the MDMS and customer portal, the installation control software and a sufficient quantity of data collection units, and all of these components have been tested and accepted by ACSD according to Section 0, ACSD employees and/or

During this test and a period not longer than fifteen (15) working days following it, ACSD and Proposer shall evaluate the procedures for public notification, scheduling installations, meter and endpoint installation, inspections and inspection reporting, exception processing, data transfer by the installers to ACSD's billing system, meter reading over the system, installation data management and project control, and problem resolution, to ensure they are working and effective. Proposer shall suspend any further installation work during this evaluation period.

Proposer and ACSD shall develop a test and acceptance plan covering these procedures. ACSD may require the Proposer to modify any procedures that it deems are deficient or ineffective or otherwise unacceptable to ACSD. No work will be started on other groups of meters until project control procedures and systems are determined to be performing accurately, and the procedures have been approved by ACSD.

Installations/Work Order Processing

Proposer shall be responsible for ensuring that all data transfers to and from ACSD's information systems are properly working before commencing any installations. ACSD desires read-only access to the Proposer's database and reserves the right to audit the Proposer's database.

Each Proposer's work order issued to an installer will include, at a minimum, the customer's address, service address, premises identification number, meter location, MIU or remote location, designation of whether meter is to be replaced, existing meter number, existing register number, meter make, model and size, and most recent meter reading. All work orders shall be provided electronically.

Should the installer find any discrepancies in the information provided in the work order and what is observable at the installation site (e.g., different meter or MIU number, location or other characteristic), the installer or Installation Manager shall immediately contact the ACSD Project Manager or designated representative and shall not attempt the installation until the site is inspected by or shown to (e.g., using cellphone camera) a ACSD representative and given authorization.

ACSD may request that the installer collect and include in the returned work order reasonable additional field data, such as premises type (residential, commercial, or industrial).

Site Conditions, Exceptions and Anomalies

If the meter is to be changed, before or at the time of installation, Proposer's installer shall inspect the existing water meter setting, including piping and control valves. In the case of any meter or plumbing irregularities, such as rotten plumbing, evidence of tampering (including but not limited to existing meters installed backwards, meters removed and replaced with connecting pipes; registers disconnected from meters; illegal connections before a meter; unmetered connections of a customer's plumbing to a service lateral, fire pipe, or water main), unsafe conditions, etc., the installer or installation supervisor shall not proceed with the installation until the ACSD's inspector has been notified and authorizes the installation.

Old Meter Reading

Proposer shall apply procedures to ensure that any meter being replaced is read properly. If the meter is to be changed, Proposer shall provide clearly readable digital photographs of the reading on the old meter register. Installer shall take pictures of the old equipment while it is still installed when this is practical, but must include alternative procedures, as needed, to ensure that pictures legibly show the meter reading and are appropriately labeled with date, time, and premises information.

Repairs

At its option, ACSD may authorize the Proposer to make any valve or service line repairs necessary to install a meter to service lines or piping, order the customer to make such repairs, or undertake such repairs itself.

Old piping per se should not be grounds for the failure of the Installer to replace a meter designated for replacement. Only when old piping is leaking or deteriorated to a point that damage to it could reasonably be expected by changing the meter will poor piping be accepted as a reason for not replacing the meter. Unless ACSD's Project Manager remands the particular installation to ACSD for further action, the Proposer is still required to install the meter and AMI equipment after the piping has been repaired or replaced at any time during the Installation Period.

Meter Box Lids

The AMI system should be configured to obtain the maximum signal strength from MIUs installed in meter boxes or vaults. Proposer shall replace or retrofit (e.g., by installing brackets or drilling) all meter box lids. All lid configurations must be submitted to and approved by ACSD before installation.

Meter Replacement

Installer should ensure he/she is at the correct location and meter, and check for running water prior to commencing meter changeout. Installer must turn off the water to the building after following ACSD approved notification procedures. Installer shall then replace the meter, using new gaskets or washers. Installer shall put plastic caps on the inlet and outlet of the old meter and handle the meter with care in order to facilitate post-removal testing by ACSD. All meter adapters, bushings, or other hardware necessary to install the new water meter in the consumer's existing meter setup must be furnished by the Proposer. Proposer is required to install standard connections (ACSD-approved meter couplings) for all $\frac{3}{4}$ " thru 1" meters if none exist currently.

Existing Meter Reading Equipment; Wiring and Connections

If the existing meter not scheduled for replacement, and is connected to a remote read-out device, touchpad or older MIU using a three-wire cable, the installer shall inspect the cable for integrity. If the meter is designated for replacement, or the existing cable is compromised, Proposer shall also replace the existing wire cable from the meter to the MIU with three-conductor vinyl shielded cable with not less than 22-gauge solid copper wires of colors red, green and black. Connectors used outside the premises must comply with UL-486D and IP68.

Meter Salvage

Proposer shall scrap all replaced meters [and meter box lids]. Proposer must provide auditable documentation of quantities scrapped.

Disposal of Existing MIUs

Proposer shall collect and arrange for the proper disposal of all removed MIUs. Include unit cost for this in the Pricing Proposal. Proposer must provide auditable documentation of quantities scrapped.

Strainers

If there is a strainer at any installation, the Installer shall clean it and restore it. If the strainer cannot be cleaned, Installer shall replace it.

Verifying Service Working

Installer shall flush water line from the customer's outside spigot if reasonably accessible after installing a new meter to ensure the meter is registering properly and verify service restoration to the entire premises.

Valves

If the Installer cannot shut off water using the street-side control valve (details must be documented on a work order), he shall call the ACSD Project Manager to arrange curb valve shut-off. If shutoff valves cannot be reopened, the Proposer shall replace such valves following ACSD rules, regulations and specifications, upon being authorized by ACSD. Valves provided by the Proposer must conform to ACSD's specifications and approved materials list. Proposer shall provide in its price proposal fixed unit pricing for valve replacement by size.

Installer should use a water meter base spreader tool to change $\frac{3}{4}$ "–1" water meters not on a meter yoke, horn, or setter.

Dirt or Water Around Meter

For meters in outside boxes, Proposer shall be responsible for removing any dirt needed to access the meter. Dirt shall be removed such that there is a minimum of 2" clearance below the valves at the meter. Proposer shall attempt to expose connection to the service line and any piping between the service line connection and the meter to ensure that they are in a condition that will not be damaged by changing the meter. If a water meter box or vault is flooded so that the meter is fully or partially submerged, the Installer must pump it out before changing the meter. Installer must ensure that the water service is not in any way contaminated, even intermittently, by standing water in the meter vault. All waste resulting from cleaning the meter box or vault must be disposed of properly by the Proposer.

The existing lid and ring, if replaced, shall be disposed of by the Proposer.

If grass or shrubbery is expected to impact the installation or may be damaged by the installation process, the Installer must notify the ACSD inspector. The Installer must return the property to the original condition to the satisfaction of the customer by replanting, resodding, reseeding or compensating customer. ACSD reserves the right to inspect any installation and

cleanup work within 7 days before payment is made to the Proposer. ACSD reserves the right to inspect any installation and cleanup work within 30 days after installation in response to customer complaints of damage. Proposer shall be responsible for claims resulting from damage caused by installation.

Service Line Damage

Proposer shall be responsible for repairing any water service lines it damages at its sole cost and expense, unless the Installation Manager has reported, prior to commencement of installation, a condition of antiquated or inferior plumbing to the ACSD's inspector or Project Manager and has been authorized to proceed with the work. In the event a service line fails during or after the authorized installation, Proposer's licensed plumber will oversee the repair work required to restore the water service line to working order. Proposer shall include in its proposal a schedule of compensation for service line repairs by foot of service line and size. The cost of this work will be reimbursed to the Proposer at the price set out in the schedule. This price will include site preparation, all labor, material, and permits as required. All work must comply with ACSD's standards for service repairs or replacement. All plumbing work other than the replacement of a water meter must be authorized by ACSD and inspected by an ACSD field inspector and payment will be subject to ACSD approval.

Any damage done by the Proposer outside the area and scope of the work of the contract shall be repaired or replaced at the Proposer's sole cost and expense.

Completed Work Orders

Completed work orders that involve meter change-outs or register replacements shall include: meter size and meter type, verification or correction of existing meter and account information, old meter serial number, final reading on old meter, new meter number (if applicable), new meter register number, new meter or register initial reading, premises identification number, MIU ID number, date and time of installation, name of installer, composition of water service line, inspection sign-offs and notice of any problems encountered or repairs made.

Completed work orders that involve only MIU installation shall include verification or correction of existing meter and account information, premises identification number, MIU ID number, reading from meter, date and time of installation, name of installer, inspection sign-offs and notice of any problems encountered or repairs made.

Quality Control

Proposer shall be responsible for replacing any meter, MIU, or appurtenances improperly set by its installer at no additional cost to the ACSD. Proposer shall correct any damage to couplings, threads, unions, or meters by use of improper tools or cross threading by an installer.

Proposer shall be responsible for correcting any leaks at the valves, couplings, or service lines that could reasonably be attributed to the meter installation if reported by ACSD or customers within 30 days of installation at no additional cost to ACSD.

Proposer shall describe its procedures and protocol for inspecting installations, including installation by new employees, recording, and reporting inspection findings, and remediating any issues discovered through inspections.

Installation Data Control and Audit Procedures

Proposer shall describe in detail its proposed system for ensuring that all data pertaining to installation are correctly recorded during installation, and that all data transferred to the ACSD Customer Information System (CIS) are accurate. Proposer shall describe procedures for eliminating any opportunities for a meter or MIU to be associated in the head-end computer, MDMS or the CIS with the wrong address or account number.

Project Management

Reports

Provide sample layouts of all anticipated reports for managing the project pertaining to schedule, budget, and performance requirements.

Project Goals and Milestones

The successful Proposer shall propose detailed goals and milestones for deliveries or accomplishments within the Project schedule established by ACSD, and subject to approval of ACSD.

Project Management Meetings

Contract Manager shall meet with ACSD personnel periodically and not less than monthly to update them on progress against the project schedule. Describe the proposed meeting plan including reporting requirements, expected participants, and expected topics of meetings.

Proposer's Project Manager and other personnel, as requested by ACSD, will meet with ACSD's Project Management staff not less than bi-weekly from the time of Notice to Proceed through the project closeout. Describe the proposed meeting plan including reporting requirements, expected participants, and expected topics of meetings.

Installation Management Meetings

Proposer Installation Manager and other personnel, as requested by ACSD, will meet with ACSD's Project Management staff not less than weekly from one month prior to the start of the procedural pilot through the Installation Period. Describe the proposed meeting plan including reporting requirements, expected participants, and expected topics of meetings.

Water Meters

ACSD expects the manufacturer of meters submitted as part of the proposal to submit its meters to a vigorous quality control and testing procedure before shipping. If any shipment of meters exceeds a 0.5% failure rate, or if a manufacturer's meters exceed a 0.35% failure rate in aggregate, ACSD reserves the right, in addition to any legal remedies, to default the contract for

a certain size meter or for all sizes of meters, and require the Proposer to obtain meters from another manufacturer.

Latest Models

Meters shall be new, of the latest production model, with the latest standard equipment and register firmware (if applicable), including items specified.

Applicable Documents

The following documents of the issue in effect on the date of this RFP, form a part of these requirements to the extent specified herein:

- American National Standards Institute (ANSI) B1.20.1 "Pipe Threads"
- ANSI B 16.1 "Cast Iron Flanges"
- AWWA C7xx series, as applicable

Unproven Design

Parts or components not proven in service for a period of two (2) years, and experimental or untried equipment, will be acceptable only with the identification of such parts and a written guarantee that such parts are totally replaceable by the meter vendor, including all labor incurred by ACSD, for a period of four (4) years from the date of purchase. ACSD requests that Proposers who wish to propose meters that are unproven and/or do not conform to existing AWWA standards clearly identify the proposal as an alternate to its primary proposal which incorporates proven, AWWA-compliant meters.

Lead in Meters

All meters must conform to NSF 61 standard.

Meter Serial Numbers and Labeling

The manufacturer's serial number shall be stamped on the main case of all meters and shall be clearly visible when viewed from above. The serial number shall consist of all numeric digits. All meters shall have stamped or cast on them the size and model. The direction of the flow through the meter shall be properly indicated. The serial number should also be provided on two bar code labels attached to the meter, one of which shall be removed for transfer to a paper record. ACSD prefers that the serial number include digits representing the year of manufacture.

If the serial number on the register and/or programmed into the register to be transmitted electronically can be distinct from the serial number on the meter body (even though it may be same when shipped as part of the meter), ACSD would prefer additional bar code labeling for the register. Indicate if this can be provided.

Parts

A complete parts catalog, and pricing sheets showing list prices and discounts from list, must be supplied with the proposal for all meter models incorporated in the proposal. For each item, the proposal must include the appropriate literature, data sheets, and specifications or direct

the reader to on-line reference. All parts or interchangeable equivalent parts should be readily available from the meter manufacturer for a period of twenty (20) years from the date of purchase. Indicate the manufacturer's policy for parts availability.

Shipping Container Marking

Individual containers (if applicable) shall be marked to identify contents and quantity. ACSD desires that this information also be in the form of bar codes for scanning. Meter shipments shall be accompanied by a computer file of the meter serial numbers for ACSD's database.

Technical Data

Proposer shall provide all manuals, diagrams, tolerance charts, exploded views with parts numbers, electronic diagrams, and any Safety Data Sheets (SDS) within thirty (30) days of the Notice to Proceed.

Tamper Resistance

Meter and register should be equipped with drilled holes for the installation of a security seal and wire to secure register, plumbing connections, bottom plate and cabling. Split case meters shall have 3/32" seal wire holes through two (2) aligned case bolts or one (1) 3/32" seal wire hole through both halves of case.

Strainers

All mechanical meters shall contain removable non-corrosive strainer screens.

External Case Bolts

All external case bolts, cap bolts, washers, and nuts shall be of sufficient strength for the purpose and must be of non-corrosive material designed for easy removal after long service.

Installation Supplies

Proposer must supply the necessary bolts, nuts, washers, and gaskets for all meters 1-1/2 through 12".

Updates

Manufacturer shall provide technical updates to ACSD and changes of technical information within thirty (30) days of publication.

New Design Approval

Proposer shall notify ACSD in advance of all changes in design or material for meters that have been selected and approved by ACSD and must submit these changes for ACSD approval prior to any shipments of meters involving these changes.

Interchangeability

All meters of the same size or capability shall be manufactured so as to permit complete interchangeability of all parts (e.g., discs, pistons, chamber tops, chamber bottoms, registers, etc.).

Factory Accuracy Tests

All meter accuracy tests shall be conducted in accordance with AWWA test methods and meter standards. The manufacturer shall furnish to ACSD an electronic copy of the test results for each meter shipped. Specific information contained within the test results shall include the manufacturer serial number, flow rates, results of each flow rate test, the size of the meters being tested, the model number, the date, and the tester. ACSD also desires the test results be provided on a tag attached to the meter. Vendor shall indicate if test results obtained through the use of any register other than the actual register shipped with the meter.

Lay Lengths

Fire protection meters, compound, and turbine meters should include an external strainer if replacing existing installation with an external strainer. Provide diagrams indicating the position of the strainer. Proposers having meters of a lesser lay length shall provide a steel spacer, no greater than four (4) inches long, or a flanged spool. Spools must be constructed of class 55 cement lined ductile iron pipe with welded or threaded on flanges, or cast bronze. Spools must be no shorter than four (4) inches face to face and guaranteed not to leak. Flanges shall be made of no less than 125-pound class material. Proposals shall include the cost of spacers or spools needed to meet the required laying length and any necessary bolts, nuts or other appurtenances.

Inspections

Equipment shall be subjected to inspection to ensure compliance with the specifications. Shipments of equipment shall be subject to sampling (according to ANSI/ASQ Z1.4) and testing for compliance with specifications. Shipments failing the sampling and testing protocol shall be rejected in their entirety and returned to the supplier. Any individual pieces of material which fail inspection shall also be rejected and returned to the supplier. All freight costs and any other costs incurred by the rejection will be borne by the supplier.

Testing by ACSD

Proposer shall provide an opportunity for ACSD to remove a sample of the meters from each shipment for its own testing. All meters tested will be tested as a unit (i.e. meter and any attached register or attached reading device). If any part or portion of a unit does not function properly the entire unit will be considered defective.

Rejection

Water meters that do not meet the requirements of this specification shall be rejected by ACSD, removed by the manufacturer at its own expense and replaced within the delivery date specified.

Meter Registers

Encoder

All meters shall be equipped with dial-position or electronic encoder registers that conform to the latest AWWA standards except as amended herein.

Manual Readability

The meter reading and other information must be readable without the need for any special equipment.

Cap

Meter registers should have a flip cap to prevent dirt from interfering with the visual inspection of the register, its ID number, its indicators, and other information.

Resolution

Indicate the number of transmitted digits. Registers shall be capable of reporting not less than 10 gallon [or 1 cubic foot] increments through the reading system. ACSD prefers 1 gallon [or 0.1 cubic foot] transmitted resolution for all meters less than 3.”

Leak Detector

The meter register shall have a visible leak detector.

Connectors

The register and wire connection shall be waterproof and corrosion proof. Meters shall be provided with waterproof connectors on a 5-foot three-conductor 18-gauge cable potted to the meter register. Longer cables up to 100 feet should be available on request for a separate charge.

Environmental Tolerance

Meter registers shall be sealed to withstand long-term and repeated submersion in water and wide variations in ambient temperature.

Tamper Resistance

The meter registers as well as the terminals or wire connections, must be tamper resistant. Indicate how this is accomplished.

ID Number

Each encoder register shall have a unique identification number with a minimum of 8 digits that will be transmitted electronically when the meter is interrogated. For new meters, this number shall be the same as the number stamped into the meter base. This register number shall also be visually readable on the register display or the cap. ACSD prefers that this number be permanently stamped into the cap. The register should be shipped with an attached bar code corresponding to the register number.

Registration Display

The register(s) on the meter shall be odometer-style or digital display, with at least six recording dial wheels or digits, the information from which is transmitted to the meter interface unit. Static or non-transmitting digits shall be a different color. A visual leak detector indicator shall be included on sizes 5/8" through 2" registers.

Register Battery

Indicate if meter uses a battery and whether or not battery can be changed to extend life of meter. Provide costs for this in the pricing proposal. If meter has a battery, indicate if low battery alarm can be transmitted through the MIU and how long is this alarm available before meter fails to fully function.

Interoperability

Proposer shall not restrict the information available from the meter/register/encoder. All information, including low battery alert, water temperature, leak or continuous flow, pressure, flow in excess of maximum, extended no usage, etc., that can be produced by the meter shall be made available to ACSD and any meter reading technology of its choosing. Proposer shall provide documentation of the data output of the meter (fields, codes, etc.) sufficient to enable a third party to interpret the output.

Small (3/4"-2") Meters

All meters shall conform to AWWA C700 or C 715 except as amended herein.

Metrology

ACSD prefers meters of either positive displacement or no moving part design. If proposing more than one type of meter, Proposer shall provide responses and prices for each type separately.

Longevity

Indicate expected life of the meter. Indicate if register can be replaced separately from measurement assembly. Indicate if meter uses a battery and whether or not battery can be changed to extend life of meter. Provide costs for this in the pricing proposal.

Pressure Loss

The maximum pressure loss at safe maximum operating capacity shall be 10 psi.

Meter Cases

All positive displacement meters shall have an outer case with a separate removable measuring chamber in which the disc or piston operates.

Pipe Connections

If a fully composite meter is proposed describe the approach to minimize the risk of cross threading.

Connections shall be meter casing spuds having external straight threads conforming to ANSI B1.20.1. Couplings shall conform to NSF 61 and ASTM B-62 specifications.

Compound Meters

Standard

All meters shall conform to the latest AWWA Standard C-702 for Cold Water Meters except as amended herein.

Meters – Interior Parts Removal

Meters shall be designed for easy removal of all interior parts without disturbing any connections to the pipeline.

Flanges

All meters shall be furnished with flanges on both ends. Flanges shall be of round type, faced and drilled, and shall conform to the American National Standards Institute case iron pipe flange, class 125, ANSI B 16.1 for diameter, drilling and thickness. All companion flanges shall be tapped American Standard internal taper pipe thread, ANSI B2.1.

Pressure

Meters shall be guaranteed to operate under a working pressure of 150 psi without leakage or damage to any part.

Strainers

Strainers shall be either an integral part of the meter or a separate flanged casting and shall be easily accessible for cleaning. Strainers shall be rigid, easily removed, and have an effective straining area at least double that of the main meter case inlet.

Turbine Meters

Standard

All meters shall conform to the latest AWWA Standards C-701 for Cold Water Turbine Type, except as amended herein. Indicate whether proposed meters are Class I or Class II.

Flanges

All meters shall be furnished with round flanges on both ends. Oval flanges shall be furnished on 2" meters.

Strainers

Strainers on 3" through 6" meters where required to replace an existing strainer shall be companion to meters and shall have all bronze cases, cover plates and screens. Strainers on 8" and 10" meters where required to replace an existing strainer shall be companion to meters and shall have cast iron (or bronze) cases and cover plates and bronze screens. Except for fire meters, the external strainer screen shall have a minimum net opening area of two (2) times the pipe diameter and shall be made of stainless steel. All strainers must provide a plug at the bottom area for the draining off of debris.

Warranty

The manufacturers shall guarantee the entire meter, including the register for a period of 15 years from the date of shipment against all defects in material and workmanship. Any other guarantee by the manufacturer shall be stated in its proposal.

Fire Flow Meters

Standards

All meters shall conform to the latest AWWA Standard C-703 for Cold Water Meters - Fire Service Type, except as amended herein. Fire Service meters and strainers shall have the Underwriter's Laboratories, Inc. (UL), and Factory Mutual (FM) approval for use on fire lines.

Flanges

All meters shall be furnished with round flanges at both ends. Companion flanges are not required.

Side Arm Meter

The side arm meter shall conform to the appropriate ACSD specification for that size.

Warranty

The manufacturer shall guarantee the entire meter, including the register, for a period of fifteen (15) years from the date of shipment against all defects in material and workmanship. Any other guarantee by the manufacturer shall be stated in its proposal.

Strainers

Fire service strainers where specified shall be companion to meters and shall have cast iron cases and cover plates and stainless-steel screens.

Optional Hosting and Managed Services

In lieu of acquiring, deploying, operating and maintaining certain AMI-related hardware and software at its own facilities, ACSD may choose to procure hosted services covering the AMI head-end system hardware and software; Meter Data Management System, including interfaces to its CIS and other key IT systems (GIS, work order); and Customer Portal.

Term

Hosting services fees would commence following the acceptance of the Pilot and continue for a minimum of five years from the date of System acceptance. ACSD may at its sole option extend the contract annually for up to 15 additional years based on the price schedule provided in response to this Request for Proposal for these services.

Data Centers and Communications

Proposer shall describe the proposed method of communications between ACSD workstations and Proposer's servers, including redundancy and security of those communications.

All data centers used to support ACSD's AMI system and data, including any disaster recovery data centers, shall be located in the United States.

Any third-party data centers used to support ACSD's system must comply with all of the requirements of this section. No third-party data centers shall be used without prior permission of ACSD.

Design Documents

Prior to the start of hosting service, Proposer shall submit interface and system design draft documents, as well as procedures for revising documents, in conformance with the requirements herein, for approval by ACSD. Documents shall cover access by ACSD and its customers, as well as proposed technical architecture, including servers, peripherals, communications devices, and the system that run on each, indicating which components would be dedicated to ACSD's project.

Proposer Responsibility

Proposer shall:

- Provide access by ACSD and its customers to ACSD's AMI generated data, system features and related applications.
- Configure and make available to ACSD production and test environments on virtual servers.
- Monitor and maintain the computing hardware required to run the applications.
- Acquire all licenses for third party products required to maintain the applications and ensure hardware and third-party software compatibility. Provide and maintain a secure file transfer (SFTP) site, which will be used to post system files and reports.
- Create or assist ACSD in creating customized reports, and application programming interfaces.
- Maintain version control for third party products. Maintain third party software on supported versions. Implement upgrades and patches as required in accordance with vendor recommended schedule.
- Monitor and ensure the integrity of the interfaces between the applications and ACSD's CIS. Provide ACSD with a draft test plan upon notification by ACSD of intended patches or upgrades to the CIS. Test all functionality when this software is patched or upgraded.
- Monitor access to hosted software by ACSD and its customers, and respond to and troubleshoot throughput and access issues identified by the system or user interface software, and by ACSD or its customers.
- Maintain data and data center security.
- Backup and archive ACSD system data and restore the system and data in the event of a system crash or failure by using system backups or a disaster recovery program.
- Monitor and report Key Performance Indicators (KPIs) as defined herein.

- Provide application development services, including creating or assisting ACSD in creating customized reports and application programming interfaces.
- Provide support as defined herein to transition the System to an ACSD defined location in the event the ACSD opts to cancel the managed services agreement.

Interfaces and File Transfer

In response to a “From Host” file from the CIS requesting readings for billing, the MDMS shall generate a “To Host” file containing the meter readings and other information as specified in the technical architecture and interface documents.

In response to a CSV, XML or comparable configuration document generated daily by ACSD’s CIS, the head-end system, MDMS and/or Customer Portal will synchronize endpoint and customer data and generate a confirmation report.

Proposer will deliver alert and tamper reports on a real-time continuous basis to an ACSD designated terminal or workstation.

Should Proposer’s software be used to accept or manage field work orders related to MIU and/or installation, Proposer shall generate a daily file of work order information to be uploaded to ACSD’s CIS and asset management systems, as defined in the technical architecture and interface documents.

Database Maintenance

Proposer shall:

- Run routine diagnostics for data corruption and abnormalities, rebuild indexes, and remove duplicate records.
- Run routine checks for security flaws and other issues that could compromise database integrity.
- Run compacting and defragmentation procedures and keep database statistics up to date.
- Monitor data and log file size to minimize response time to queries and file requests.
- Run these procedures on a schedule designed to minimize interference with user access.

System Availability

The head-end system and customer portal shall be available not less than 99.0% of the time, and the MDMS not less than 99.5% of the time, measured over any month, except for scheduled upgrades and preventative maintenance. Any downtime required to fix problems with the software or hosting servers and devices shall not be considered to be scheduled maintenance and shall count as downtime. Any planned maintenance of the system head-end shall occur after the utilities normal working hours “Available ” shall mean that all of ACSD’s users can gain access to and use all of the modules and applications they are authorized to use on the hosted site. The cost of providing this level of service shall be incorporated in the Price Proposal. Proposer may at its option provide additional prices reflecting other levels of availability.

In the event that there is downtime in excess of the allowed downtime, Proposer shall provide a credit to ACSD on an hour-for-hour basis against all of the monthly fees associated with the Software, Hosting and Support for the first ten (10) hours of downtime in the aggregate during the period at issue. For hours 10-20 aggregate hours of downtime, Proposer shall provide two hours of credit per hour of downtime. For any aggregate hours of downtime in a period in excess of 20 hours, Proposer shall provide a credit against all monthly fees on a three hours credit for each hour of downtime basis.

Credits shall be applied against the next invoice. In the event a service level default occurs after a party has given notice of termination, or ACSD has made final payment to Proposer for the managed services and no further invoices shall issue as a result, Proposer shall refund to ACSD the amount of the appropriate service level credit due for the period of Default.

These credits shall be considered to be liquidated damages and not a penalty. Proposer shall acknowledge that in the event of downtime in breach of the warranty, ACSD will incur damages that, while significant, may be difficult to prove with particularity. Proposer acknowledges that the liquidated damages set forth above have been negotiated at arms' length and reflect the parties' reasonable expectation of damages that ACSD will likely incur given the circumstances known to the parties at the time this agreement was executed.

Should system availability fall below 90% over a 90-consecutive day rolling period, or below 75% over a 30-day rolling period, Proposer will, if requested, provide ACSD support as needed to transition the System to a ACSD defined location at no cost to ACSD.

Security

Describe the data center physical security provisions.

Describe the firewall and application-level security proposed.

Proposer shall supply with its proposal its current Statement on Standards for Attestation Engagements (SSAE) No. 16 or the equivalent.

Response Times

During normal business hours (defined as Monday through Friday 08:00 am – 5:00 pm, response time shall be within one hour of ACSD reporting an inability to use the system.

Outside of normal business hours, response time shall be within four hours of ACSD reporting an inability to use the system.

Problem Analysis and Resolution

Proposer shall propose procedures to report on and deal with problem analysis and resolution based on extent and criticality of the problem using a systematic problem diagnosis and decision-making model or procedure, including root cause analysis, in accordance with Section 0. Problem resolution shall include immediate corrective measures and where appropriate, root cause analysis and long-term preventive measures to prevent reoccurrence. An interruption in services will be the highest priority.

ACSD will provide reasonable resources to assist Proposer in problem analysis.

Initial problem will be reported to ACSD's designated AMI system manager. Findings will be shared with ACSD.

Scale

Initially, the system shall support 200 metered accounts and shall be scalable to at least 250.

The system should support simultaneous access by a minimum of 20 ACSD users.

Indicate the number of customers the Customer Web Portal can support simultaneously.

Backup and Disaster Recovery

ACSD desires that Proposer maintain dual data centers so that one center shall provide secure backup for the other. Indicate the frequency at which ACSD data will be synchronized to a disaster recovery database.

The recovery time requirement in the event of a system or database failures shall be 4 hours.

The recovery point requirement in the event of system or database failure shall not be more than 2 hours.

On a not less than daily basis, Proposer shall backup system and ACSD data to tape or other mass storage device.

On a not less than weekly basis, Proposer shall backup system and ACSD data to a secure off-site facility.

Proposer will schedule and perform a disaster recovery test not less than annually to ensure continuity of the disaster recovery process and report the results to ACSD.

Reports

Proposer shall generate reports of any software patches or upgrades or updated anti-virus releases.

Proposer shall provide email notification to a list of staff provided by ACSD when reports are posted to the site.

Key Performance Indicators

Proposer will provide a monthly report of the following key performance indicators for each of the software components:

- System availability as percentage of uptime
- System uptime as well as software component uptime

Opt-Out Provisions

Should ACSD decide to transition the system to a ACSD-defined location by canceling the hosted services arrangement, Proposer will develop a Scope of Work that includes the activities to support the Opt-Out transition ("Opt-Out for Convenience"). ACSD will be responsible to secure all server hardware and third-party software required to implement the system software at an ACSD-defined location.

Proposer shall:

- Assign a Project Manager, a Business Consultant, and a Technical Consultant for up to three months as outlined in the project plan at normal professional service rates assigned to those persons.
- Modify system design documents and processes and procedures documents, including test plans, to reflect the architectural and dataflow changes and include server hardware and third-party software requirements.
- Create a data migration plan to ensure the integrity of historical data.
- Install and configure the head-end, MDMS and customer portal software at the ACSD-defined location.
- Redirect communications of the Collectors to ACSD's head-end system.
- Train ACSD staff on proper system operations and maintenance.
 - MDMS management for a minimum of X ACSD employees or agents.
 - System software, hardware, configuration, and all technical equipment maintenance for a minimum of X ACSD employees or agents.
- Provide ACSD with the System Acceptance documentation transferring operational and maintenance responsibilities.

Optional Network and System Monitoring and Management Services

In the case of an ACSD-dedicated network, ACSD may choose to procure AMI network monitoring and management services. Proposer would monitor read success rates and overall endpoint performance, monitor, and maintain the network, including devices and communications backhaul, and deliver event, alarm, and performance reports.

Term

Network and system monitoring and management services, if elected, would commence following the acceptance of the Pilot and continue for a minimum of two years from the date of System acceptance. ACSD may at its sole option extend the contract annually for up to 18 additional years based on the price schedule provided as part of the Price Proposal

Proposer Responsibility

Proposer shall:

- Monitor network devices (data collectors and repeaters), and their backhaul communications (in terms both of contractual and operational performance), as well as monitor for interference or poor signal to noise ratios on any licensed frequencies involved in AMI system communications, on a 24 hour x 365 day basis.

- For an ACSD-dedicated network, manage the contract with the backhaul communications provider(s) to secure the lowest possible backhaul cost while meeting the system performance requirements.
- Investigate any unplanned network or communications outages, anomalies, or performance problems, including office-based troubleshooting and investigations of suspect components, and create work requests for field repairs. Proposer shall coordinate directly with backhaul communications supplier to resolve communications and performance problems. Proposer shall initiate trouble tickets with the responsible service provider and monitor the status until resolution.
- Share with ACSD reports on any problems, including analyses, findings, and resolution.
- Provide preventive and corrective maintenance for all network devices, including hardware and software.
- Deliver event and alarm reports to the appropriate ACSD department or resource.
- Monitor overall endpoint performance communication success rates
- Monitor, manage and recommend changes as necessary for data collector communications schedules to ensure optimal system performance.
- Maintain an adequate quantity of spare network components in close proximity to ACSD's system to ensure rapid response to network problems or outages.
- Plan for and modify the network (such as adding data collectors) to maintain the system performance requirements, following change management procedures to ensure that modifications to the network are authorized, tested, and approved by ACSD, properly implemented and documented.

Staffing

ACSD-dedicated network infrastructure on-site maintenance shall be provided by Proposer's local technicians or authorized subcontractors that will be dispatched by Proposer.

Network Component Firmware and Software Updates

Proposer shall notify ACSD prior to and following any updates. Proposer shall be responsible for applying network component firmware and software updates to the equipment in ACSD's system.

Response Times

During normal business hours (as defined in Section 0), response time shall be within one hour of ACSD reporting an inability to use the system.

Outside of normal business hours, response time shall be within four hours of ACSD reporting an inability to use the system.

Exceptions to off hours support will be when conditions warrant a safety concern or a data collector or other network component site is not physically accessible.

Key Performance Indicators

Proposer will provide an annual report of the following key performance indicators the network as a whole, network devices, and endpoints:

- System uptime
- Collector Availability as percentage of Uptime
- Backhaul communications performance, including speeds, modem resets, etc.
- Billing read (72 hour), daily read, and hourly interval read performance reports
- Redundancy report: the number of endpoint transmissions received by 1, 2, 3 or more data collection devices

Opt-Out Provisions

In the case of a ACSD-dedicated network, should ACSD decide to terminate the monitoring and management services, Proposer will develop a scope of work that includes the activities to support the opt-out transition (“Opt-Out for Convenience”). ACSD will be responsible to secure all server hardware and third-party software required to manage and monitor the network at an ACSD-defined location.

Proposer shall:

- Assign a Project Manager, a Business Consultant, and a Technical Consultant for one month as outlined in the project plan at normal professional service rates assigned to those persons.
- Modify system design documents and processes and procedures documents, including test plans, to reflect the architectural and dataflow changes and include server hardware and third-party software requirements.
- Train a minimum of X ACSD employees or agents in network component and endpoint monitoring functions, including office-based measures to correct problems.

ATTACHMENT 3. Worker's Compensation Insurance

As required by the California Labor Code, Sections 1860 and 1861:

I am aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

Name of Proposer (Person, Firm, or Corporation)

Signature of Proposer's Authorized Representative

Name and Title of Authorized Representative

Date of Signing

ATTACHMENT 4. Bonding, Insurance and Prevailing Wage Requirements

The successful proposer (“Contractor”) shall be responsible for comply with all of the following requirements upon contract award by the District. The following provisions shall each be incorporated verbatim into the Contract between District and the Contractor.

I. Bonding

Contractor shall deliver to the District four identical counterparts of a Performance Bond and a Payment Bond in the form supplied by the ACSD. Failure to do so may shall constitute a material breach of the Contract by Contractor. The surety supplying the bond must be an admitted surety insurer, as defined in Code of Civil Procedure Section 995.120, authorized to do business as such in the State of California and satisfactory to the District. The Performance Bond and the Payment Bond shall be for one hundred percent (100%) of the total value of the Project.

II. Insurance Requirements

The Contractor shall obtain, and at all times during performance of the work of this Contract, maintain all of the insurance described herein. Contractor shall not commence work under this Contract until it has provided evidence satisfactory to the District that it has secured all insurance required hereunder. Contractor shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the District that the subcontractor has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the District to terminate this Contract for cause. Contractor shall furnish District with original certificates of insurance and endorsements effective coverage required by this Contract on forms satisfactory to the District. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf and shall be on forms acceptable to the District. All certificates and endorsements must be received and approved by the District before work commences.

- a. **Workers’ Compensation Insurance.** The Contractor shall provide workers’ compensation insurance for all of the employees engaged in work under this Contract, on or at the Site, and, in case of any sublet work, the Contractor shall require the subcontractor similarly to provide workers’ compensation insurance for all the latter’s employees as prescribed by State law. Any class of employee or employees not covered by a subcontractor’s insurance shall be covered by the Contractor’s insurance. In case any class of employees engaged in work under this Contract, on or at the Site, is not protected under the Workers’ Compensation Statutes, the Contractor shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected. The Contractor is required to secure payment of

compensation to his employees in accordance with the provisions of section 3700 of the Labor Code. The Contractor shall file with the District certificates of his insurance coverage shall be acceptable to the District, if in the form and coverage as set forth in the Contract Documents.

- b. **Employer's Liability Insurance.** Contractor shall provide Employer's Liability Insurance, including Occupational Disease, in the amount of at least one million dollars (\$1,000,000.00) per person per accident. Contractor shall provide District with a certificate of Employer's Liability Insurance. Such insurance shall comply with the provisions of the Contract Documents. The policy shall be endorsed, if applicable, to provide a Borrowed Servant/Alternate Employer Endorsement and contain a Waiver of Subrogation in favor of the District.
- c. **Commercial General Liability Insurance.** Contractor shall provide "occurrence" form Commercial General Liability insurance coverage at least as broad as the most current ISO CGL Form 00 01, including but not limited to, premises liability, contractual liability, products/completed operations, personal and advertising injury which may arise from or out of Contractor's operations, use, and management of the Site, or the performance of its obligations hereunder. The policy shall not contain any exclusion contrary to this Contract including but not limited to endorsements or provisions limiting coverage for (1) contractual liability (including but not limited to ISO CG 24 26 or 21 39); or (2) cross-liability for claims or suits against one insured against another. Policy limits shall not be less than \$1,000,000 per occurrence for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Defense costs shall be paid in addition to the limits.
 - i. Such policy shall comply with all the requirements of this Article. The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Contractor from liability in excess of such coverage, nor shall it limit Contractor's indemnification obligations to the District, and shall not preclude the District from taking such other actions available to the District under other provisions of the Contract Documents or law.
 - ii. All general liability policies provided pursuant to the provisions of this Article shall comply with the provisions of the Contract Documents.
 - iii. All general liability policies shall be written to apply to all bodily injury, including death, property damage, personal injury, owned and non-owned equipment, blanket contractual liability, completed operations liability, explosion, collapse, under-ground excavation, removal of lateral support, and other covered loss, however occasioned, occurring during the policy term, and shall specifically insure the performance by Contractor of that part of the indemnification contained in

these General Conditions relating to liability for injury to or death of persons and damage to property.

- iv. If the coverage contains one or more aggregate limits, a minimum of 50% of any such aggregate limit must remain available at all times; if over 50% of any aggregate limit has been paid or reserved, the District may require additional coverage to be purchased by Contractor to restore the required limits. Contractor may combine primary, umbrella, and as broad as possible excess liability coverage to achieve the total limits indicated above. Any umbrella or excess liability policy shall include the additional insured endorsement described in the Contract Documents.
 - v. All policies of general liability insurance shall permit and Contractor does hereby waive any right of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss.
- d. **Automobile Liability Insurance.** Contractor shall provide “occurrence” form Automobile Liability Insurance at least as broad as ISO CA 00 01 (Any Auto) in the amount of, at least, one million dollars (\$1,000,000) per accident for bodily injury and property damage. Such insurance shall provide coverage with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by Contractor or for which Contractor is responsible, in a form and with insurance companies acceptable to the District. All policies of automobile insurance shall permit and Contractor does hereby waive any right of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss.
- e. **Builder’s Risk [“All Risk”]**
- i. It is the Contractor’s responsibility to maintain or cause to be maintained Builder’s Risk [“All Risk”] extended coverage insurance on all work, material, equipment, appliances, tools, and structures that are or will become part of the work and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The District accepts no responsibility for the work until the work is formally accepted by the District. The Contractor shall provide a certificate evidencing this coverage before commencing performance of the work.
 - ii. The named insureds shall be Contractor, all subcontractors of any tier (excluding those solely responsible for design work), suppliers, and District, its officials, officers, employees, agents and authorized volunteers, as their interests may appear. Contractor shall not be required to maintain property insurance for any portion of the work following acceptance by District.
 - iii. The policy shall be provided for replacement value on an “all risk” basis. There shall be no coinsurance penalty provision in any such policy. Policy must include:

(1) coverage for any ensuing loss from faulty workmanship, nonconforming work, omission or deficiency in design or specifications; (2) coverage against machinery accidents and operational testing; (3) coverage for removal of debris, and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all other properties constituting a part of the Project; (4) transit coverage, including ocean marine coverage (unless insured by the supplier), with sub-limits sufficient to insure the full replacement value of any key equipment item; and (5) coverage with sub-limits sufficient to insure the full replacement value of any property or equipment stored either on or off the Site. Such insurance shall be on a form acceptable to District to ensure adequacy and sublimit.

- iv. In addition, the policy shall meet the following requirements:
- 1) Insurance policies shall be so conditioned as to cover the performance of any extra work performed under the Contract.
 - 2) Coverage shall include all materials stored on site and in transit.
 - 3) Coverage shall include Contractor's tools and equipment.
 - 4) Insurance shall include boiler, machinery and material hoist coverage.
- f. **Professional Liability Insurance.** At all times during the performance of the work under the Contract the Contractor shall maintain professional liability or Errors and Omissions insurance appropriate to its profession, in a form and with insurance companies acceptable to the District and with limits of two million dollars (\$2,000,000) per claim and aggregate. This insurance shall be written on a policy form coverage specifically designed to protect against acts, errors or omissions of the Contractor. "Covered Professional Services" as designated in the policy must specifically include work performed under this Agreement. The policy must "pay on behalf of" the insured and must include a provision establishing the insurer's duty to defend.
- g. **Subcontractors Requirement.** Contractor shall require all tiers of sub-contractors working under this Contract to provide the insurance required herein unless otherwise agreed to in writing by District. Contractor shall make certain that any and all subcontractors hired by Contractor are insured in accordance with this Contract. If any subcontractor's coverage does not comply with the foregoing provisions, Contractor shall indemnify and hold the District harmless from any damage, loss, cost, or expense, including attorneys' fees, incurred by the District as a result thereof.

Form and Proof of Carriage of Insurance

- h. The District, its officials, officers, employees, agents and authorized volunteers shall be named as Additional Insureds on Contractor's All Risk policy and on Contractor's and its subcontractors' policies of Commercial General Liability and Automobile Liability insurance using, for Contractor's policy/ies of Commercial General Liability insurance, ISO CG forms 20 10 and 20 37 (or endorsements providing the exact same coverage, including

completed operations), and, for subcontractors' policies of Commercial General Liability insurance, ISO CG form 20 38 (or endorsements providing the exact same coverage). Notwithstanding the minimum limits set forth in this Contract for any type of insurance coverage, all available insurance proceeds in excess of the specified minimum limits of coverage shall be available to the parties required to be named as Additional Insureds hereunder. Contractor and its insurance carriers shall provide a Waiver of Subrogation in favor of those parties.

- i. Any insurance carrier providing insurance coverage required by the Contract Documents shall be admitted to and authorized to do business in the State of California unless waived, in writing, by the District's Risk Manager. Carrier(s) shall have an A.M. Best rating of not less than an A:VII. Insurance deductibles or self-insured retentions must be declared by the Contractor. At the election of the District, the Contractor shall either 1) reduce or eliminate such deductibles or self-insured retentions, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses. If umbrella or excess liability coverage is used to meet any required limit(s) specified herein, the Contractor shall provide a "follow form" endorsement satisfactory to the District indicating that such coverage is subject to the same terms and conditions as the underlying liability policy.
- j. Each insurance policy required by this Contract shall be endorsed to state that: (1) coverage shall not be suspended, voided, reduced or cancelled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the District; and (2) any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the District its directors, officials, officers, employees, agents and volunteers.
- k. The Certificates(s) and policies of insurance shall contain or shall be endorsed to contain the covenant of the insurance carrier(s) that it shall provide no less than thirty (30) days written notice be given to the District prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, the District may terminate the Contract or stop the work in accordance with the Contract Documents, unless the District receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverage's set forth herein and the insurance required herein is in full force and effect. Contractor shall not take possession, or use the Site, or commence operations under this Contract until the District has been furnished original Certificate(s) of Insurance and certified original copies of endorsements or policies of insurance including all endorsements and any and all other attachments as required in this section. The original endorsements for each policy and the Certificate of Insurance shall be signed by an individual authorized by the insurance carrier to do so on its behalf.

- l. The Certificate(s) of Insurance, policies and endorsements shall so covenant and shall be construed as primary, and the District's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.
- m. The District reserves the right to adjust the monetary limits of insurance coverages during the term of this Contract including any extension thereof if in the District's reasonable judgment, the amount or type of insurance carried by the Contractor becomes inadequate.
- n. Contractor shall report to the District, in addition to Contractor's insurer, any and all insurance claims submitted by the Contractor in connection with the work under this Contract.

Insurance Filing Guidelines

Complying with these insurance filing guidelines will help meet the District's requirements more efficiently:

General Filing Guidelines-

- All endorsements must contain the policy number and an authorized signature.
- The additional insured endorsement cannot be blanket in nature and must specifically name the District, its directors and officers, employees, and agents or representatives.
- The primary/noncontributory language cannot be blanket in nature and must specifically name the District, et al.
- The waiver of subrogation cannot be blanket in nature and must specifically be in favor of the District, its directors and officers, employees, and agents or representatives.

For General Liability Insurance -

- Policy must include an endorsement for a cancellation clause providing that coverage will not be cancelled except after 30 days prior written notice to the District.
- Policy must include an endorsement containing primary/noncontributory language.

For Automobile Insurance -

- Policy must include an endorsement for a cancellation clause providing that coverage will not be cancelled except after 30 days prior written notice to the District.

For Builder's Risk –

- Policy must include District as a named insured or loss payee.

For Workers' Compensation Insurance -

- Waiver of Subrogation is blanket in nature and must specifically be in favor of the District, et al.
- Policy must include an endorsement for a cancellation clause providing that coverage will not be cancelled except after 30 days prior written notice to the District.

III. Indemnification

Contractor shall defend, indemnify, and hold harmless the District, and its officers, agents and employees against claims arising out of, pertaining to, or relating to negligence, recklessness or willful misconduct of the Contractor, the Contractor's officers, employees, or Consultants in performing or failing to perform any work, services, or functions provided for, referred to, or in any way connected with any work, services, or functions to be performed under this Agreement, except to the extent such claims are due to the active negligence or willful misconduct of the District or its officers, agents or employees. For purposes of this section only, "claims" means any and all claims, demands, actions and suits brought by a party other than the District for any and all losses, liabilities, costs, expenses, damages and obligations, and the defense obligation shall include but not be limited to payment of the District's attorneys' fees, experts' fees, and litigation costs incurred in defense of a claim. This indemnification shall be in addition to the other indemnification provisions contained in the Contract Documents. The only limitations on this provision shall be those imposed by Civil Code Sections 2782 and 2782.8.

Contractor will indemnify, hold harmless, release and defend District from and against any and all claims arising from an allegation, charge, assertion or accusation by a third party that Contractor and/or District has violated California Government Code Section 1090 or any other conflict-of-interest law in the procurement, execution or performance of this Contract. This indemnification obligation will continue to bind Contractor after the termination or expiration of this Contract.

IV. California Prevailing Wage Laws

The Contractor is hereby alerted to the prevailing wage requirements of California Labor Code sections 1720 et seq., which requires payment of prevailing wages in effect at the time the Agreement is signed. The Director of Industrial Relations has determined the

general prevailing rate of per diem wages in the locality in which this work is to be performed, copies of which are on file and will be made available to any interested party upon request at the office of the District or online at <http://www.dir.ca.gov/dlsr>. Contractor shall post these rates at the job site. Contractor shall comply with all applicable Labor Code provisions. The Contractor and each subcontractor shall forfeit as a penalty to the District not more than two hundred dollars (\$200.00) for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing wage rate for any work done by him, or by any subcontract under him, in violation of the provisions of the Labor Code. The difference between such stipulated prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor.

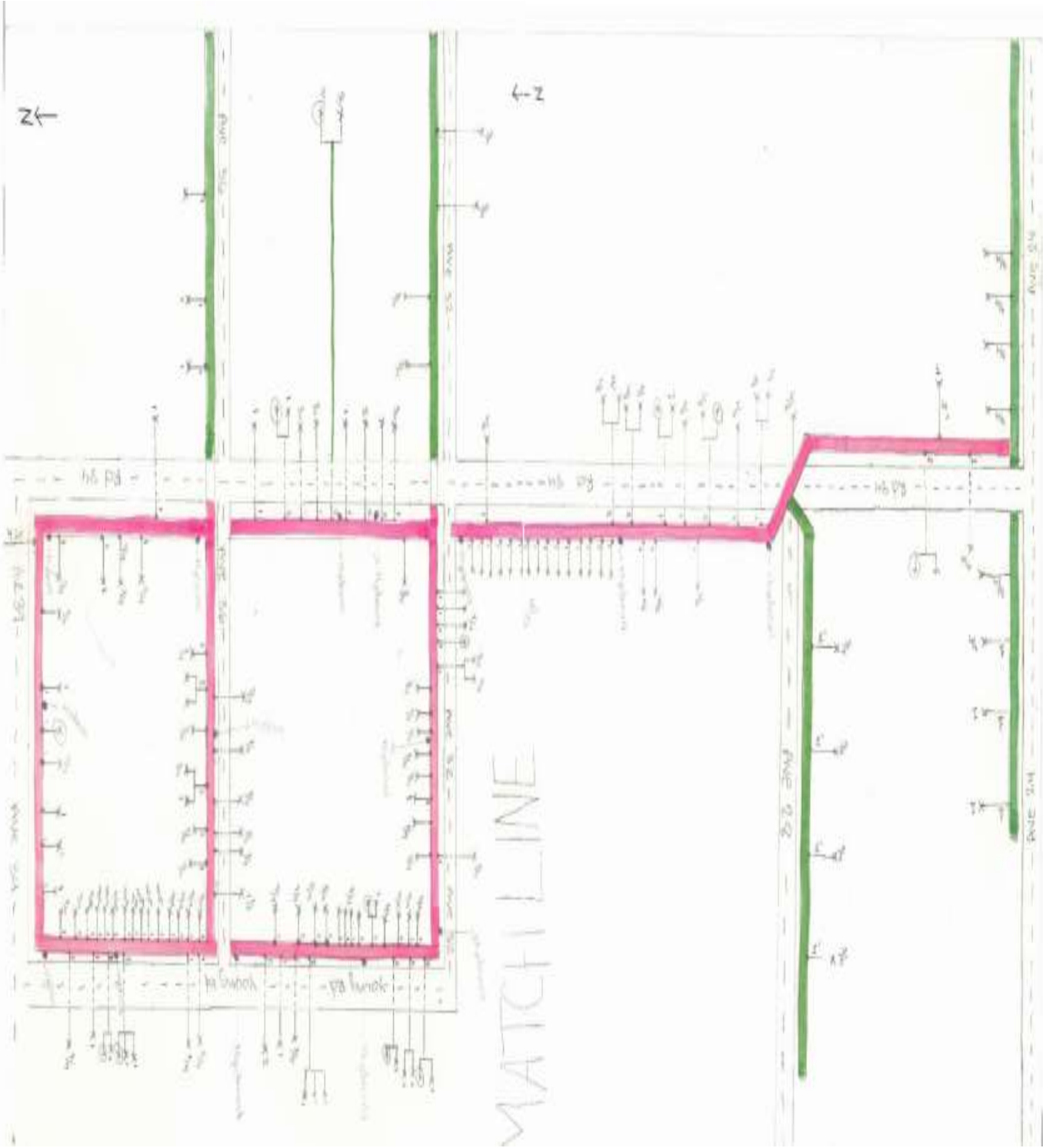
Eight (8) hours of work shall constitute a legal day's work. The Contractor and each subcontractor shall forfeit, as penalty to the District, twenty-five dollars (\$25) for each worker employed in the execution of work by the Contractor or any subcontractor for each day during which such worker is required or permitted to work more than eight (8) hours in any one day and forty (40) hours in any week in violation of the provisions of the Labor Code, and in particular, Section 1810 to Section 1815, except as provided in Labor Code Section 1815. work shall be accomplished on a regularly scheduled eight (8) hour per day work shift basis, Monday through Friday, between the hours of 7:00 a.m. and 5:00 p.m.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations in accordance with the provisions of Sections 1725.5, 1771.1, 1771.3, 1771.4, 1771.5, and 1771.7 of the Labor Code. This requirement applies regardless of whether the project will use State funds. Pursuant to Labor Code section 1771.1, a contractor or subcontractor shall not be qualified to bid on, be listed in a proposal (subject to the requirements of Section 4104 of the Public Contract Code), or engage in the performance of any contract for public work, as defined by Division 2, Part 7, Chapter 1 (§§1720 et seq.) of the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code. Contractor shall post all required job site notices pursuant to the Labor Code and related regulations.

For all projects, whether new or ongoing, the Contractor shall submit records, including those specified in Labor Code section 1776, to the Labor Commissioner as required by Sections 1771.4(a)(3), 1771.4(c)(2), and 1776 of the Labor Code. The District may withhold \$100 for each calendar day after ten days from the prime contractor's receipt of a request to produce payroll records (as described in Labor Code §1776(a)) that the contractor fails to produce such records.

Contractor shall indemnify, defend and hold harmless the District against any and all claims, demands, damages, defense costs or liabilities based on failure to adhere to the above referenced statutes.

ATTACHMENT 5. ACSD Meter Locations



Allensworth Community Service District Water System Map



Legend

- ACSD Boundary
- Fire Hydrant
- Water Well Locations
- ACSD Office, Booster Pump Station, and Storage Tank Location
- Water Meter

Pipelines

- 2' Main
- 4' Main
- 6' Main

Allensworth Community Service District
3000 N. St. Central, CA 93221

ATTACHMENT 6. ACSD Community Outreach Pamphlet re this Project.

Both English and Spanish Versions mailed out May 28, 2020

– only English version is provided on <https://therenewablesRFP.com>

ATTACHMENT 7. Photos of ACSD Water Meters.

Available at <https://therenewablesRFP.com>