***ConnectH2O* Program**

**Statement of Work and Specifications**

**for**

**Meter and Endpoint Installation Services**

**September 22, 2023**

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# 1 Project Description and Definitions

# Company Background

San Antonio Water System (“SAWS”) is a municipally owned water and wastewater utility. SAWS provides water service to residential, commercial, multifamily, industrial and wholesale customers in the greater San Antonio area and surrounding municipalities. SAWS’ mission is to provide “Sustainable, Affordable, Water Services” to all its customers. The following are local statistics and background:

* SAWS provides water and sewer service to over 2 million people in San Antonio and surrounding areas.
* Municipal Land area - 486 square miles
* Water Utility service area - 941 square miles
* SAWS has approximately 582,000 meters
* SAWS is currently experiencing annual Meter growth of approximately 2 percent (2%) per year.

The complete management and control of SAWS has been vested in the SAWS Board of Trustees. The Board meets once a month and consists of the Mayor of San Antonio and six Trustees who are residents of the City of San Antonio or reside within the area serviced by SAWS. In addition, the San Antonio City Council approves changes to SAWS rates and any debt issued by SAWS. The general operations of SAWS are under the supervision of the President/ Chief Executive Officer who is employed by the Board.

SAWS’ call center, billing, meter reading, collection services, conservation, and water resources are centralized within the organization. SAWS also provides associated information technology services and manages a manual water meter reading contractor for parts of the service area. Nearly all meter registers are in cubic feet and customers are billed in hundreds of gallons.

# SAWS ConnectH2O Background

AMI Overview:

SAWS selected and implemented the Itron AMI technology solution; formerly known as the Silver Spring Networks (SSN) solution. The canopy Radio Frequency (RF) network for this technology is a combination of AMI equipped electric Meters, Access Points (APs) and Relays; all of which are owned and maintained by the City of San Antonio’s sister utility, CPS Energy, with support from Itron.

Underneath this network, SAWS is installing static water Meters and Itron 500W AMI communications Endpoints.

SAWS has selected the Diehl Hydrus, Models 1.3 & 2.0, ultrasonic water meter, as its preferred technology for Meter sizes 5/8 inch through two (2) inch. The 500W AMI Endpoints communicate with the neighboring electric Meters or Relays, and the data is transmitted and transacted through the Itron RF Network to the AMI Head End System (SSN Utility IQ) and is subsequently provided to SAWS via the Itron Temetra application and file transfer mechanisms.

SAWS is also implementing a combination of ultrasonic and magnetic water Meter technologies for its size three (3) inch to ten (10) inch single and compound water Meters. Eventually, SAWS expects the vast majority of these large Meters to be replaced, but also reserves the option to potentially retrofit, mainly with its own personnel, a yet-to-be-determined number of these Meters. The installation of these Meters is not in scope of this solicitation

Endpoint Installation Services:

It is important to note that the AMI solution is fully deployed and operational. The existing AMI solution allows for the installation of static water Meters and Itron 500W communications Endpoints in virtually any part of the SAWS’ service territory, with few constraints. This allows flexibility to deploy Meters and Endpoints in a thoughtful and structured way that meets SAWS’ business and operating goals. After the Meter is exchanged, the meter is connected to the Endpoint and then the Endpoint is attached to a stake inside the meter box. The RF signal does not generally require a pit lid antenna to reach the AMI network. The installation does not require validation that the Endpoint has connected to the AMI network.

# Intent of Specifications Document

As of August 31st, SAWS has installed over AMI 60,000 Meters and Endpoints. SAWS’ goal is to complete all installations by the end of 2026.

SAWS is issuing two separate Requests for Competitive Sealed Proposals (RFCSP) for installation services. Each RFCSP anticipates the installation of up to 160,000 Meters and Endpoints between January 1, 2024 and December 2026. SAWS anticipates awarding the contracts for an initial period of one year with 2 one-year extensions.

The Vendor(s) selected by this procurement process shall work with SAWS’ crews in the field utilizing the SAWS Project Management Office (“PMO”), Work Management Application (“WMA”), material warehouses and customer communications platforms. Vendor’s scope includes Meter and Endpoint installation, other work identified during the installation (such as curb-stop replacement, yoke/riser installation), and post-installation inspections and follow-up.

It is anticipated that over 150 SAWS and Vendor installers, project manager and quality control personnel shall be involved in the program at peak deployment.

# Definitions

The following capitalized terms have the meanings assigned below when used in the Contract, including this Statement of Work and Specifications):

“AMI” is the term for Advanced Metering Infrastructure.

“Meter” is defined as a device installed to provide the consumption of water at a given location.

“Endpoint” is the term for an AMI Radio Frequency (RF) communications module that attaches to a Meter.

“Exception State” defines a Meter and Endpoint Installation that cannot be completed on the first installation attempt by an installer and is therefore identified as being in a non-completed state in the Application.

“Full System Wide Deployment” or “FSWD” is the period during which all Meter and Endpoint Installations are completed. SAWS is currently in this period.

“Other Equipment” includes items such as curb stop valves, yokes/risers, and Meter boxes.

“Register” is the device installed on a Meter that displays consumption at a given location.

“Installation Error” means an installation that does not meet SAWS’ quality standard. This includes, but is not limited to, installations where the incorrect meter size or lay length was installed; where a meter was installed backwards; where the serial number of the Meter and Endpoint installed does not match the information provided by Vendor to the SAWS information systems; where the installation results in a leak at the Meter, Meter connections or customer service line; or an installation that results in the damage of a customer’s property, meter box or service line.

“MDMS” is the Compass Meter Data Management System, a software-as-a-service provided by Harris/SmartWorks that facilitates management of metering data.

“RTU” (aka “Return to Utility”) means a Meter and Endpoint Installation that is returned to SAWS in accordance with Vendor installation workflows that are initially mutually agreed to by both SAWS and Vendor and as be subsequently altered by mutual agreement.

“Route Saturation” is defined as the completion of a prescribed percentage of all assigned Meter and Endpoint Installations in a specific route prior to SAWS releasing additional routes to Vendor.

“WMA” is referred to as the Work Management Application provided by the SAWS to manage inventory and track all Meter and Endpoint installations.

“PMO” refers to the SAWS Project Management Office or the team with overall project responsibility.

“Deployment Plan” is the plan managed by the PMO which outlines the weekly Meter and Endpoint installations for the program.

“Project Team” is Vendor employees assigned to the SAWS project.

# 2 Functional and Technical Specifications

# Project Management Services

* + 1. **General Responsibilities**. Vendor shall be responsible for the installation of Meters and Endpoints in routes supplied by SAWS in accordance with established procedures and the agreed upon the Deployment Plan.
    2. **Project Management**. Vendor shall provide project management for delivery of all aspects of its services throughout the project beginning with contract signature, continuing through planning and execution, and ending with final route completion and project closure.

Vendor’s Project Team responsibilities include the following:

* + - 1. Participating in project planning activities.
      2. Organizing regular progress meetings, to be held no less than weekly.
      3. Coordinating its project activities with SAWS and all other parties associated with deploying the AMI system.
      4. Providing written status reporting of project progress against the Project Plan, no less than weekly.
      5. Identifying areas of risk and alerting the PMO of measures taken to mitigate these risks.
      6. Hiring and training its supervisory and installation team.
      7. Managing and running installer training and safety programs in collaboration with SAWS.
      8. Assuring that all employees meet the qualifications and requirements contained in this SOW.
      9. Ensuring that all activities are conducted in full compliance with EPA, TCEQ and OSHA regulations.
      10. Complying with all local, state, federal laws and regulations in accordance with the terms of the Contract.
      11. Managing and supervising field deployment activities and field personnel.
      12. Managing to the SAWS Quality Management/Quality Audit program.
      13. Managing to the Key Performance Indicators (KPIs) and metrics for tracking its work performed under this SOW.
    1. **Project Team**. Vendor shall provide a full-time, on-site Project Team to manage and execute all facets of this SOW. This team shall be assembled upon contract signature and shall remain in effect through Vendor’s completion of the work.
       1. SAWS reserves the right to interview and approve (such approval not to be unreasonably withheld, conditioned or delayed) key members of the Project Team, including the Field Project Manager, prior to assignment by Vendor. If Vendor project team makeup changes, Vendor shall provide advance notification to SAWS of such changes.
    2. **Pre-Deployment Activities**. Vendor shall participate in pre-deployment workshops and planning activities as needed to establish the business processes, operating process and other necessary preparation as is required to execute Vendor’s services as defined in this SOW. Such activities shall include but may not be limited to the following.
       1. Workflow process development and review
       2. Communication plan development and review
       3. Uniform and identification guidelines review
       4. Safety, PPE and tool review
       5. Development and review of all installation processes
       6. Claims administration and process review
       7. Project reporting, definition and tracking requirements
       8. Utilizing of SAWS warehousing and facilities
       9. Return of Meters and other items for scrapping
    3. **Key Performance Indicators (KPIs) and Metrics Reporting**: Vendor shall implement mutually agreed to KPIs and reporting of industry standard metrics typically used to keep its work on track, and to manage and maintain productivity and quality throughout its performance of the work.
    4. **Installation Targets.** Vendor shall, subject to the terms of the Contract, commit to monthly and cumulative installation targets.
       1. Vendor shall report, on a weekly basis, the actual installation percentage completion to date relative to the targeted installation percentage completion to date.
       2. In the event that a schedule is delayed by Vendor, Vendor shall put together a corrective action plan to bring the schedule into compliance with the Deployment Plan.
    5. **Staffing Plan**. Vendor shall provide a monthly breakdown of the workforce and daily installation rates it requires.
       1. Vendor shall provide and maintain a detailed organizational chart outlining all resources, minimal qualifications, and their reporting structure.
    6. **Quality Management Plan.** Vendor shall implement and update a Quality Management Program, inclusive of critical quality metrics, to assure its deliverables meet all requirements under this SOW. SAWS expects that this Quality Management Plan shall become an Exhibit to the final contract with Vendor.
    7. **Licensing.** Vendor and its subcontractors, suppliers and agents shall be properly licensed and qualified to perform the class and type of the services as specified in this SOW and all Appendices, in addition to being properly insured, equipped, organized, staffed and financed to handle such services. Vendor shall use prudent and legal business practices in its relationships with subcontractors, suppliers and agents.
    8. **Hiring**. Vendor shall be responsible for the screening, hiring, and qualification of all its employees and subcontractors required for the execution of its services as defined in this SOW.
       1. Vendor shall provide a detailed hiring plan that outlines the methods and incentives for hiring a sufficient number of employees to meet expected installation rates and account for expected attrition/sickness/vacation of the installation workforce.
       2. Vendor shall provide a detailed retention plan that shows methods and incentives for retaining employees.
       3. Vendor shall provide a weekly report indicating the actual number of employees vs projected number of employees.
       4. If the number of employees falls below 90% of the target for three consecutive weeks, Vendor shall update its hiring and/or retention plan and submit to SAWS for approval.
    9. **Partners and Subcontractors.** Vendor may utilize partners and subcontractors on this project.
       1. Vendor shall be responsible for all deliverables within the contract, and all requirements contained in the SOW that are applicable to Vendor are equally applicable to any Vendor subcontractor or partner.
       2. SAWS shall retain the right to review and approve a subcontractor or agent proposed by Vendor.
       3. SAWS shall not be contractually obligated with Vendor’s partners or subcontractors.
    10. **Substance Abuse.** In order to maintain a safe, healthy and efficient work environment, and to minimize absenteeism and tardiness, SAWS requires that the Work Site be a Drug and Alcohol-Free Environment. Prior to commencement of work, Vendor shall provide a Substance Abuse Program for review and approval to SAWS’ Safety and Environmental Health Department, such approval which shall not be unreasonably withheld by SAWS. Upon approval, the Substance Abuse Program shall be implemented prior to any work.
    11. **Pre-employment and Random Drug Testing.** Vendor shall test all employees, whether Vendor employees or employees of any Vendor subcontractor, as appropriate throughout the term of the contract in accordance with its Substance Abuse Program. All employees shall be subject to a drug and alcohol test upon hiring. All employees shall be subject to a drug and alcohol test based on their involvement in or cause of a reportable accident or incident which causes personal injury or property damage in accordance with applicable laws. All employees shall be subject to a drug and alcohol test based on a reasonable and articulated belief that the employee is using or has recently abused alcohol or drugs. All testing shall be paid for in full by Vendor.
    12. **Training.** Vendor shall be responsible for training all its employees and subcontractors required for the execution of its services as defined in this SOW. Vendor’s training program shall include all aspects of work performed under this SOW (e.g., technical, safety, customer contact/communications) and should be structured to include classroom and practical performance testing. Vendor is responsible for ongoing employee and subcontractor qualification, re-certification and audit of activities performed to assure full compliance with this SOW. SAWS shall have the ability to participate in and to audit these training activities.
        1. Vendor shall provide a detailed training manual for installers that addresses all activities expected to be completed by installers. Vendor shall not proceed with training until the training manual has been approved by SAWS.
        2. SAWS shall assist Vendor as requested, in procuring the necessary training materials and support from its other Vendors, for those activities that affect Vendor’s ability to deliver the services described in this SOW. For example, SAWS shall assist Vendor with procuring the support of the AMI technology vendor for information necessary for Vendor to successfully install its Meters, Endpoints and Other Equipment.
        3. SAWS maintains its Eastside Outdoor Test Lab where Meters of various sizes and associated Endpoints are installed in a non-production environment. SAWS encourages Vendor to consider use of this lab to facilitate training of its installers.
    13. **Supervision.** Vendor shall assign sufficient team leads or supervisors to appropriately manage the day-to-day field activities.
        1. Team leads or supervisors shall be dedicated to supervision of installers and not have back-office responsibilities preventing their presence in the field.
        2. Team leads or supervisors shall coordinate with SAWS personnel on identified field issues such as RTUs, add-on services etc.
    14. **Employee Identification, Uniforms, Badges & Signage.** The following requirements apply.
        1. General. Vendor shall provide and implement its standard logo and branding as it would normally do for a utility project, as an independent contractor and with no references to SAWS.
        2. Identification**.** Vendor shall provide all Vendor field and supervisory personnel with a Vendor issued ID.
        3. Uniforms. Vendor shall provide all field and supervisory personnel with a SAWS approved uniform.
        4. Logos. Clothing and safety vests shall clearly be marked with Vendor’s logo.
        5. Vehicle Signage. All Vendor vehicles shall display the appropriate Vendor labeling/logo. SAWS reserves the right to approve the vehicles and the signage. If SAWS personnel observe a vehicle in the field without appropriate signage, the driver shall be required to return to the warehouse to obtain appropriate signage.
        6. If SAWS personnel observe an employee without the proper uniform or without appropriate identification, that employee shall be required to return to the warehouse and not return to the field until the deficiency has been rectified. Repeated violations of these requirements may result in SAWS requesting that the employee be removed from the project.
    15. **Issue and Action Items Logs**. Vendor shall implement and provide the PMO updates to issues related to the work on a weekly basis or as requested with action items and resolutions for keeping the issue/action item log up to date.
    16. **Monitoring and Control**. Throughout the project life cycle, Vendor shall implement and maintain the monitoring and control systems, processes and metrics required to perform the work.
    17. **Project Reporting & Communications.** Vendor shall provide project reporting for the work and shall provide inputs to the PMO project communications no less than weekly or as requested/needed by SAWS.
    18. **SAWS Responsibilities.** SAWS shall provide the following:
  + **AMI Meter and Endpoint Deployment Management** – Conduct open discussion on a regular basis and no less than weekly basis to discuss project status and direction. SAWS shall appoint a point of contact to oversee the entire project and to facilitate communication between SAWS personnel and Vendor.
  + **Issue Resolution** - Provide additional resources when necessary to address issues outside of the SOW such as customer premises requiring repair prior to the installation.
  + **Billing** – Provide a point of contact to resolve issues created by the installation resulting in a possible billing error. Example may be a data record provided that requires verification of work order data details.
  + **Claims** – Define standards for which claims are to be resolved. Assistance may be required when an issued claim cannot be amicably resolved between Vendor and the SAWS customer and is escalated.
  + **Customer Service** - Introduce Vendor as a contractor contracted to perform services for SAWS to their customers. Monitoring customer communication to ensure Vendor adheres to SAWS standards for code of conduct while interacting with its customer base.
  + **Field Service Support** – Provide support in the field regarding issues related to the installation and resolution of field repairs. This contact shall be the primary liaison between Vendor field supervisors and SAWS. They shall resolve issues that shall require SAWS field support such as unsafe conditions and deteriorated services.
  + **Information System & Technology Support -** Facilitate data integrity and transfer as required.
  + **Meter Shop** - Provide resources and services necessary to support deployment; including provision of seals, locking pins, Utility keys, Meter tags and Register locking tools.
  + **Meter Reading** – Provide a SAWS’ Meter reading point of contact to assist Vendor in accessing and locating accounts.
  + **Revenue Protection** – Provide a point of contact to report any detection of tamper or diversion found while in the field.
  + **Training** – Provide training on SAWS safety policies and field work procedures along with Utility specific standards that are specifically incorporated into Vendor’s training curriculum.
    1. **SAWS Performance of Work.** Nothing in this SOW or the Contract shall prevent SAWS from using its employees to perform some of the work performed by Vendor’s meter technicians and installers. Work performed by SAWS employees is the responsibility of SAWS and is not covered by any warranty provided by Vendor.
    2. **Non-Solicitation.** Vendor and its employees and/or subcontractors shall not solicit or accept any business from SAWS’ customers, including tenants. The recommendation of any particular plumber or company and/or the participation in work for SAWS’ customers outside this SOW are also prohibited.

# Safety Requirements

## SAWS provides safe products and services to its customers. Safety is one of SAWS’ core corporate values.

* + 1. **General Responsibilities**. Vendor and its subcontractors shall comply at all times with all requirements of this contract, including the General Conditions, Section 5.28 – Safety Precautions and Programs.
    2. **Safety Program**. Vendor shall have and implement a documented Safety Management Program.
       1. Vendor shall submit its Safety Management Program for review and approval by SAWS’ Safety and Environmental Health Department, such approval which shall not be unreasonably withheld by SAWS. Vendor shall train all of its employees and its subcontractors on all aspects of this Program. Vendor shall, in coordination with SAWS’ Safety and Environmental Health Department, also perform a review of its Safety Management Program on no less than an annual basis.
       2. Vendor shall accomplish its work using its safety-related practices and procedures as outlined in its Safety Management Program.
    3. **Safety Requirements**. SAWS is highly committed to providing and maintaining a safe work environment for its employees, contractors and the public at large. SAWS is committed to complying with all applicable federal, state and local health and safety laws and requirements. Vendor shall commit to comply with appropriate safety procedures in performing all work for SAWS and shall adopt SAWS’ minimum written safety standards (if more stringent than Vendor’s), and reflect those in Vendor Safety Procedures, as the baseline requirements.
    4. **Safe Work Habits**. Vendor shall willingly promote safe work habits for its installers in accordance with applicable OSHA standards and SAWS’ written policies. If a representative of SAWS notices unsafe work, SAWS retains the right to suspend the work under the terms of the Contract until unsafe conditions are resolved.
    5. **PPE, Tools and Equipment**. Vendor shall provide SAWS-approved personal protective equipment (PPE) and all tools and equipment for its employees, and shall ensure the same is provided for all of its subcontractor employees, as are required to fulfill its work under this SOW.
    6. **Safety Equipment.** Vendor employees and installers shall be required to wear OSHA approved clothing and footwear, OSHA approved industrial safety glasses, hard hats, gloves and protectors provided by Vendor. Additionally, no loose-fitting jewelry shall be worn when performing field work.
    7. **Safe Practices and Incident Reporting**. Without in any way limiting Vendor’s obligations otherwise in the Contract, Vendor shall promote and enforce safe work practices in its field and warehouse functions. In the event of a safety incident arising in connection with performance of the work, Vendor shall conduct an investigation that identifies contributing factor(s) and root cause(s) related to the incident and document the corrective actions that shall be taken to prevent reoccurrence. Such investigation shall be completed within a mutually agreed time. Initial notice to SAWS shall not exceed twenty-four (24) hours from Vendor’s receipt of notice of the incident. The results of the investigation shall be described in a report prepared by the investigator and shall be made available to SAWS within twenty-four (24) hours of completion.
    8. **Safety Audits.** Vendor shall conduct ongoing safety audits of its employees and work performed. The following minimum requirements shall be enforced:
       1. For new employees: 100% of all installations for the first two weeks.
       2. For all employees, five (5) percent of all installations are ongoing after the first two weeks, for the life of the contract.
       3. Vendor shall provide, on no less than a weekly basis, electronic documentation of such audits and the results therein.
       4. Should Vendor’s audits uncover systemic and repeated safety issues with specific personnel, or systemic and repeated safety issues attributable to a faulty work process, Vendor shall provide written notification to SAWS inclusive of its action plan to remediate and/or correct accordingly.
    9. **SAWS Safety Audits.** SAWS reserves the right to conduct its own, independent safety audits of Vendor’s work.
    10. **Worksite Safety.** Prior to commencing any site work, Vendor shall secure the entire work site from pedestrian and vehicular traffic, including placement of safety cones, barricades, lighting equipment, signage, flagging personas, or other appropriate actions.
        1. Vendor shall convey any water flow resulting from installation, testing or line flushing to a drain and away from vehicular and pedestrian traffic, or other private property, and shall not allow standing water to remain at any installation site.
    11. **Confined Spaces.** SAWS shall perform exchanges in confined spaces, such spaces as defined in SAWS confined space policy.
    12. **OSHA Recordable Injuries.** Vendor shall report and provide to SAWS monthly personnel safety performance information. Serious incidents shall be reported immediately to SAWS. Such information shall be industry standard information, and include OSHA recordable injuries, any non-OSHA recordable incidents or first aid rendered, and any other related information as may also be requested by SAWS from time to time. Vendor shall provide monthly reporting that includes TRIR (Total Recordable Incident Rate) and DART (Days Away, Restricted and Transferred).
    13. **Motor Vehicle Incidents (MVI).** Vendor shall report and provide to SAWS any motor vehicle incidents, and any other related information within twenty-four (24) hours.
    14. **Situational Awareness**. Vendor shall advise its employees upon hire and through periodic safety, training or tailboard meetings that its employees and subcontractors may encounter certain conditions where heightened situational awareness is advised in order to provide the tools and methods necessary to create the safest possible conditions for its employees and subcontractors to perform their work under this SOW.
        1. **Flash Floods**. During certain times of the year, San Antonio and the surrounding areas may be subject to heavy rain and flash floods. Personnel should be conscious of the possibility of flash floods and seek protection away from low areas that may be prone to such conditions. Vendor shall provide employees with resources to identify such low areas.
        2. **Higher Crime Areas**. Certain areas of San Antonio and the surrounding areas may be subject to periodic criminal activities that could unknowingly place personnel in an unsafe position. Vendor should consult with SAWS to understand such potential conditions, and SAWS shall advise on what additional precautions it may recommend Vendor to consider for those conditions. In addition, if warranted, SAWS shall provide security personnel to accompany Vendor personnel as needed. Personnel should have access to a means by which they can call 911 in cases of emergency. Personnel should be encouraged to do at the appropriate times.
        3. **Pandemics**. Vendor shall take reasonable precautions to protect their workers from the exposure to and transmission of viruses or other biological conditions as may occur from time to time. Vendor should use its best judgement to follow reasonable protocols so that its employees may perform their work in a safe and efficient manner. SAWS maintains the right to update rules on employee precautions (example: PPE) based on changes in Pandemic status.

# Warehousing, Logistics, Materials & Inventory Management

* + 1. **Vendor Materials Management**.
       1. SAWS shall provide Conex Boxes for use by Vendor to store Meters, Endpoints and Other Equipment. Conex Boxes shall be located at SAWS’ Mission Road facility.
       2. SAWS shall periodically provide, on a mutually-agreed frequency, Meters, Endpoints and Other Equipment necessary for Vendor to complete installations.
    2. **Materials Management.** Vendor shall be responsible for Meters, Endpoints and Other Equipment in its possession until final inspection of work and acceptance therein by SAWS.
       1. In the event that Meters, Endpoints and Other Equipment are lost, stolen, damaged or destroyed prior to inspection and acceptance by SAWS, Vendor shall reimburse SAWS the cost of Meters, Endpoints and Other Equipment which, in SAWS’ opinion, have become so damaged as to be unfit for the use intended.
    3. **Fleet.** 
       1. Vendor shall provide vehicles as required for its installation workforce.
       2. All Vendor drivers shall be fully licensed and insured.
       3. SAWS shall provide secured parking locations for both Vendor installer personal vehicles and Vendor vehicles used during installation.
       4. Vendor shall provide fuel for Vendor vehicles used during installation. Vendor vehicles will not have access to the fuel station provided at SAWS Mission Rd facility or any other SAWS facility.
    4. **Vehicle Staging.**
       1. SAWS shall provide parking lot space at its Mission Road facility for Vendor to prepare materials for loading into Vendor vehicles and to receive materials removed during the completion of installation.
       2. SAWS provides the following, for illustration purposes only, to show the potential space to be provided to the Vendor.
    5. **SAWS Facilities Access.** Vendor shall be prepared to sign any waivers needed to allow installers to access and to park at SAWS facilities to load and unload materials at a minimum.
    6. **Tools and Equipment.** 
       1. Vendor shall provide all equipment such as handhelds, tools (including torque wrenches), personal protective equipment (PPE), transportation, computers, uniforms, etc., as necessary to perform the services set out in this SOW.
       2. Vendor shall equip its employees with two-way communications such as a cell phone or handheld radio.
    7. **Scrapping.** Vendor shall provide back to SAWS any scrapping materials associated with all work in this SOW as follows.
       1. All meters and materials recovered for work performed under this SOW remain the property of SAWS.
       2. All meters and materials recovered for work performed under this SOW shall be returned to SAWS.
       3. Vendor may store the removed Meters in the cardboard boxes from the new Meters.
    8. **Returned Material Authorizations (RMAs).** Vendor shall provide materials handling support for defective materials also referred to as Return Materials Authorizations, or RMAs. Such support shall be limited to boxing and returning RMA materials to SAWS.
    9. **Office Space.** SAWS shall provide office space for up to two Vendor employees for use in management of installation activities.

# Work Management Application and Data Security

* + 1. **General Responsibilities.** SAWS shall be responsible for providing, testing, managing and administering the WMA used to provide the services required under this SOW.
    2. SAWS shall provide Vendor access to the WMA via both a back-office application and a mobile application.
    3. Vendor shall provide a secure, managed handheld device and/or mobile phone to each installer/employee.
       1. Handheld devices and/or mobile phones shall utilize the Android operating system.
    4. Vendor shall install the SAWS WMA mobile application on its handheld devices.
    5. **Handheld Device Security**. Vendor shall install any applicable or required SAWS security management applications or SAWS IS required systems imaging on its handheld devices.
    6. **WMA Application**. Vendor shall utilize the SAWS WMA application for all activities including:
       1. Managing work order scheduling, completion and work order data integrity.
       2. Managing work order data collection, validation, and transfer of data to SAWS.
       3. Managing work order data exception processing and investigations in collaboration with SAWS.
    7. **Lifecycle.** The WMA shall be used for managing the lifecycle of the Meter exchange and installation process. The WMA shall be the system of record for inventory management, warehouse management, installation, QA/QC, installations in Exception State, resolution of installation errors, RTUs, and some customer communication activities.
    8. **Data Exchange.** Vendor shall ensure the real-time up and downloading of data to/from handheld devices and/or mobile phones.
    9. **Workflows**. SAWS WMA workflows and data exchange processes shall be used to execute all work under this SOW including, but not limited to i) Meter replacement, ii) Endpoint installation, iii) Meter box installation or levelling, iv) yoke installation or replacement, v) curb stop valve replacement, vi) Meter box repair, vii) customer service line repair, and viii) any other routine work to be performed under this SOW.
       1. Vendor shall not deviate from workflows.
    10. **Quality Review.** 
        1. SAWS back-office team shall monitor installation transactions completed by Vendor throughout the day.
        2. Vendor shall provide a single point of contact to support SAWS with the near real-time resolution of installation errors.
        3. If SAWS encounters installation errors in received data, SAWS, after proper inspection, shall require Vendor to promptly (by the end of the next Business Day) investigate, fix and resubmit such electronic data so that the installation can be successfully processed by SAWS.
    11. **Photographs**. Vendor shall take pictures as denoted in various sections of this SOW. Images shall be at least 1024 x 768 pixels from a five (5) mega-pixel camera or better, or to another standard as shall be acceptable to SAWS. Images must be taken under appropriate lighting and conditions so as to be clear and legible. Illegible photos shall be retaken and resubmitted at Vendor cost and time. SAWS shall provide the photos required based on the processes needed to document the pre and post installation process.

# Customer Communications, Interactions and Call Center

* + 1. **General Responsibilities.** SAWS shall coordinate and conduct its field installation and customer communications activities in accordance with the approved SAWS’ customer contact and engagement program for the work performed under this SOW.
    2. **Call Center.** SAWS operates a call center to support its customer contact activities as described in this SOW. Vendor shall provide SAWS call center contact information to customers as needed.
    3. **Field Workforce Hours of Operation.** The normal work week is based on five (5) days, Monday through Friday, with customer on-premise work to occur between 8:00 a.m. and 5:00 p.m., local Central time.
       1. Vendor may request the option to work Saturdays, evenings or holidays as necessary, in the event of delays or to meet customer appointment needs. However, any such changes shall be as mutually agreed to with the customer and pre-approved in writing by SAWS.
       2. Should SAWS and Vendor agree to work on customer premises outside of the standard work hours, any premiums for Vendor’s work shall be borne solely by Vendor.
       3. For appointments which require work to be performed outside of normal working hours, Vendor may perform but shall coordinate with SAWS.
    4. **SAWS Customer Notification.** 
       1. Postcards. SAWS shall notify customers in writing, via an initial postcard, of the expected Meter installation activities approximately two-four (2-4) weeks in advance of the planned installation date. This postcard shall include the approximate start of customer installation activity and provide an opportunity for the customer to contact the SAWS call center with any special arrangements or appointments that are required to facilitate the installation work.
       2. Robo-calls. SAWS shall notify customers via robo-call of the Meter installation activities approximately one week in advance of the planned installation date. This robo-call shall include the approximate start of customer installation activity.
    5. **Gaining Access**. Vendor shall coordinate with SAWS to implement a suitable customer access program for performing routine and “hard-to-access” installations. Hard-to-access may include but is not limited to high security areas including military bases, locked gates, loose animals, building modifications, customers’ constraints, inside installations, and encroaching landscape.
       1. Such hard to access locations shall be documented and tracked as part of route completion reporting.
    6. **Professionalism**. Vendor employees and subcontractors shall conduct all project related work and customer contact in a courteous and professional manner. Failure to represent SAWS in a professional manner may result in SAWS requesting that Vendor’s employee or subcontractor be removed from the project.
    7. **Door Tags.** SAWS shall provide, and Vendor shall leave, a door tag after every visit to the customer’s premises. The door tag shall be hung from door handle or, if access to the front door is prevented, in a conspicuous location on a customer fence.
       1. Vendor shall be responsible for monitoring inventory of door tags and shall notify SAWS when a re-order is needed with enough time to ensure delivery as to ensure availability for every installation.
    8. **Timeliness of Completion**. In accordance with the approved contact and engagement plan for the ConnectH2O program, Vendor shall as promptly as practicable and, in any event, within thirty (30) days (including customer blackout days) following the first failed attempt, initiate another attempt to complete an installation.
       1. Vendor shall provide at least two (2) documented field attempts on two (2) separate days; with all field attempts occurring within the first thirty (30) days from initial field attempt; following which Vendor shall return the applicable Endpoint and Meter work order(s) to SAWS as promptly as practical.
       2. If Vendor cannot complete installation due to the inability to access the end customer’s premises, Vendor shall not be compensated.
       3. If Vendor cannot complete installation due to customer related issues which are beyond Vendor’s control, Vendor shall return such Meter and Endpoint work orders to SAWS for SAWS action to resolve the issues preventing installation. If resolved, SAWS shall return such work orders to Vendor for its completion of installation and Vendor shall receive the compensation associated with that installation. If the underlying issue remains unresolved, Vendor shall receive no compensation for that Meter or Endpoint.
       4. If Vendor has failed to provide the number of documented field attempts in accordance with this section, SAWS may request that Vendor return such Meter and Endpoint work orders to SAWS as promptly as practical. Vendor shall receive no compensation for these Meters and Endpoints.
    9. **Courtesy Notices for Specific Customers**. Approximately 600 of SAWS customers require twenty (24) hour advance notice before water can be turned off. SAWS shall provide a list of these customers including any additional “specialty handling” requirements therein. Vendor shall notify these customers by placing a door tag at the premises no more than twenty (24) hours prior to work being performed at the customer’s premises that requires water shutoff. SAWS shall provide door tags for these purposes.
    10. **Customer Complaints & Claims.** 
        1. Vendor shall be responsible for customer claims resulting from its work under this SOW and shall do so at Vendor’s sole cost.
        2. Vendor shall utilize SAWS’ existing claims resolution process for resolving such claims.

# SAWS General Responsibilities

* + 1. **General Requirements**. SAWS is responsible for providing specific materials and information to Vendor as defined in this SOW. Vendor is responsible for managing all SAWS materials in accordance with the requirements of this SOW.
    2. **Meters**. SAWS shall purchase and provide Meters to Vendor.
    3. **Endpoints**.
       1. SAWS shall purchase and provide Endpoints to Vendor.
       2. SAWS shall purchase and provide screws and wire terminations, splice kits or connectors as are required by the AMI vendor(s) for proper installation.
       3. SAWS shall provide AMI mounting rods for in-the-pit installations.
       4. SAWS shall provide through-hole adaptors for through-the-lid installations.
    4. **Pre-Installation Inspection.** SAWS intends to complete an initial pre-inspection and initial meter box clean out prior to Vendor installation activities.
       1. Note that SAWS may not be able to complete pre-installation inspection at every location. Vendor is responsible for removal of debris and sediment as outlined in this specifications document.
    5. **Curb Stops, Meter Boxes, Yokes**. SAWS shall provide curb stop valves, Meter boxes and yokes to Vendor.
    6. **Meter Box Lids**. SAWS shall provide Meter box lids for replacement of damaged lids encountered in field.
    7. **Meter Read Schedules**. SAWS shall provide Meter reading schedules and updates therein, typically no less than one (1) month in advance.
    8. **Keys and Codes**. SAWS shall provide Vendor with keys and gate codes where such Meters are located behind locked gates. Such keys and codes shall be provided where such keys are already in SAWS possession, and such codes are already in SAWS information systems.

# Vendor General Installation Requirements

* + 1. **General Requirements.** Vendor is responsible for managing and executing installation activities in accordance with this SOW.
       1. Vendor’s work shall be executed in conformance with the applicable codes and standards as defined in the following documents included in the Request For Competitive Sealed Proposal, and incorporated by reference herein.

COSA Standard Specifications for Public Works Construction (Latest Edition) found at: <https://www.sanantonio.gov/PublicWorks/Current-Vendor-Resources/Standard-Specifications-and-Details>

Specification 824 Water Service Supply Lines, Specification 833 Meter and Meter Box Installation, and SAWS Specifications for Water & Sanitary Sewer Construction each found at: <https://apps.saws.org/business_center/specs/constspecs/>

* + 1. **Workforce**. Vendor shall hire and train a workforce that demonstrates the minimum qualifications for its work in this SOW.
    2. **Dispatching Routes.**
       1. SAWS shall release routes in accordance with the approved deployment plans.
       2. Vendors shall dispatch work to their installers according to the requirements in this specification.
       3. Vendor shall participate in working sessions to identify look ahead planning activities.
    3. **Blackout Periods.** SAWS shall manage the installation process in a manner that ensures no installations shall be completed during billing and blackout windows as defined by SAWS. Vendor shall request, and SAWS shall provide, the appropriate Meter reading routes, schedules and blackout windows so that Vendor can prevent exchanging Endpoints and Meters during the billing and blackout windows. In addition, the WMA Services and/or related processes shall be designed and configured to conform to this requirement.
       1. **Blackout Window**. The SAWS “blackout” window during which Meter installation shall not be allowed is a total of eight (8) business days, defined as: The five (5) business days prior to the “scheduled read date”, the scheduled read date itself, and the two (2) business days after the scheduled read date.
       2. **Proposed “Exceptions” to Blackout Window**. If Vendor encounters an installation which could require an exception to the prescribed blackout window, Vendor shall contact SAWS with a specific request for permission from SAWS to proceed prior to starting the Meter installation.
    4. **Closing Routes.**
       1. A route is considered closed if it satisfies the requirements for Route Acceptance. Refer to Section 2.9.6 for Route Acceptance criteria.
    5. **General Installation Requirements.** 
       1. Vendor shall identify any pre-existing conditions (e.g., leaks) that may prevent the completion of a meter installation, communicate those conditions to SAWS, and coordinate the resolution of those conditions with SAWS.
       2. Vendor shall verify that the meter number found at the site matches the meter number provided via the WMA.
       3. Vendor shall verify that Meter components are the correct type and size.
       4. Vendor shall remove debris or sediment to two inches below the existing Meter to allow for its Meter installation activities.
       5. Vendor shall remove debris or sediment to allow for Endpoint installation.
       6. Vendor shall finish and close out each individual work order before proceeding to the next. To avoid any confusion, the installer shall close out the work order at the Meter work site itself, before proceeding to the next installation site.
       7. Vendor shall provide a minimum of a “before” and “after” photo of all Meter installations. Additional photo requirements are contained in other parts of this SOW.
       8. After each Meter is installed, Vendor shall inspect to ensure there are no leaks on the installed flanges, spools, fittings, valves, the new Meter itself, or any existing piping or valves that may have been disturbed during installation.
       9. Vendor shall manage keys provided for access.
       10. Vendor shall manage locking pins/devices provided by SAWS.
    6. **Quality and Workmanship.** Vendor is responsible for the workmanship, accuracy and quality of its installation services. Vendor shall conduct ongoing quality audits of its employees and work performed. The following minimum requirements shall be enforced:
       1. For new installers: Quality audits on 100% of all installations for the first two weeks.
       2. If Vendor has more than one (1) installation error during the initial two-week quality audit completed by Vendor and the installation error was identified by SAWS staff after the installation record was transferred to SAWS, that installer must be retrained and approved by SAWS for return to field installation activities. If retraining is required, SAWS requires oversight of training to ensure it is effective.
       3. For all Vendor installers, quality back-office audits shall be required on 100% of all completed installations ongoing via the WMA, for the life of the Contract.
       4. For all Vendor installers, quality field audits on five (5) percent of all installations ongoing after the first two weeks, for the life of the Contract.
       5. Vendor shall provide on no less than a weekly basis electronic documentation of such audits and the results therein.
       6. Should Vendor’s audits uncover systemic and repeated quality issues with specific personnel, or systemic and repeated quality issues attributable to a faulty work process, Vendor shall provide written notification to SAWS inclusive of its action plan to remediate and/or correct accordingly.
    7. **SAWS Quality Audits.** SAWS shall conduct its own, independent quality audits of Vendor’s work. SAWS shall inspect Vendor’s work. In the event that SAWS finds that Vendor has installed any components which appear to be used, defective, not meeting the applicable industry or SAWS standards, or are of poor quality, Vendor shall be required to reperform the work to replace such items at no cost to SAWS.
    8. **Correction of Deficient conditions.** Vendor shall revisit and correct problems by its employees found during any audit, and reasonably attributable to Vendor’s work, and shall do so at its cost.
    9. **Timeliness of SAWS’ Guidance.** For any scenarios outlined in this SOW that require SAWS’ guidance prior to proceeding with an installation:
       1. If SAWS cannot provide real-time guidance as to the completion of the installation, Vendor shall indicate that the location can’t be completed (“Can’t Complete”) and move to the next installation.
       2. On the following business day, SAWS and Vendor shall review the Can’t Complete order and determine if Installer shall complete or RTU the installation.
    10. **Revenue Protection.** Vendor shall perform revenue protection and tampering inspection as part of its installation processes. For cases of discovered or suspected tamper, Vendor shall immediately contact a SAWS Inspector for guidance before proceeding with the installation. Vendor shall include comments and photographs that substantiate the condition in the documentation provided to SAWS as part of its daily reporting.
    11. **Unsafe Conditions.** If Vendor finds unsafe conditions, Vendor shall immediately contact a SAWS Inspector for guidance before proceeding with the installation. Vendor shall provide comments and photos that substantiate the condition and provide these in the documentation provided to SAWS as part of its daily reporting.
    12. **Third Party Devices.** SAWS shall notify customers with known third party devices (e.g., the Flume technology) in advance of the planned installation date. In the event that such third-party devices are encountered by the installer, the following actions shall be undertaken.
        1. Take an initial picture with the installed third-party device before commencing installation.
        2. Proceed with Meter and Endpoint installation. Upon completion of work, leave the third-party device uninstalled and inside the meter. Take a picture of the final installation. Include these photos in the documentation provided to SAWS as part of its daily reporting.
    13. **Found, Orphaned, Missing, Locate and Straight Connect Meters.** The following definitions and actions shall apply.
        1. **Found Meter**. A “Found Meter” is defined as a Meter found in a place that it is not supposed to be. The Meter could be installed or not but was found somewhere other than attached to its assigned service line in its assigned Meter box. Vendor shall indicate the meter number found, take photos that substantiate the condition, provide these in the documentation provided to SAWS as part of its daily reporting, and then proceed with the completion of the installation.
        2. **Orphan Meter**. An “Orphan Meter” is defined as a meter that was discovered that is not a SAWS Meter and is an illegal Meter. Vendor shall contact a SAWS Inspector for guidance before proceeding with the installation. The Installer shall provide comments and photos that substantiate the condition and provide these in the documentation provided to SAWS as part of its daily reporting.
        3. **Missing Meter**. If a Meter box and Meter service have been located and the Meter is not present, this is defined as a missing Meter. Vendor shall provide comments and photos that substantiate the as-found condition, proceed with installation, and provide these in the documentation provided to SAWS as part of its daily reporting.
        4. **Straight Connect**. If there is a pipe or other connection type that connects the SAWS service pipe to the customer’s service line, then this does not fall under the category of a missing Meter. Vendor shall contact a SAWS Inspector for guidance before proceeding with the installation. The Installer shall provide comments and photos that substantiate the condition and provide these in the documentation provided to SAWS as part of its daily reporting.
        5. **Locate Meter**. If a Meter box and Meter service cannot be located, this is defined as a “locate” (and not missing) Meter. Vendor shall contact a SAWS Inspector for guidance before proceeding with the installation. The Installer shall provide comments and photos that substantiate the as found condition and provide these in the documentation provided to SAWS as part of its daily reporting.
    14. **Leak Verification.** Vendor shall verify that a leak does not exist before or after installation.
        1. **Minor Leak.** Ifthe installer encounters a minor, existing leak on either side of the Meter, the installer shall proceed with installation. Minor leaks include curb stop leaks, inlet and outlet washer leaks, bottom of Meter leaks, but nothing past the outlet side of the Meter. Vendor shall provide this documentation as part of its daily reporting to SAWS.
        2. **Significant Leak**. Ifthe installer encounters a significant, existing leak regardless of which side of the Meter the leak exists, the installer shall notify SAWS and not proceed with installation. Vendor shall provide comments and photos that substantiate the as found condition and provide these in the documentation provided to SAWS as part of its daily reporting.
    15. **Leak Warranty and Response.** Vendor shall warrant its Meter replacement for leaks for a period of sixty (60) days.
        1. Vendor is responsible for leaks within twelve (12) inches from outlet side of meter.
        2. Should leaks attributed to Vendor’s work be discovered by Vendor or reported to Vendor by SAWS, then Vendor shall repair such leaks at its sole cost.
        3. Vendor shall not leave the premises until suitable installation or repair activities are completed. If water service cannot be restored, Vendor shall remain on site until relieved by a SAWS employee.
        4. SAWS shall notify Vendor of leaks discovered by SAWS within the warranty period. Leaks detected by Vendor during the warranty period shall be reported to SAWS.
        5. For minor leaks, once notified, Vendor shall have twenty (24) hours to respond and fix the leak. For major leaks, SAWS can request that Vendor respond within two (2) hours but, in no case, shall Vendor’s response time exceed twenty (24) hours.
           1. A major leak is defined as any leak that results in or causes property damage or unsafe conditions including water running down the street, water pooling in the yard, or reduction in water pressure for the customer.
        6. Should Vendor fail to respond and fix the leak within the times specified in this SOW, SAWS may fix the leak and Vendor shall reimburse SAWS for all its reasonable and documented leak-related expenses.
    16. **Pre-Existing Site Conditions**. Upon completion of its work at each customer premises, Vendor shall ensure that the customer premise is returned or restored to no less than the pre-existing site condition, or better.
    17. **Damages**. Vendor shall make every attempt to avoid damage to the customer’s premises. Any damages caused by Vendor shall be managed and resolved in accordance with the claims process outlined in this SOW.
    18. **Meter Tagging**. Should Vendor be requested by SAWS to investigate and/or pull a specific Meter, SAWS shall specifically request (preferably in an electronic format as part of the data files supplied by SAWS to Vendor), and Vendor shall comply by removing, saving and tagging (not scrapping) such Meters and returning to SAWS.
    19. **No Operation of Street Valves**. Vendor shall not operate any street valves. Should such an operation be required, Vendor shall coordinate with SAWS for SAWS to perform such operation.
    20. **Site Conditions**. Vendor is advised that site work conditions vary and may not be optimum and may include the following.
        1. Varied terrain or difficult to access.
        2. Flooded pits or vaults (in which case Vendor is responsible for the costs of de-watering).
        3. Meter boxes with unsafe contents. Vendor shall contact SAWS upon the discovery of unsafe contents.
        4. Meter boxes with accumulated debris or sediment. Vendor is responsible for i) removal of such debris or sediment to two inches below the existing Meter to allow for its Meter installation activities; or ii) removal of such debris as necessary to adequately allow for water communications module installation.
        5. For removed soil and debris, Vendor is allowed to carefully disperse the soil in the customer’s yard so that it blends in, leaving the customer’s yard looking neat and clean. For debris that cannot be disbursed in the same manner as soil, Vendor shall remove and dispose of such debris off-site.
    21. **Customer Plumbing**. The customer is responsible for the plumbing from the outlet side of the Meter back to the customer’s premises. Should Vendor’s installation cause damage to the customer’s existing service line within twelve (12) inches of the outlet side of the meter, Vendor shall repair such damage at its sole cost.
    22. **Route Saturation.** Timely completion of all assigned Meter and Endpoint Installations (“Route Saturation”) in Meter reading routes is a critical cornerstone for deployment. Route Saturation is mandatory to facilitate rapid conversion of routes from manual to automated Meter reading and billing, and payment to Vendor for completed Meter and Endpoint Installations.
        1. On a periodic basis, SAWS shall release specific routes to Vendor for installation. Vendor shall be expected to conduct installation by Meter reading route. Routes shall be based upon SAWS existing Meter reading route structure. Meters on a route are in geographic proximity to each other.
        2. Vendor shall complete ninety-six percent (96%) of all assigned Meter and Endpoint Installations in a route prior to SAWS releasing additional routes to Vendor.
        3. Vendor shall complete the balance of assigned accounts prior to the next blackout period.
        4. If Vendor has more than five (5) routes open longer than 60 days, SAWS shall not authorize opening any additional routes.
        5. Calculation of Route Saturation Percentage. “Route Saturation Percentage” refers to the quantity of Meter and Endpoint Installations completed in a route divided by the quantity of Assigned Meter and Endpoint Installations in such route. “Assigned Meter and Endpoint Installations” refers to the Meter and Endpoint Installations assigned to Vendor and for which Vendor is responsible to complete with respect to a route.
        6. Meter and Endpoint Installations in a route that are RTU or that are in an Exception State shall be deducted from the number of Assigned Meter and Endpoint Installations in such route when the Route Saturation Percentage is calculated. All Meter and Endpoint Installations that are in an Exception State or that are RTU shall be excluded from the Route Saturation percent complete calculation if the required guidance from SAWS on such addresses has not been provided to Vendor within seven business days of Vendor notification to SAWS of RTU or installations that are in an Exception State. SAWS may also provide exclusion from the ninety-six percent (96%) complete requirement for Meter and Endpoints Installations that require special handling or appointments but may choose to do so on a case-by-case basis.
        7. Vendor shall manage route saturation on a daily basis. Reporting shall allow SAWS to understand route saturation on a route by meter size. Further, reporting shall allow SAWS to differentiate among completed installations, RTUs, installations in progress, installations not started, and any other status Vendor uses to track the current state of installation at a premise.
        8. If Vendor routinely fails to complete all required installation activities on entire routes as required in this SOW, SAWS retains the right to withhold release of future routes for installation until such time as the required progress on Route Saturation for existing, released routes, is demonstrated.

# Installation of Water Meters and Endpoints

* + 1. **General Requirements**. Vendor is responsible for managing and executing Meter and Endpoint installations in accordance with the approved processes.
       1. Installation of Endpoints shall occur in conjunction with and at the same time as the replacement of the existing Meter with a new Meter.
    2. **General Installation Process Flow**. Vendor shall utilize the workflows developed by SAWS that include, at a minimum, the following steps.
       1. Vendor shall identify any pre-existing conditions (e.g., leaks) that may prevent the completion of a meter installation and immediately communicate those conditions to SAWS.
          1. If SAWS cannot provide real-time guidance as to the completion of the installation, Vendor shall indicate that the location can’t be completed (“Can’t Complete”) and move to the next installation.
          2. On the following business day, SAWS and Vendor shall review the Can’t Complete order and determine if Installer shall complete or RTU the installation.
       2. Vendor shall knock on the door before installation and notify customers their water service will be unavailable for the estimated duration of the work.
       3. Vendor shall shut off the curb stop or supply side shut off valve prior to commencing work. If there is no curb stop or shut off valve, Vendor shall discontinue installation and notify SAWS so that SAWS may install a cut-off valve.
       4. Vendor shall ensure the service line is free of debris and sediment to two inches below the existing Meter prior to commencing installation.
       5. Vendor shall ensure the service line is free of rust prior to commencing installation.
       6. Vendor shall take, at a minimum, the following photos at each installation site, including i) the existing site conditions with the lid off; ii) the existing Meter with serial number, current reading and Meter clearly visible; ii) the new Meter with serial number, current reading and Meter clearly visible and the new Endpoint (inclusive of the wiring). iv) the flushing of the line after meter installation has been completed; v) the site conditions after completion of all installation activity.
       7. Vendor shall verify the serial number of the existing meter matches the serial number provided.
       8. Vendor shall record the Meter read of the existing Meter being replaced.
       9. Vendor shall verify that the Meter components are the correct type and size.
       10. Vendor shall verify the correct direction of flow before installing the Meter.
       11. Vendor shall use gaskets as provided and directed by SAWS.
       12. Vendor shall manually begin the new Meter connection, so as to not strip the threads.
       13. **Vendor shall utilize a torque wrench on the Meter installation to the threshold specified by Meter manufacturer.**
       14. Vendor shall ensure that the digital face of the meter is parallel with the box lid to ensure visibility when looking down into the meter box.
       15. Vendor shall record the serial number of the new Meter.
       16. The vast majority of Endpoints shall be installed on a stake inside the meter box. SAWS shall provide Vendor with the stakes.
       17. Vendor shall ensure that there is sufficient clearance (space) between the wiring connection on the Endpoint, and the side wall of the meter box itself, so that there are no immediate 90-degree bends in the wire at the junction with the Endpoint.
       18. Upon completion of installation, Vendor shall verify that the lid has been properly re-installed on the Meter box.
       19. Vendor shall run a flow test at the end of the installation via an open fixture such as an outdoor faucet or hose bib.
       20. Vendor shall capture the raw GPS Latitude (Lat) & Longitude (Lon) data with three (3) to five (5) meter accuracy and in decimal – degrees format as agreed to with SAWS for each Meter.
       21. Before moving on to the next install, vendor shall inspect and verify that leaks have not occurred during the installation or shall fix any prior to leaving the site.
    3. **Other Data Collection**. Vendor shall capture and provide additional as-left field condition information that includes i) the as-left Meter box lid material (e.g. steel, cast iron, plastic, composite non-metallic, concrete, etc.; ii) the installed, as-left water communications configuration, e.g. through the lid, affixed under lid, inside the pit, remoted external to pit, etc.; and iii) any other such related information as may be requested for inclusion.
    4. **ONP.** If the existing water service is turned OFF for NON-PAY (ONP), the installer shall contact Vendor field team lead to unlock the device, complete the Meter replacement and flush the line in accordance with the requirements of this SOW; and reinstall the plugs or locking devices, leaving the site in the as-found condition, e.g., if the curb stop valve is shut off, the curb stop valve shall remain shut off at completion of installation. These conditions shall be specifically noted in the installation documentation. Vendor shall provide comments and photos that substantiate the as-found condition, and the as-left condition, and provide these in the documentation provided to SAWS as part of its daily reporting.
    5. **Yokes.** Replacement of existing or installation of new yokes shall occur only for adjustment of fit, as necessary to raise the Meter and facilitate Meter reading and maintenance. Photos of the ‘as-found’ and ‘as-completed’ conditions for yoke replacement or installation shall be provided.
    6. **Meter Boxes**. Replacement of existing, or installation of new, Meter boxes shall occur only as necessary. New Meter boxes shall be installed when the installer encounters a Meter which does not currently have a Meter box. Criteria for Meter box replacement includes conditions where i) a crushed Meter box exists; ii) the Meter box has a non-removable metal lid; or iii) the Meter box has a damaged inner flange. Photos of the ‘as-found’ and ‘as-completed’ conditions for Meter box replacement or installation shall be provided.
    7. **Curb Stop Valves**. Replacement of existing curb stop valves shall occur only as necessary. Replacement shall occur only when an inoperable curb stop valve is encountered. Photos of the ‘as-found’ and ‘as-completed’ conditions for curb stop valve replacement shall be provided.
    8. **Meter Box Lids**. Replacement of existing Meter box lids shall occur only as necessary, e.g., where the existing lid is damaged and no longer functional, or where the lid is missing. Photos of the ‘as-found’ and ‘as-completed’ conditions for Meter box lid replacement or installation shall be provided.
    9. **Re-Setting of Meter Boxes**. Re-setting (e.g., raising, lowering and or re-leveling) of Meters boxes shall occur only as necessary. Vendor is responsible for re-setting the box so that the top of the box is reasonably flush with the surrounding surfaces. If Vendor encounters such a condition but is unable to re-set the box to meet these conditions for reasons such as the service line is too high, or other obstructions that prevent it from doing so, Vendor shall specifically flag and note in its work order. Photos of the ‘as-found’ and ‘as-completed’ conditions for Meter box re-setting shall be provided.
    10. **Repairs to Customer Service Lines**. Repairs to the customer’s service line shall occur only as a result of or as may be reasonably attributable to Vendor’s Meter and Endpoint Installation activities. Photo of the ‘as-found’ and ‘as-completed’ conditions shall be provided, and a specific request to SAWS should Vendor wish to attempt to seek additional compensation for such repairs.
    11. **Improper Installations**. Vendor is responsible for replacing any Meter, Module or appurtenances improperly set by its installers. Vendor shall correct any damage to couplings, threads, unions or Meters caused by use of improper tools or cross threading by its installers at no additional cost to SAWS.
    12. **Meter Connections**: Vendor is allowed to replace meter connections, should that be required for successful meter replacement. Photos of the ‘as-found’ and ‘as-completed’ conditions for meter connection replacement or installation shall be provided.
    13. **Other Installation Requirements**. For Endpoints which do not require holes in lids, but rather require the module to be affixed to the underside of the lid or installed in/around the Meter pit or vault, Vendor shall install the devices in accordance with the AMI vendors’ approved processes.
    14. **Wiring Terminations**. Vendor shall connect the Endpoints in accordance with the AMI vendors’ approved processes. The installer shall verify that the Endpoint has been properly connected to the encoder/Register prior to leaving the site. Installer shall secure excess wiring in a manner that allows the lid to be opened for maintenance or Meter reading purposes, without pinching the wire.

# Acceptance of Work

* + 1. **General Requirements**. SAWS shall, in accordance with this section, perform acceptance of all Meter and Endpoint Installations (including the services related to Other Equipment) completed by Vendor (each such acceptance, an “Initial Acceptance”) as a pre-requisite to release of payment for eligible fees under Article VII Contract Payments of the General Conditions.
    2. **Endpoint and Meter Acceptance**. Each Initial Acceptance shall be undertaken in the following manner:
       1. At the completion of each Meter and Endpoint Installation by Vendor, SAWS shall promptly determine whether such Meter and Endpoint Installation has met the Initial Acceptance criteria in this section.
       2. Initial Acceptance by SAWS requires electronic receipt by SAWS, and successful transfer of such information to SAWS’ systems, of all installation information (including photographs) required under this SOW from each Endpoint and/or Meter Installation.
       3. Initial Acceptance by SAWS confirms that the Meter and Endpoint Installation has been completed in accordance with the requirements of the Contract, including this SOW, and agreed-upon processes and workflows. SAWS may choose to validate such confirmation by field inspection, back-office review, or other means.
       4. Initial Acceptance by SAWS confirms that the Endpoints and Meters are successfully operating on the AMI network, as demonstrated by receipt of an AMI Register Meter read on two (2) consecutive days for that Endpoint.
          1. SAWS shall provide a report daily to Vendor indicating which Meters have met this requirement.
       5. Initial Acceptance of a particular Meter and Endpoint Installation by SAWS shall be given based on successful completion of Section 2.9.2 within a period not to exceed five (5) Business Days from SAWS’ receipt of notification of the completed Meter and Endpoint Installation by Vendor.
       6. Deemed Acceptance. SAWS has fifteen (15) business days to perform Initial Acceptance. If, at the end of this fifteen (15) business day window, SAWS has not provided Initial Acceptance (through no fault of Vendor) of a particular Meter and Endpoint Installation, Initial Acceptance shall be deemed to have occurred with respect to such Meter and or Endpoint Installation.

2.10.2.6.1 If one or more Meters and/or Endpoints are not successfully operating on the AMI network, and Vendor believes that associated Meter and Endpoint Installation was completed in the manner required under the Contract, Vendor shall visit the Meter location to confirm the installation was performed as required before it provides SAWS with notice that the Meter and Endpoint Installation has been completed. Vendor shall provide SAWS with confirming evidence that the installation was completed as required along with any data collected using the aforementioned devices, when it provides the notice of completion.

2.10.2.6.2 Following a revisit per Section 2.7.6, SAWS has fifteen (15) Business Days to notify Vendor if SAWS believes the Meter and Endpoint installation was not performed in accordance with the requirements of the Contract and SOW. If SAWS does not notify Vendor within this fifteen (15) Business Day window, the Meter and Endpoint Installation shall be deemed to be accepted by SAWS.

2.10.2.7 Initial Acceptance of a Meter and Endpoint Installation does not release Vendor of its warranty obligations under the Contract. If SAWS reports to Vendor that a Meter and Endpoint Installation fails to conform to applicable warranties within the warranty period, SAWS shall remand to Vendor such Endpoints or Meters for Vendor to correct the installation at Vendor’s sole cost.

* + 1. **Available Endpoint or Meter**. If SAWS remands to Vendor a Meter and Endpoint Installation for correction within the applicable Warranty Period, but the applicable Endpoint or Meter is discovered to exist in any of the following conditions, that Endpoint or Meter shall be deemed as an “Available Endpoint or Meter,” and Vendor shall be compensated for each field investigation visit for each such Endpoint or Meter visit. The Available Endpoint or Meter conditions for which Vendor is due this additional compensation include the following:
       1. Discovery that the Meter and Endpoint Installation has been completed in accordance with the requirements of this SOW, e.g., by digital photos.
       2. Discovery that the Endpoint/Meter is functioning as expected.
       3. Discovery that the Endpoint/Meter has been damaged or vandalized by a third party in such a way that prevents RF communications functions.
       4. Discovery that SAWS failed to provide accurate and up-to-date premise and Meter or Endpoint information.
       5. Discovery that the Meter display is operational.
       6. Discovery that there is external third-party RF interference affecting the Meter or Endpoint’s performance.
       7. Discovery that the pit is flooded, or that the pit has filled with debris subsequent to completion of installation by Vendor, thereby affecting RF performance. For avoidance of doubt, Vendor shall not be entitled to additional compensation for this item if the debris that is found and removed represents debris that should have been removed during initial field installation or if pit flooding was due to a leak caused by the installation of the meter.
       8. Discovery that there is significant change in foliage or plantings near the Meter box, thereby affecting RF performance.
       9. Discovery that there are obstructions such as roll-off waste containers, construction equipment, piles of dirt, mulch, rock or debris atop the Meter box; or constructed covers, thereby affecting RF performance.
       10. For any Available Endpoint or Meter conditions where Vendor believes it is due compensation, Vendor shall provide photographs and other supporting documentation as a pre-requisite to release of payment.
    2. **AMI Troubleshooting**. AMI troubleshooting is the responsibility of the AMI vendor, and beyond the scope of Vendor-SAWS contract.
    3. **Route Acceptance**. Following all of a route’s Meters and Endpoints meeting Initial Acceptance pursuant to Section 2.9.2 (but excluding any Meters and/or Endpoints excepted from route acceptance below), Vendor may provide written notice to SAWS of such route’s completion, and within fifteen (15) Business Days following SAWS’ receipt of such notification, SAWS shall provide Vendor with written notice of its acceptance or rejection of such route. SAWS shall accept any route in which one hundred percent (100%) of the Meter and Endpoint Installations in a route have met the Initial Acceptance criteria, with the exception of any Meter and Endpoint Installations that are excluded from the route acceptance calculation for the following reasons:
       1. Meter and Endpoint Installations that are RTU.
       2. Meter and Endpoint Installations that, at the time of the notice provided by Vendor, are in Exception States and are awaiting instructions from SAWS before such Meter and Endpoint Installations can be completed.
       3. Meter and Endpoint Installations assigned by SAWS to its employees in accordance with this SOW.
    4. **Route Rejection**. If SAWS rejects a route, SAWS shall include a detailed explanation of the Work that remains to be completed in such route in the rejection notice provided to Vendor. Vendor may elect to dispute SAWS’ detailed explanation or to complete the Work described in SAWS’ rejection notice, in which case it shall resubmit the route for acceptance upon completion of the remaining work. A route shall be deemed to be accepted if SAWS does not provide notice of acceptance or rejection within the required fifteen (15) Business Day period.
    5. **Significance of Route Acceptance**. Acceptance of a route means that Vendor shall no longer have an obligation to complete any outstanding Meter, Endpoint, and/or Other Equipment Installations in that route under its standard unit pricing for such services.