

Advanced Metering Infrastructure Program Management for City of Corona

Scope of Work

MeterSYS, LLC

February 2023

Program Management Responsibilities: Under this engagement, MeterSYS, LLC (Consultant) will serve as Program Manager for all facets of the City of Corona (City) Advanced Metering Infrastructure (AMI) implementation, including financial oversight, project progression management, network installation and performance, multi-systems interfacing, field installation and data management, internal/external communications, and organizational change management. Consultant has assigned responsibility for each of these critical categories to the consulting team members who will provide both experience and expertise through all phases and tasks of the program of work.

Consultant Baseline Responsibilities

- Lead communication planning and execution for internal and external audiences
- Develop a work plan on what should occur during each phase of the project outlining actions to support a successful AMI implementation
- Establish and maintain a comprehensive Quality Program
- Develop of a Covid Contingency Plan aligned with City requirements
- Establish Program Goals for the City and alignment of Key Performance Indicators to ensure that the Program is completed on schedule, on budget, and within scope.
- Provide issue resolution among Project Stakeholders as detailed in the project charter
- Provide a project lead to serve as the point of contact for all project activities and tasks associated with the contracted services
- Manage project meetings, including scheduling, stakeholder engagement, weekly progression calls, sub-team assignments and on-demand work sessions
- Provide weekly progression updates
- Analyze and process change requests from stakeholders and Installer
- Negotiate changes to the contract
- Review and approve monthly progress invoices from the Prime Contractor
- Continuously collaborate with and inform key project stakeholders

The Scope of Work outlines the general responsibilities of each step for implementation, but considering the dynamic nature of the project, is not intended to be all-inclusive. Consultant professional services will incorporate emerging responsibilities in the implementation of AMI as part of its responsibility as a partner to the Utility for providing a seamless conversion of City metering and billing systems through fixed-base reading technology.

Section 1. Scope of Work for AMI Implementation

Specifically, Consultant will represent the interests of the City in the installation of AMI meters and transmitters, a city-wide AMI network, and the interface of the Headend System (HES) with the selected Meter Data Management System (MDMS).

1.0 Project Setup and Kickoff

This step serves as the official start of the implementation project and the critical foundation for an effective deployment and for future system operation. It involves engaging City Staff, the meter vendor, the installer, and the Consultant's project team, through collaborative project planning, milestone scheduling, roles and responsibilities defining, and general project "housekeeping."

Upon authorization to proceed, the Consultant's Program Manager and project team will initiate the work plan that will provide the baseline for development of the draft project plan. The results of the discovery session will involve:

- A. Drafting of the project charter and program management workbook (project schedule, project financials tracking/pay application, team contacts) with input by City project team and prime meter vendor; charter will contain all standard elements of documentation including roles and responsibilities, project organizational structure, project plan, SLAs, RACI chart, KPIs, financial summaries with payment processing standards
- B. Program management application setup and training - Consultant utilizes Zoho Projects, a web-based application providing project plan progression, document retention, schedule of key activities, internal project team messaging, and customized reporting. As an alternative available to the City, SharePoint may be made available as the primary platform for program management.
- C. Project Kickoff Meeting - Following successful completion of the Discovery Session, Consultant will, in cooperation with the project team, plan and facilitate the Project Kickoff Meeting that involves all stakeholders of the City's AMI Implementation Program.
- D. QA/QC and Quality Plan - The Consultant's Program Manager will have responsibility for the overall Quality Plan in close coordination with the Utility Project Manager and Project Team to facilitate activities and a fundamental commitment to quality of performance and process including, but not limited to:
 - Conducting periodic field audits of Vendors' QA/QC activities
 - Checking contractor supplied documentation
 - Witnessing contractor operations, inspections, and tests
 - Performing independent inspections and tests using data and onsite validation to verify adherence to the Quality Plan
 - Facilitating a full CIS data download for quality reviews and data management clean-up in coordination with City Customer Service, Utility Billing, and the Meter Shop.
- E. Program Finance Management - Consultant will provide financial oversight and quality control throughout the entirety of the program of work to protect the Utility's interest and fiscal responsibility. Consultant has developed a Project Financials Management Workbook that is compatible with each vendor's invoicing system. As invoices are received, they are validated against the contract and inventory to ensure compliance with pricing and budgeted line items. Consultant will provide transparency into what comprises the invoices by highlighting pertinent information and extracting relevant data for monthly accounting. These reports include the state of the financials for the entire project budget including system improvements, program management, third-party vendors, and contingencies.

In the role of liaison, Consultant will address any discrepancies with the vendor prior to approving payment. Consultant will track and itemize how contingency funding is spent and ensure adherence to project budgets and constraints for unanticipated, but necessary expenditures. As part of project closeout, Consultant will reconcile planned vs. actual spend across Utility allotments and help the Utility budget for planned maintenance and future state expenditures.

- F. Consultant will utilize their network site assessment tool (mobile application) for locations referenced by the prime vendor for network infrastructure and require development of SOWs for each network device site including detailed responsibilities, network installation schematics (gateway, cables, electrical, backhaul, attachment specifications), materials summary, and summary of site responsibilities.
- G. Consultant will work with City staff and the prime contractor to establish inventory controls (including chain of custody) during Project Initiation. Consultant will hold each Vendor responsible for inventory control and it is expected that Vendors' efforts will consist of plans and procedures to ensure:
 - Equipment lead times and orders are properly managed to prevent program delays, shortages, or overages
 - Vendor representatives are onsite to receive and verify all incoming equipment
 - Reconcile received shipments with Consultant and the Project Team
 - Properly secure and maintain accountability of all equipment

Communications

The overall objective of an AMI Communications Plan is to promote the success of a project by meeting the information needs of all project stakeholders. Consultant will work with the Utility Communications Manager/PIO to establish best practices in metering communications that define the methods of information collection and distribution. Through effective planning and engagement of communication and marketing SMEs the plan will aid in defining the actions and processes necessary to facilitate effective communications for Utility staff and external audiences. Consultant will create and maintain open communications among all stakeholders and vendors throughout the Program timeline.

External Collaboration

For external audiences, Consultant will work with Utility project team members to develop a detailed external communications strategy that includes general project information, customer service key messaging, information sheets, web-site resources, social media posts, a customer toll-free phone line for inquiries, project progression information (install map, route schedule) and media releases.

Internal Collaboration

The primary communications among the project team will be the status meetings, monthly reports, and the project management site, Zoho, however it is essential to collaborate with other internal audiences that are not a part of the project team on the benefits and timing of the project. Additionally, the Consultant will provide various information channels to City staff to inform on the basics of AMI and engage other departments that may benefit from the data deriving from the AMI system with a focus on resource conservation and customer engagement.

2.0 Alpha Testing Phase

Considered the most critical point of the project, this step engages the responsibilities and the roles of each team member, creates the foundation for compliance with project contract service levels through field operations, establishes effective integrations, and demands proper equipment lead time management.

A key responsibility during the Alpha Phase will be the coordination of the System Integration planning approach between the City's internal divisions and the third-party vendors. The deliverable will be an integration testing plan with clear targets for achievement to secure sign-off and move forward with the deployment. As part of the services scope, Consultant will be engaging a systems expert to provide additional expertise on the City's software integration and to consult on system and process improvements that will fully leverage features and functionality.

Coinciding with System Integration, construction of the network will be coordinated between the prime contractor, the Utility, and third-party site managers for the assessment and build-out of collector infrastructure and associated power and data access. Because the Network Testing Phase generally requires multiple sub-contractors early in the process, the management requirements for this coordination are significant and crucial.

Major tasks for this phase include:

- Complete site plan analysis and Scope of Work documentation
- Coordinate with the City and the prime contractor for site upfit approvals
- Complete Utility required power and data (as required) connectivity for each site
- Ensure Radio Frequency (RF) sweeps are performed according to manufacturer's requirements
- Test RF signal strength and review network data for issues with "reach" and to reconfigure alerts/alarms as appropriate
- Provide oversight for activities associated with the Head End System (HES) interface with the City's Meter Data Management System, Customer Information System and the Customer Engagement Platform
- Review Import/Export file requirements between HES and MDMS
- Evaluate sample files (CIS Export, Swap File, Read/Bill File)
- Evaluate meter swap interface
- Oversee installation field tool configuration, testing, and acceptance
- Coordinate installation checklist finalization and acceptance
- Provide network device installation support. The City will be responsible for installation of network devices following standards prescribed by the Installer.
- Validate proper data collection, transmission, and processing for both the register/transmitter and field installation

3.0 Beta Testing Phase

Once the systems integrations, field installation tool configurations, and network construction tasks are completed, the Program Manager and team execute a limited Beta Testing period to validate that all contributing components of the AMI system are fully operational. This period of limited installation production is considered the final validation prior to authorizing full-scale meter installation work. Each member of the project team will validate the results of the testing period prior to authorizing the installation contractor to proceed with full AMI deployment.

Consultant will provide the following Program Management services during the Beta Testing Phase:

- Manage deployment and integration of the AMI head-end system (HES) and MDMS with CIS.
- Lead the functional testing and data validation efforts on behalf of the City. Consultant will lead the functional testing and data validation efforts and work closely with the integration SME and City IT staff to execute the task.
- Lead system health tracking and troubleshooting and will monitor and update the project team on milestones met or issues identified. Having Consultant augment vendor support and installation efforts will ensure the proper monitoring of progress made on the network installation and systems integration. Consultant Program Manager will be responsible for validating field and systems work and will use the ongoing project status calls and reports to share updates and progress made with the team.
- Enforce vendor contract compliance, which will be further enabled through the clear identification of roles and responsibilities as described and agreed to in the Project Charter.
- Update Program Work Plan, including Risk Mitigation Plan. The Consultant Program Manager will be responsible for maintaining the Program Work Plan as a living document, updating as necessary to accommodate changes and impacts that affect the project plan and timeline. Consultant will provide a Risk Mitigation Plan that outlines the recommended identification of key risks and best practices to avoiding, resolving, or managing them and will work with the Project Team to further tailor to the City's deployment as needed.
- Lead the data validation efforts, including parallel reads, in coordination with the installation team and with support as needed from the Utility Billing sub-team. The goal is to make sure the meter replacement and integration work has no negative impact on the City's reading and billing process. Adequate testing databases and back-ups help protect the City's data and create assurances that data is clean, and all files are correct before being pushed to production. Data validation efforts are also a key component for quality control and help accommodate for the inevitable mistake and human error factor.
- Facilitate training as needed/recommended. A key area of focus for Consultant in this stage is to provide role-specific how-to documents that are much more focused and digestible for City staff. Consultant will also facilitate training by handling logistics, creating agendas, and coordinating the vendor trainers and training material on behalf of the City along with creating opportunities for staff to shadow vendors and providing one-on-one training sessions with key staff as needed.
- Oversee the Installer's configuration of the WOMS and its integration into the CIS. Consultant has designed its own installation WOM tool and has extensive experience managing the data capture form, process, data validation, and integration into CIS and GIS and will help shape all elements of this activity to ensure all expectations of the City for install data capture are met.
- Create a Utility Billing sub-team to focus on the integration and interface work with proper assignment of roles and responsibilities utilizing a RACI matrix. Having a dedicated group comprised of key City staff involved in the systems, IT, the utility billing integration SME, and Consultant Project Manager that has extensive integration management experience. Conducting the necessary due diligence of data scrubbing and standardization, planning the interfaces to ensure the proper flow and mapping of data between systems, and building the interfaces to best accommodate for future functionality and flexibility are core activities of the integration work. Testing, documentation, and validation will all be managed by Consultant.
- Provide a robust System Acceptance Testing (SAT) measure that goes further to protect the utility's interests and hold vendors accountable for providing full functionality from the system. In addition, network optimization efforts provide the utility with the assurance that the performance and maintenance of the network is a top priority.
- Perform end-to-end testing with a variety of meter sizes and correlated data. The Consultant database SME will spearhead this quality control and end-to-end testing using industry best practices to uncover inconsistencies, duplicates, and other data disconnects to allow for the targeted resolution of any

discrepancies between systems. Consultant will also work with City staff and the Utility Billing sub-team to build in ongoing database maintenance responsibilities to ensure these systems and underlying data is maintained post-project.

- The QA/QC meter installation and network performance activities Consultant has developed were designed to reduce the risk and exposure of the City and hold vendors and their employees accountable to the standards laid out in the contracts and Project Charter. This task will be supported by the robust, cloud-based WOM tool that provides documentation of field and network support activities and findings that Consultant developed specifically for this purpose.
- Work with the City to develop policies for handling issues that will occur as part of the full deployment, including contingency plans. The project plan and Charter will accommodate for issue and risk management activities and contact list with designated Point of Contact clearly identified. Policy support will also be addressed in the Change Management Plan, will be a key consideration in the Business Process Re-Engineering effort, and will be addressed in the Communications Plan as well for how to respond externally.
- Lead the system health tracking and troubleshooting efforts. These tasks will be clearly documented and fall under the vendor management responsibilities, providing the City with confidence that the AMI system is operating as it should in advance of authorizing the full deployment.

Organizational Change Management

Based on a foundation of public administration, Consultant program team members will work with key functions within the City to identify organizational change management needs at various milestones throughout the project timeline. While the priority is the successful implementation of AMI across the service territory, Consultant experiences with organizational change during testing and full implementation phases have necessitated a best practice of establishing organizational change management components as part of the AMI rollout. Pre-planning will aid in the natural and successful transition of manual metering tasks to an automated environment seamlessly and predictably.

4.0 Full Deployment

Once the system functionality and new business processes have been tested, verified, and accepted, deployment of meters and meter interface units (MIUs) may begin on a large scale. Full system functionality will be available to the City for reading and billing purposes based on a route by route installation process and Consultant will work with City staff to ensure they are taking full advantage of the system and automation of reads throughout the “Hybrid State”. Full Deployment will be managed like a formal construction project with oversight on project communications, production, financial tracking, QA/QC, inventory controls, installation SOPs and system training. The Consultant Program Management team will be responsible for providing direct daily interaction with the Prime Vendor and installation team with the intent to minimize interruption to daily operations.

- Consultant has developed a best practice installation planning workbook that provides clear production standards for both the installation team and the utility billing and customer service team. The installation plan incorporates work times, holidays, and other factors that would impede route installation and reading requirements.

# of Installers	Route	Meter Count based on CIS	Pilot (Route 47-90 Accounts)	Week 1	Week 2	Week 3	Week 4																
				10/28-11/1	11/4-11/8	11/11-11/15	11/18-11/22																
32		526	100%		100.2%																		
61		502					94.223%																
45		350																					
25		386																					
26		290																					
43		235																					
31		391																					
48 (16), 50 (1), 51 (258)		275																					
2		244																					
3		179																					
4		313																					
5		194																					
6		311																					
7		209																					
8 (240), 9 (18)		258																					
10		315																					
11		241																					
12		200																					
Install Total			5419																				
Install Actuals			1151	90	123	29	2	0	21	31	50	84	75	65	47	7	0	0	6	27	35	67	61
Remaining by Route			0	403	374	372	372	351	320	270	186	111	46	-1	495	495	495	489	462	427	360	299	

1. Meter Installation Production Calendar

- Consultant Program Management Team Members are experienced in overseeing installation performance and quality controls through remote system monitoring and comparative data analysis. Consultant analysts have developed a data quality check process comparing sync files and field data tools to ensure all relevant field data is being passed and captured properly in the system of record (Utility Billing/GIS). The defined process throughout full deployment will provide the City with highly accurate data within critical utility systems and will reduce work orders associated with field verification and corrective actions.
- Consultant will lead the data utilization and analytics efforts, including alarm events and exceptions, working with City staff to build system use and alert response into their daily activities and workflows.
- Contract compliance enforcement will be the responsibility of Consultant to confirm service levels and milestones are achieved. Making sure the project is meeting budget and timeline expectations is a core function of the project manager. Routine deliverables like the monthly project status report and the weekly project status calls, will highlight any action items or issues.
- Consultant will facilitate training sessions with vendors. Consultant training support, including documentation and the advocacy for one-on-one and job shadowing opportunities, will provide City staff with frequent and ongoing training opportunities. The goal of the Consultant project management support is to ensure that by the time the deployment is complete, the utility is fully utilizing the system, the data and alerts are already incorporated into daily operations, and maintenance activities are routine, with staff comfortable using the technology and managing all aspects of the new system.
- The Consultant program manager will ensure the Program Work Plan and the Risk Mitigation Plan are updated. Version control will be maintained, and any new drafts will be distributed and stored on the secure project sites for easy reference throughout the project.
- In addition to weekly production calls with the project team and monthly onsite program meetings, Consultant will develop a monthly progression report that covers all critical elements of the program of work including installation status, program financials, network performance, inventory summaries, system integration and training updates, communications summaries, and other elements of importance specific to the City of Corona.
- Refinement of system configurations, often shifting from default settings, is a priority during the early stages of full deployment. Consultant will coordinate the proper design of system generated alerts and other notifications with a goal to minimize false positive alerts and alarms, align settings to unique user accounts, and promote customer self-service through the customer portal.

5.0 Project Substantial Completion and Closeout

To ensure the Utility is capturing the return on its AMI investment, a Project Closeout program is implemented to track the benefits the organization is realizing from the AMI system as well as track project financials and deliverables against the Vendor agreements. This program will inform on the performance of the organization and the system, identifying strengths and areas for improvement. The City can then utilize this information to make operational adjustments to ensure performance.

Develop / Implement Performance Measurement System

- Translate performance goals and objectives into refined and sustainable KPIs
- Define KPI collection and transfer process
- Develop appropriate PMS dashboard/reporting system

Analysis of Results

- Provide periodic review and analysis of the system performance and operational results
- Provide recommended corrective action to facilitate achievement of goals and objectives
- Develop a Results Analysis Report that will incorporate:
 - Overall utility goals and objectives achievement
 - Network performance and management requirements
 - Proficiencies assessment resulting from training and AMI system utilization
 - Return on Investment (ROI) analysis and results

Consultant will work with the City to review the possible future state scenarios, prioritizing solutions that provide maximum ROI and have a positive impact. This program will inform on the performance of the organization and the system, identifying strengths and areas for improvement. The Utility can then utilize this information to make operational adjustments to ensure performance. Actions performed during this phase include:

- Installation data archiving
- Training proficiency reviews
- Updated field and back-office workflows verifications
- City policies and ordinances analysis based on new business processes resulting from read automation

Section 2. Project Organization and Key Personnel

The MeterSYS® Commitment to Service Excellence - Properly Balancing Resource Expertise with Accountabilities

The Consultant approaches each AMI program of work as a reflection of team culture with a focus on AMI value, maintenance of public trust, and operational sustainability. The skilled consultants and field technicians are cross-trained to support the needs of each key category of work to ensure the City will receive continuity and quality of service expected and required.

For the City of Corona, Consultant will dedicate a highly trained team of professionals skilled with unique areas of focus customized to the goals and objectives of the utility. Consultant pre-selects and staffs the team based on their validated capacities to deliver the scope of work effectively within their defined areas of expertise for the entirety of the project. Consultant has the combined program management expertise to oversee these variables and will be responsible for ensuring the necessary solutions are implemented through effective

program management. By combining Consultant’s industry knowledge and Project Management Institute (PMI) approaches, Consultant will reduce the organization’s overall program risk.

Consultant Project Team

Project Role	Consultant Name
Program Administrator	Andy Honeycutt
Project Manager	Lauren Brown
Systems Lead	Stan Harris
Network Specialist/QA QC Lead	Cassius Williams
AMI Data/QC Analyst	Carol Mikovich
Senior Program Consultant/ Financial Analyst	Kahne Kraft
Field Technician	Derek Hines
Program Consultant/Metering & Billing SME	Gary Sanders
Junior Program Consultant/Communications Lead	Max Kuhlenkamp

Project Team Roles, Assignments and Availability

Project Team Member	Consultant Name	Key Task Responsibilities	Resource Availability Verified Compliant to Scope of Work and Timeline
Program Administrator	Andy Honeycutt	Responsibility for all elements of Program Management delivery; Provides executive oversight of program plan, financials, communications, contractual compliance, and administrative reporting	YES
Project Manager	Lauren Brown	Responsibility for facilitation and execution of the tasks and milestones of the program management plan and serves as the senior consultant in responsible charge of full systems integration/interfaces	YES
Systems Lead (Contract Resource)	Stan Harris	Provides direct guidance and technical professional services for all aspects of data management and interfacing with MDMS	YES
Network Specialist-Lead Consultant for QA/QC	Cassius Williams	Provides field representation for network and meter installation SOWs, safety compliance, and QA/QC efforts	YES

Project Team Member	Consultant Name	Key Task Responsibilities	Resource Availability Verified Compliant to Scope of Work and Timeline
AMI Data/QC Analyst	Carol Mikovich	Performs data synchronization and quality analysis (CIS/GIS/WOM/MDMS), MDMS configurations; supports business key business process documentation and KPI development and tracking	YES
Senior Project Consultant/Finance Analyst	Kahne Kraft	Leads and maintains program management resources including workbooks, program management plans, program charter, and program management application; serves as document controller; responsible for training content validation and delivery; responsible for job aides and procedural documentation; leads internal/external messaging	YES
Field Technician	Derek Hines	Supports the Field Manager in QA/QC and safety compliance during full deployment	YES
Program Consultant/Metering & Billing SME	Gary Sanders	Provide leadership in the transitional billing process during AMI deployment and supports the systems integration design, testing, and utilization	YES
Junior Program Consultant/Communications Support	Max Kuhlenkamp	Supports project progression through program administration, documentation, project plan updates, and assignments; supports project communication (internal/external) for each milestone of implementation	YES

Section 4. Rates and Fees

Proposed fees for program management services provided by Consultant over the entirety of the 26-month implementation plan are summarized below and detailed in the attached table. Fees are based on time allocations anticipated for the successful delivery of tasks and milestones and may be adjusted to meet the priorities of the City of Corona.

Project Team Hourly Rates

Project Team Member Hourly Rate Summary- General Rate Schedule City of Corona	Consultant Name	Hourly Rate
Program Administrator	Andy Honeycutt	\$210.00
Program Manager	Lauren Brown	\$190.00
Network Manager/QAQC	Cassius Williams	\$160.00
Lead Data Analyst	Carol Mikovich	\$130.00
Senior Program Consultant/Financial Analyst	Kahne Kraft	\$130.00
Communications Specialist	Rodger Sauls	\$125.00

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Project Team Member Hourly Rate Summary- General Rate Schedule City of Corona	Consultant Name	Hourly Rate
Field Technician/Inspector	Derek Hines	\$90.00
Program Consultant/Metering & Billing SME	Gary Sanders	\$185.00
Junior Program Consultant/Communications Lead	Max Kuhlenkamp	\$80.00
Systems Lead	Stan Harris	\$175.00

Project Fees and Level of Effort by Task

		Total Consulting Hours	Consulting Subtotal	Other Costs	Subtotal Plus Expenses	Consulting and Subcontractor Total
<i>Billing rates, \$/hour</i>				5.0%		
1.1	Project Management and Administration (NTP + 60 Days)					
1.11	Project Charter Drafting, Project Team Established, and Integrated Project Plan Finalized in Coordination with County, Prime Contractor, and PM; Communications Plan Established	38	\$5,690	\$285	\$5,975	\$5,975
1.12	Project Management Systems Setup (MS Projects, Zoho Reporting); Team Access and Training	20	\$3,000	\$150	\$3,150	\$3,150
1.13	Project Kickoff and Orientation- Project Team; Roles and Responsibilities Review, Project Reporting and Project Charter with Roles and Responsibilities Finalized	89	\$13,860	\$693	\$14,553	\$14,553
1.14	Coordination with Utility Billing Vendor for Integration Plan Development	52	\$7,870	\$394	\$8,264	\$8,264
1.15	Project Financials Management Workbook Developed in Cooperation with City Finance; Payment Schedules and Pay Request Templates Finalized	31	\$4,740	\$237	\$4,977	\$4,977
1.16	Systems Mapping and Master CIS/Read File Analysis	55	\$8,660	\$433	\$9,093	\$9,093
1.17	QA/QC Plan Developed for Network, Interfacing, and Installation	50	\$6,770	\$339	\$7,109	\$7,109
1.17	Initial Material Order Approval/Logistics Planning for Material Management	12	\$1,710	\$86	\$1,796	\$1,796
SUBTOTAL		347	\$52,300	\$2,615	\$54,915	\$54,915
2.0	Alpha Testing: Network, MDMS (NTP + 150 Days)					
2.10	Network Site Survey, Power and Backhaul Systems Detailed Installation Planning	64	\$9,390	\$470	\$9,860	\$9,860
2.11	Sample Files (CIS Export, Swap File, Read/Bill File) from Utility Billing Software	54	\$8,930	\$447	\$9,377	\$9,377

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		Total Consulting Hours	Consulting Subtotal	Other Costs	Subtotal Plus Expenses	Consulting and Subcontractor Total
2.12	Systems Integration Sub team to Finalize File Format	74	\$12,020	\$601	\$12,621	\$12,621
2.13	CIS Billing Export/Import File Requirements Developed; Integration/Interface Plans with AUS and AMI Vendor	56	\$9,150	\$458	\$9,608	\$9,608
2.14	CIS Integration Quote and Scope Approvals	21	\$3,540	\$177	\$3,717	\$3,717
2.15	Develop and Test Meter Swap Interface	53	\$8,860	\$443	\$9,303	\$9,303
2.16	MDMS/Systems Interface Finalized	23	\$3,965	\$198	\$4,163	\$4,163
2.17	Initiate MDMS Setup with City Operational Requirements Configurations- General	86	\$13,455	\$673	\$14,128	\$14,128
2.18	Install Field Tool Configuration and Testing	26	\$3,880	\$194	\$4,074	\$4,074
2.19	Network Site Plans Finalized and Approved- Includes Tank Manager Approval	48	\$7,700	\$385	\$8,085	\$8,085
2.20	Network Installation Management- Site Preparation and Oversight	69	\$10,760	\$538	\$11,298	\$11,298
2.21	Scrap Meter Process Planning/Material Logistics and Inventory Management	19	\$2,700	\$135	\$2,835	\$2,835
2.22	Test Meter Installs Complete and Assessment of Reporting on MDMS	87	\$13,230	\$662	\$13,892	\$13,892
2.23	Phase Program Management and Reporting	110	\$17,200	\$860	\$18,060	\$18,060
SUBTOTAL		790	\$124,780	\$6,239	\$131,019	\$131,019
3.0	Beta Testing (NTP + 210 Days)					
3.10	Communications for Full Deployment	35	\$5,085	\$254	\$5,339	\$5,339
3.11	Base Station, Antenna, Electrical and Backhaul Installation and RF Performance Checks (RF Sweep, RSSI Validation)	20	\$3,480	\$174	\$3,654	\$3,654
3.12	CIS Account Details and Field Mapping	40	\$5,820	\$291	\$6,111	\$6,111
3.13	Beta Testing Phase Meters Installed	91	\$13,090	\$655	\$13,745	\$13,745
3.14	Handheld and Field Tool Training/Job Shadowing	29	\$3,960	\$198	\$4,158	\$4,158
3.15	Network Mitigation Based on Testing	25	\$3,970	\$199	\$4,169	\$4,169
3.16	Establish Install Schedule (Reading, Billing, Blackout Days, Progression)	35	\$5,530	\$277	\$5,807	\$5,807
3.17	Critical Customer Identification and Management	28	\$4,195	\$210	\$4,405	\$4,405
3.18	Develop Meter Swap Form with Work Flows	25	\$4,120	\$206	\$4,326	\$4,326
3.19	Install Schedule Developed w/Route and Progression Percentage	17	\$2,800	\$140	\$2,940	\$2,940
3.20	Install Checklist Developed/Approved	19	\$2,680	\$134	\$2,814	\$2,814
3.21	MDMS Training and Initial Alert Configuration	41	\$6,180	\$309	\$6,489	\$6,489
3.22	Updated Interface Testing & Signoff	29	\$4,845	\$242	\$5,087	\$5,087
3.23	Phase Program Management and Reporting	74	\$11,610	\$581	\$12,191	\$12,191
SUBTOTAL		508	\$77,365	\$3,868	\$81,233	\$81,233
4.0	Full Deployment (NTP + 730 Days)					

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		Total Consulting Hours	Consulting Subtotal	Other Costs	Subtotal Plus Expenses	Consulting and Subcontractor Total
4.10	Non-Standard Installation Management; Return to Utility/Skips Management; Data Quality Management (Field Installs, MMCO, Sync File)	203	\$31,040	\$1,552	\$32,592	\$32,592
4.11	Situational and Position Specific Training Plan Implemented- Metering & Billing	196	\$30,615	\$1,531	\$32,146	\$32,146
4.12	Job Aides Development and Adoption	88	\$13,340	\$667	\$14,007	\$14,007
4.13	Conduct Meter and Network Performance QC	313	\$49,210	\$2,461	\$51,671	\$51,671
4.14	Mitigation Work based on Optimization	153	\$25,250	\$1,263	\$26,513	\$26,513
4.15	Field Inspections and Installation QC/Inventory Controls	451	\$52,550	\$2,628	\$55,178	\$55,178
4.16	Phase Program Management and Reporting (includes Project Finance)	1475	\$236,750	\$11,838	\$248,588	\$248,588
SUBTOTAL		2879	\$438,755	\$21,938	\$460,693	\$460,693
5.0	Project Closeout and Acceptance (NTP + 790 Days)					
5.10	Meter Punch list / Clean up	63	\$9,440	\$472	\$9,912	\$9,912
5.11	Finalize Inventories, Restocking, and Retainage for Operations	26	\$4,210	\$211	\$4,421	\$4,421
5.12	Project Installation Final Inspections	92	\$11,560	\$578	\$12,138	\$12,138
5.13	MDMS Training- Review	66	\$10,830	\$542	\$11,372	\$11,372
5.14	Systems Configurations and Implementation Technical Services (Customer Portal, MDMS, GIS, WOM, Asset Management)	160	\$22,660	\$1,133	\$23,793	\$23,793
5.15	Field Installation Final Training Review	51	\$7,000	\$350	\$7,350	\$7,350
5.16	Project Financials Final Reconciliation	80	\$12,400	\$620	\$13,020	\$13,020
5.17	Equipment RMA Process Check	23	\$3,390	\$170	\$3,560	\$3,560
5.18	Infrastructure Acceptance (Collectors, Radios, Meters)	29	\$4,710	\$236	\$4,946	\$4,946
5.19	Project Acceptance and Sign-off; Transfer of Project Materials	41	\$6,050	\$303	\$6,353	\$6,353
5.20	Phase Program Management and Reporting	164	\$25,140	\$1,257	\$26,397	\$26,397
SUBTOTAL		795	\$117,390	\$5,870	\$123,260	\$123,260
PROJECT MANAGEMENT TOTAL		5319	\$810,590	\$40,530	\$851,120	\$851,120

Project Fees and Level of Effort by Task

Key Milestones	Duration Months	Allocation As Percentage	Level of Effort Estimate	Cost
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City of Corona AMI Program Management Scope of Work- 2023

Project Management and Administration (NTP + 60 Days)	2	6%	347	\$54,915
Alpha Testing: Network, MDMS (NTP + 150 Days)	3	15%	790	\$131,019
Beta Testing (NTP + 210 Days)	2	10%	508	\$81,233
Full Deployment (NTP + 730 Days)	17	54%	2879	\$460,693
Project Closeout and Acceptance (NTP + 790 Days)	2	14%	795	\$123,260
Total	26	100%	5319	\$851,120

Section 5. Program Key Milestones and Deliverables

The following details the key milestones and deliverables according to the respective key activity phase. The percentage of project upon completion identifies the allocation of the project total each key activity comprises. Consultant invoices monthly based on project progression of the proceeding month’s activities and completion and submission of deliverables.

Key Activity	Activity Description	Project Deliverables
PROGRAM MANAGEMENT- IMPLEMENTATION		
1.0. Project Initiation: Implementation Program Management	Project Setup: Discovery Session, Project Charter, Program Management Tools, Historical Data Collection and Analysis	<ul style="list-style-type: none"> ▪ Project Charter ▪ Financials Workbook ▪ Project Work Plan ▪ RACI Chart ▪ Communications Plan ▪ Project Management Platform (Zoho, MS Project) Setup/Access ▪ Systems Topology Mapping ▪ CIS/GIS Data Quality Assessment ▪ Quality System Plan- QA/QC ▪ Network Detailed Site Plan (All Locations) ▪ Large Meter Survey
Communications	Comprehensive Internal/External Communications Strategy to Address all Phases of Project Implementation	<ul style="list-style-type: none"> ▪ Communications Plan ▪ Related Collateral Material

Key Activity	Activity Description	Project Deliverables
2.0. Implementation Initiation and Testing- Alpha	Testing Phase: Infrastructure Planning, Installation, and Testing	<ul style="list-style-type: none"> ▪ Comprehensive Work Plan Updates ▪ Systems Integration Plan ▪ Quality System Plan Update ▪ Communications Plan Update ▪ Progression Reporting ▪ Vendor Financial Management and Reporting ▪ Field Installation Application Configuration ▪ Technology and Security Needs Assessment
3.0. Data Management Through Integration and Testing- Beta	Systems (Software) Integration Management: Includes GIS, Work Order Management, and Customer Portal as Outlined in Specifications	<ul style="list-style-type: none"> ▪ Systems Integration Sub-team Work Plan ▪ Finalized Training Program (Field Operations, Systems Configuration, User Job Aides) ▪ RACI Chart- Integration ▪ System Acceptance Testing Plan ▪ Help Desk Support and Tiered Response Plan ▪ Communications Plan Updates
4.0. System-Wide Meter Conversion to AMI	Full Deployment (Field Inspections QC/QA, Systems Performance Management, Field, and Software Training)	<ul style="list-style-type: none"> ▪ QA/QC Compliance Reporting (Field Inspections, Systems Validation, Inventory Controls) ▪ Field Audits ▪ Data Quality Assessments- By Route ▪ Installation Calendar & Installation Production Worksheet ▪ System Configurations Refinement (Alerts, Alarms, Settings) ▪ User Training (System Configuration and System Performance) ▪ Progression Reporting

Key Activity	Activity Description	Project Deliverables
5.0 AMI Program Management Finalized	Project Closeout, Financials Reconciliation, Reporting and Acceptance	<ul style="list-style-type: none"> ▪ Program Closeout Plan ▪ System Acceptance Document ▪ AMI Systems Sustainability Plan ▪ Contract Compliance ▪ Release Full Program Documentation ▪ KPI Reporting Updates ▪ Ordinance & Policy Assessment ▪ Training Proficiency Reviews ▪ Updated Field and Back-office Key Process Workflows Charting