



Meeting Date: 12/13/2011

Agenda Item # 8-C

CITY COUNCIL AGENDA ITEM

Contact Name: Paul Johnson

Department Director:

Paul Johnson

Department/Contact # 775-5446

City Manager:

Jamie Croteau

Type of Item:

Public Hearing

Resolution

Ordinance First Reading

Discussion & Action

Ordinance Second Reading

Council Approval

Subject: Saint Johns River Water Management District Cost Share Program

BACKGROUND: Staff applied for a cost share from the Saint Johns River Water Management District (SJRWMD) in January 2011. The cost sharing was to be based on targeted conservation through automated meter reading. The project required to meet the criteria was to replace and upgrade the water meters throughout our system with automated radio-read type meters. The estimated total cost to achieve the change to automated meter reading is between \$991,000 and about \$1,500,000. Originally, the cost share from SJRWMD was to be 50% of the total cost of implementation. With budget cuts looming, the District froze all cost share awards until further notice. We received word that funding for cost share projects would be available in the District's 2011/2012 budget but with a maximum award of \$200,000. Our application and project have been approved by the District and an agreement for the funding is forthcoming.

Our current meter replacement program allocates \$70,000 per year for new meters. This allows for the purchase/replacement of 425 meters per year. With approximately 3,750 meters left to replace, it will take nine more years to complete the changeover. The cost share program gives us an opportunity to have all the meters replaced and updated to "smart" technology that provides water use data that can be accessed remotely within the current budget year. In addition to accelerating the meter replacement program, this program will give us the ability to remotely read the meters and will save about 3,000 hours of labor normally spent on meter-reading each year. This manpower can be utilized to enhance the replacement of undersized/deteriorating water lines.

RECOMMENDATIONS: Staff recommends Council approve the cost share agreement with SJRWMD and authorize the City Manager to execute the agreement.

ATTACHMENTS: Draft Scope of Work for cost share agreement.

FINANCIAL IMPACT: The estimated \$991,000 to \$1,500,000 needed for the project will need to be financed or transferred from the Utilities reserve in order to accomplish the project. SJRWMD will reimburse \$200,000 upon receipt of valid expenditures.

Reviewed by City Attorney

Reviewed by Finance Dept.

Reviewed by:

1st Discussion Date:
12/13/2011

2nd Discussion Date:
date.

Third Discussion Date:
date.

Other Dates:
date.

**ATTACHMENT A - STATEMENT OF WORK
WATER CONSERVATION COST SHARE PROGRAM
CITY OF ORANGE CITY
TARGETED CONSERVATION THROUGH AUTOMATED METER READING (AMR)**

I. INTRODUCTION/BACKGROUND

The St. Johns River Water Management District (District) created the Water Conservation and Demand Management Program (the Program) in FY2008-2009 as a cost share program to develop and implement innovative water conservation initiatives and to develop and analyze metrics to demonstrate the effectiveness of water conservation planned or implemented by the District.

On October 11, 2011 the District's Governing Board approved \$200,000 of funding for the City of Orange City (Recipient) for Targeted Conservation through Automated Meter Reading (AMR) project.

II. OBJECTIVES

The objectives of this contract are to provide cost share dollars that will enable the Recipient to upgrade its system for tracking, measuring and reporting water savings from conservation. The Recipient's project objectives include an estimated 3,751 water meter replacements with two-way radio read meters and nodes (also known as Mi.Nodes) and an estimated 1,549 water meter upgrades with nodes (also known as Mi.Nodes), as part of system improvements incorporating advanced metering infrastructure (AMI). The Recipient's AMI system will provide account level water use data to enable more robust compliance /enforcement of the City's water conservation and irrigation ordinance, accurate meter reading, leak detection, and customer service.

III. SCOPE OF WORK

Recipient has stated that it shall complete this project through performance of tasks in the Task Identification section of this Statement of Work. Attachment B, the Recipient's Application, provides additional details for implementing the AMR project.

IV. TASK IDENTIFICATION

Recipient has stated that it shall complete this project through a subcontractor (Mueller Systems) to perform the tasks in the Task Identification section of this Statement of Work. Recipient has stated that it intends to complete this project in two phases, with each phase being a mixture of water meter replacements and water meter upgrades. Attachment B, the Recipient's statement of work, provides additional details for each of these Tasks.

V. TASK IDENTIFICATION

Task 1 – Perform Survey, Conduct Design Study, and Furnish and Install AMI System (excluding Mi.Nodes):

Recipient shall have site survey and detailed network design performed, as basis for approved site plan and subsequent installation of AMI network. Work shall include required data transfers and interface with utility billing system.

Recipient shall furnish and install AMI to include required servers, gateways to collect and upload data, and related software and equipment. Recipient's AMI system shall be capable of updating baseline statistical data and reporting water consumption. The system shall include capability of "on demand" reading through a web-based viewer that the Recipient can use to display past, present and predicted future water use for the purpose of conservation planning and response. The system shall include capability to monitor fire hydrant flow.

The AMI system shall include a web portal to permit customers access to their account and usage information. The metering software shall include triggers for consumption alerts, automation of service request types, a notification process, and report on the types of demand-side conservation measures applied by the Recipient (or Recipient's customers) on each account.

Task 2 – Furnish and Install Water Meter Replacements and Upgrades (with Mi.Nodes):

Recipient shall furnish and install nodes for the AMI system to consist of an estimated 3,751 water meter replacements and an estimated 1,549 water meter upgrades. Work shall include associated software programming and system configuration, for a total of an estimated 5,300 account locations and shall include all labor, equipment, and material required for a fully functional system.

Task 3 – Testing, Startup, and Training:

During and after installation of AMI system, Recipient shall conduct testing and startup. Recipient shall obtain all required training to operate system. Once the system is fully functional, Recipient shall place system into operation.

Task 4 – Project Reporting:

Recipient shall utilize AMI System to generate account level water use data for enforcement of the City's water conservation and irrigation ordinance, accurate meter reading, leak detection, and customer service. The specific requirements for the delivery of the account level water use data is in Section V.

Reporting of account level water use data shall include batch export of historical metered monthly consumption data from the City's billing software into database tables to provide an accurate and consistent dataset of account-level historical water consumption. This data shall be evaluated for seasonal use characteristics and benchmarks, and analyzed with parcel and land use information to identify regional demographic use patterns that may provide opportunities for water conservation strategies. This information shall be included in the quarterly reports to the District.

The Recipient shall quantify the amount of water savings attributed to the Recipient's implementation of best management practices (BMP) for reducing customer demands. The Recipient shall evaluate demands based on non-weather related factors, such as conservation programs, and identify specific customer accounts for evaluation. Baseline conditions shall be established for these accounts and the amount of water savings quantified so that savings can be compared with per capita demand projects from the District.

The Recipient shall provide a Final Report upon completion of all work, which shall include a Presentation for the Recipient and the District. Recipient shall provide deliverables specified in each Task, including those described in Attachment B.

V. TIME FRAMES AND DELIVERABLES

All work shall be completed in accordance with tasks described above and consistent with Attachment B – Application- City of Orange City Automated Meter Reading (AMR) for Water Use Efficiency. Prior to beginning work under this contract, Recipient shall provide District Project Manager with a project schedule. The Recipient shall submit quarterly reports to the District's project manager detailing the progress of each Task. The project implementation (Tasks 1 through 4) shall be completed no later than March 31, 2013.

Recipient shall deliver a minimum of three (3) years of monthly account level water use data recorded prior to the implementation of this project. All pre-implementation account level consumption data delivered shall be formatted in a consumption table which must include a unique ID, account number, location ID, water use type, account address, consumption amount for the month in gallons and the consumption month for each affected connection.

Recipient shall also deliver a minimum of three (3) years of monthly account level water use data recorded after the implementation of this project for all affected connections. Each year of post-implementation data shall contain an original account number, or another unique identifier to relate to the accounts in the pre-implementation consumption table. Account level consumption data shall be delivered to the District Project Manager annually, at dates corresponding to full year after project implementation.

The required account level billing data deliverable shall be joined with the county appraiser data available from the District. This can be coordinated with the District's Project Manager or performed by the Recipient. A summary of the data shall be categorized using the Department of Revenue (DOR) code and include descriptive statistics derived for each category based on DOR code and build-out category. Descriptive statistics shall include the number of accounts and total square footage at each 1,000 gallons of consumption for each customer class and build-out category. At Recipient's request, District can assist with the geo-coding of account locations, depending on the characteristics of the Recipient's water use metering infrastructure, for Recipient's use with its geographic information system (GIS). Recipient may then utilize the GIS linkages to facilitate its work practices (see note below).

All data collected in association with work performed under this agreement shall be provided to the District's Project Manager in a digital format approved by the District's Project Manager. All analysis performed under this agreement shall be documented and provided to the District's Project Manager in a final summary report.

Note on GIS linkage and Recipient Work Practices:

If Recipient intends to incorporate GIS into its internal work practices of evaluating and responding to high water use patterns, a standard operating procedure (SOP) shall be required for maintaining the linkage of the systems. A structured query language (SQL) database shall be created to serve as a central repository and to facilitate complete integration. To set conservation goals using AMI and GIS, Recipient shall establish categories of usage amounts within the residential customer classification through an evaluation of the Recipient's account-level consumption and property characteristics. Based on these categories, water conservation activities (Best Management Practices – BMPs) shall be identified and ranked and water savings goals shall be developed for each of the highest ranking activities.

Workflows shall be developed for linking the conservation activities with the Recipient's current work practices for evaluating high water use patterns. Recipient shall utilize its SQL-based solution for updating the baseline statistical data and reporting water consumption in a central repository. This

solution shall include triggers for consumption alerts, automation of service request types, a notification process, and report on the types of demand-side conservation measures (e.g. BMPs) applied by the Recipient (and or the Recipient's customers) on each account.

VI. BUDGET/COST SCHEDULE

For satisfactory completion of the Project, the District shall pay Recipient fifty percent (50%) of the total cost of the Project, but in no event shall the District's cost-share exceed \$200,000. Recipient shall invoice the District quarterly. The invoices shall include sufficient backup documentation for payment, including a copy of the subcontractor and supplier invoices submitted to, and paid by, the Recipient.

Recipient has estimated the total cost of this project under this contract to be \$991,320. Recipient agrees to provide at least \$791,320 in the form of matching funds for this project. If Project costs exceed the estimated Project cost so as to reach the not-to-exceed amount of the District cost-share, then Recipient shall provide any additional funding required to complete the Project.

Cost Schedule for Tasks 1-5

Task 1	Perform Survey, Conduct Design Study, and Furnish & Install AMI System	\$84,271
Task 2a	Furnish & Install Water Meter Replacements (with Mi.Nodes) (See Note 1)	\$750,200
Task 2b	Furnish and Install Water Meter Upgrades (with Mi.Nodes) (See Note 1)	\$153,249
Task 3	Testing, Startup and Training	3,600
Task 4	Project Reporting	See Note 2
	Total Project Cost:	\$991,320
	SJRWMD Not-to-exceed 50% Cost Share:	\$200,000

Note 1: The estimated number of Mi.Nodes is 3,751 for water meter replacements and 1,549 for water meter upgrades, for total of 5,300 account locations. Payment will be based on the actual number of Mi.Nodes installed except as limited by the not-to-exceed cost share amount.

Note 2: Cost of project reporting is included in other tasks and is not separately paid for.