

EXHIBIT A

City of Tempe

**JGMWTP Security
Improvements**

**Construction
Administration Services**

**Scope of Work
and
Fee Schedule**

Project # 3203501

May 15, 2012



CITY OF TEMPE Public Works Department



**WATERWORKS
ENGINEERS**

ON



**SCOPE OF WORK
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GENERAL

The City of Tempe's Johnny G. Martinez Water Treatment Plant (JGMWTP) has been in operation since the mid 1960's. Planned upgrades to the security of the facility are primarily aimed at improving site security while being aesthetically pleasing. The exact final upgrades to the security will include the following:

- **Wrought Iron Fencing:** The existing chain link fence around the west and south ends of the site will be replaced with Ameristar Impasse wrought iron fencing.
- **Light Poles:** Light poles will be added along the perimeter fencing.

The security upgrades will be constructed while maintaining normal security at JGMWTP.

Notice to proceed (NTP) for these security improvements is scheduled for June 1, 2012 with substantial completion of these improvements on approximately September 23, 2012.

The Scope of Work for the Construction Services phase of the City of Tempe (City) JGMWTP Security Upgrades is based on a 4 months construction duration. The Construction Services have been organized into two major stages as follows:

STAGE 1 ENGINEERING SUPPORT DURING CONSTRUCTION

STAGE 2 INSPECTION SERVICES

The City has conducted open house meetings to coordinate with the neighboring residents. The construction phase will be capitalized on these meetings and will make sure that the residents concerns are addressed.

PROJECT TEAM AND DISCIPLINES

The core of the project team for the JGMWTP Security Upgrades project consists of a project manager, a contractor, and a construction management team. Kenneth Halloran will be handling project management duties for the City of Tempe. The design was primarily performed by Durrant as the prime architect. Durrant hired Energy Systems Design to handle the electrical design and KPFF consulting for structural design. The City has selected APJ Electric as the contractor. Vijay Gokhale will be leading the construction management team for the City. The City has selected Water Works Engineers, LLC (WaterWorks) to assist on the construction management team as resident engineer.

WaterWorks will be inspecting construction activities at the JGMWTP during the Security Improvements project and also working to assist the City of Tempe Construction Manager to coordinate with the design and construction teams to facilitate communication and processes that will allow for the successful completion of the project. RAMM will be providing special inspection and material testing.

LIST OF TASKS

The following subsections give detailed descriptions of the tasks and subtasks.



STAGE 1 – SUPPORT DURING CONSTRUCTION

This stage will be led by the City staff. WaterWorks will have minimal effort in this task that will be limited to supporting City staff on an as needed basis.

The objective of engineering support during construction is to assure that construction of the Project is carried out in accordance with the intent of the design and the requirements of regulatory agencies, with a minimum of disruption to ongoing activities of the plant and other work. Secondly these efforts will have the goal of facilitating the construction to enable the Work to progress in an efficient and effective manner, while maintaining a supportive and collaborative working relationship among the parties.

As the Owner, the City of Tempe will be the central point of contact for the Contractor, the Design Engineer, and WaterWorks. Instructions from the Engineer to the Contractor or questions from the Contractor to the Engineer will normally be routed through the City. In some cases, instructions will be directly issued by the City to the Contractor.

TASK 1100 PROJECT ADMINISTRATION

This task will be performed by the City staff

Subtask 1110 Conferences and Meetings

This task will be performed by the City staff

TASK 1200 RECORD DRAWINGS

WaterWorks will facilitate the development of record drawings based on Contractor field notes and Contractor redlines in accordance with contract requirements. WaterWorks will review the record drawing redlines monthly and ensure that they are kept up to date. An allowance is included in case WaterWorks is tasked with developing the record drawings.

STAGE 2 – INSPECTION SERVICES

WaterWorks effort will be concentrated on this task. WaterWorks will conduct routine daily inspection and special inspection activities to prevent any interruptions to work progress and completion. WaterWorks will perform the following:

TASK 2100 INSPECTIONS

WaterWorks will conduct field observations and inspection of the work in progress. Specific WaterWorks Team members will facilitate the conducting of specific electrical and structural inspections required by governing Codes, assist in preparation of applicable documentation and records of such inspections, and assist in certification of compliance with design requirements and governing Codes. The inspection activities will be closely coordinated with the Contractor and shall include:

- Construction inspections



- Assist in coordination of special inspections
- Assist in coordination of inspections by the design team
- Witness field tests
- Assist in inspection of work for completion

TASK 2200 FIELD TESTING

WaterWorks' Resident Engineer will observe, record and report appropriate details relative to the test procedures and scheduling of field testing efforts. The City will employ the services of Ricker-Atkinson-McBee-Morman & Associates Inc. (RAMM) for concrete reinforcement special inspection and tests to be performed by the City in the Contract Documents.

WaterWorks' Resident Engineer will review test results as they are being produced in the field or reports submitted by the City's material testing company for compliance with quality standards and will take appropriate action to obtain additional data, if necessary, regarding the quality of materials and work in-place. WaterWorks will notify the Contractor of any test result requiring additional work or information from the Contractor to substantiate the quality of the work.

TASK 2300 SUBSTANTIAL AND FINAL COMPLETION INSPECTIONS

WaterWorks' Resident Engineer will assist in conducting inspections to determine if the Project is substantially complete and will, before recommending the issuance of a Certificate of Substantial Completion, assist in development of a list of observed items requiring completion or correction (punch list) to be delivered to the Contractor.

WaterWorks' Resident Engineer will participate in and assist with a final inspection (walkthrough) to determine if the finished Work has been completed to the standard required by the Contract Documents and that Contractor has fulfilled its obligations as required. This inspection will be based on the punch list and any other functional or operational deficiencies that occur in the time period between when the punch list is generated and the Final Inspection. Once it has been determined that the Work is finished and complete and the City is in agreement with the determination, WaterWorks will recommend, final payment to Contractor.

SCOPE LIMITING ASSUMPTIONS

Tasks and requirements set forth in this Scope of Work are based on the following scope limiting assumptions:

- Construction duration – 120 days
- RAMM will be handling all inspections of concrete reinforcement and subgrade evaluation along with concrete and compaction testing. City staff or the contractor will be the primary point of



May 14, 2012

contact with RAMM for the duration of the project and will be the primary coordinator(s) of the required inspections by RAMM.

- City staff will be the primary point of contact for the City residents who may raise questions about the work. WaterWorks will support the City in their coordination with the residents.
- City staff will be primarily responsible for organizing and running construction progress meetings and will produce minutes for these meetings. WWE will be in attendance at these meetings whenever possible.
- The drawing files are available in dwg format.

A handwritten signature in black ink, appearing to be 'QV'.



City of Tempe
JGMWTP Upgrades for DBP Control - Phase 2
Project No. 3204231

Task No. Description	Phase 2 Total
STAGE 1 - ENGINEERING SUPPORT DURING CONSTRUCTION	
1100 PROJECT ADMINISTRATION	
1110 <i>Conferences and Meetings</i>	\$ -
1200 <i>Record Drawings</i>	\$ 1,570
Task Series 1000 Subtotal	\$ 1,570
STAGE 2 - INSPECTION SERVICES	
2100 INSPECTIONS	\$ 93,530
Electrical and I&C Inspection	\$ 16,200
2200 FIELD TESTING	\$ 18,420
2300 Substantial and Final Completion Inspections	\$ 5,400
Task Series 2000 Subtotal	\$ 133,550
STAGE 3 - START-UP AND COMMISSIONING	
3100 START-UP	\$ 9,720
Task Series 3000 Subtotal	\$ 9,720
STAGE 4 - SPECIAL SERVICES	
4100 MOPO PLANNING	\$ 4,320
4200 SCHEDULE ADJUSTMENTS	\$ 2,160
Task Series 4000 Subtotal	\$ 6,480
Task Series 1000 through 4000 Subtotal	\$ 151,320
Allowances	
Other Special Inspections	\$ 5,000
Coating Inspection	\$ 5,000
4400 PROGRAMMING	\$ 20,000
Total	\$ 181,320

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Task No. Description	Hours									Fees
	PIC	PM	RE/SPE	PE	ENG	DSGN	TECH	CLER	Total	Total
	\$ 170.0	\$ 155.0	\$ 135.0	\$ 125.0	\$ 110.0	\$ 95.0	\$ 95.0	\$ 50.0		
STAGE 1 - ENGINEERING SUPPORT DURING CONSTRUCTION										
1100 PROJECT ADMINISTRATION										
1110 Conferences and Meetings									0	\$ -
1200 Record Drawings			6				8		14	\$ 1,570
Task Series 1000 Subtotal	0	0	6	0	0	0	8	0	14	\$ 1,570
STAGE 2 - INSPECTION SERVICES										
2100 INSPECTIONS		16	630					120	766	\$ 93,530
Electrical and I&C Inspections			120						120	\$ 16,200
2200 FIELD TESTING		4	120					32	156	\$ 18,420
2300 Substantial and Final Completion Inspections			40						40	\$ 5,400
Task Series 2000 Subtotal	0	20	910	0	0	0	0	152	1,082	\$ 133,550
STAGE 3 - START-UP AND COMMISSIONING										
3100 START-UP			72						72	\$ 9,720
Task Series 3000 Subtotal	0	0	72	0	0	0	0	0	72	\$ 9,720
STAGE 4 - SPECIAL SERVICES										
4100 MOPO PLANNING			32						32	\$ 4,320
4200 SCHEDULE ADJUSTMENTS			16						16	\$ 2,160
Task Series 4000 Subtotal	0	0	48	0	0	0	0	0	48	\$ 6,480
Task Series 1000 through 4000 Subtotal	0	20	1,036	0	0	0	8	152	1,216	\$ 151,320
Allowances										
Other Special Inspections										\$ 5,000
Coating Inspection										\$ 5,000
4400 PROGRAMMING										\$ 20,000
Allowances Subtotal										\$ 30,000
Water Works - Total	\$ -	\$ 3,100	\$ 139,860	\$ -	\$ -	\$ -	\$ 760	\$ 7,600		\$ 181,320