



Chandler - Arizona  
Where Values Make The Difference

**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
Memo No. CA09-100**

1. Agenda Item Number:

45

2. Council Meeting Date:  
October 30, 2008

TO: **MAYOR & COUNCIL**

3. Date Prepared: October 1, 2008

THROUGH: **CITY MANAGER**

4. Requesting Department: Municipal Utilities

5. **SUBJECT:** Award a project agreement to Wilson Engineers, LLC, for equipping design services for Appleby Well, Project No. WA0808-201, in an amount not to exceed \$126,604.

6. **RECOMMENDATION:** Staff recommends Council award a project agreement to Wilson Engineers, LLC, for equipping design services for Appleby Well, Project No. WA0808-201, in an amount not to exceed \$126,604.

7. **BACKGROUND/DISCUSSION:** New wells are needed to meet potable water demands during peak periods and to provide a backup source in times of a surface water shortage. This well site is located near the northeast corner of the intersection of Appleby Road and Lindsay Road. This project agreement provides for the design of the well pump, chlorination equipment, and other miscellaneous equipment.

8. **EVALUATION PROCESS:** On September 11, 2008, Council approved a one-year extension to the annual contract with Wilson Engineers, LLC, for permitting, study, and design for water and wastewater facilities, EN0712-101, with the option of three remaining one-year extensions. Staff has reviewed the scope of work, billing rates, and total fee for this project, compared them to historical costs, and has determined that they are acceptable.

9. **FINANCIAL IMPLICATIONS:**

Cost: \$126,604

Savings: None

Long Term Costs: None

Fund Source:

Acct. No.:	Fund Name:	Program Name:	CIP Funded:	Amount:
603.3820.0000.6713.8WA034	Water SDF	Well Construction	FY 07/08	\$126,604

10. **PROPOSED MOTION:** Move that Council award a project agreement to Wilson Engineers, LLC, for equipping design services for Appleby Well, Project No. WA0808-201, in an amount not to exceed \$126,604, and authorize the Mayor to sign the contract documents.

**ATTACHMENTS:** Location Map, Project Agreement

**APPROVALS**

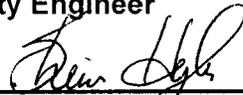
11. **Requesting Department**

  
Robert Mulvey, Assistant Municipal Utilities Director

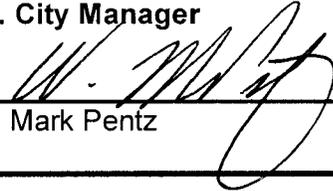
13. **Department Head**

  
Dave Siegel, Municipal Utilities Director

12. **City Engineer**

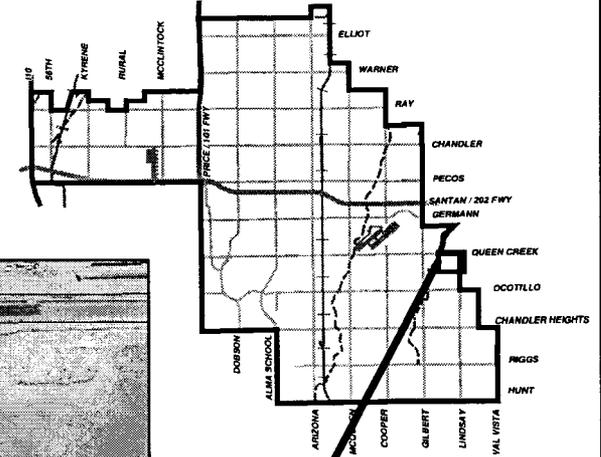
  
Sheina Hughes, Assistant Public Works Director/  
City Engineer

14. **City Manager**

  
W. Mark Pentz



# APPLEBY WELL SITE LOCATION PROJECT NO. WA0808-201



**MEMO NO. CA09-100**

 WELL SITE





## EXHIBIT A SCOPE OF WORK

This project shall consist of the outfitting design of Appleby Well, including but not limited to the preliminary design and preparation of contract documents for the well, and connecting the well into the City's water distribution system. ANNUAL CONSULTANT shall include the following major facility components:

- Vertical turbine well pump and motor. ANNUAL CONSULTANT shall coordinate with the Project's Hydrogeological Consultant to determine the design points for the well pump.
- Well discharge piping, valves, magnetic flow meter, and appurtenances to connect the well to the water distribution system.
- Chlorination system and enclosure.
- 100 linear feet or less of supply pipeline from the well to the water distribution system.
- 100 linear feet or less of pump-to-waste pipeline from the well to dry-wells to be located on-site.
- Electrical power supply equipment including service entrance, power monitoring and controls.
- Pad and electrical for a portable generator with a transfer switch sized for the new Well Facility.
- Instrumentation and pump controls including coordination with the City's SCADA system.
- Site grading, drainage, and vehicular access features.
- Perimeter site landscaping services.
- Topographic survey services.
- Geotechnical engineering services shall be provided to establish construction recommendations.
- RTU Panel design drawings shall be included.

ANNUAL CONSULTANT is not responsible for hydrogeologic services.

ANNUAL CONSULTANT shall provide the following engineering services for this Project:

### TASK 1.0 DESIGN DEVELOPMENT

**Subtask 1.1 Kick-Off Meeting:** ANNUAL CONSULTANT shall attend a kickoff meeting with representatives the City of Chandler at project initiation. The following shall be accomplished:

- Introduce key team members
- Establish lines of communication
- Review the project scope and schedule
- Identify specific goals and expectations
- Identify key issues affecting project development
- Request background information
- Discuss and identify preferred system operation, equipment, and suppliers for the civil, mechanical, electrical, instrumentation, and control equipment

ANNUAL CONSULTANT shall prepare and distribute meeting minutes to attendees within two (2) business days after meeting.

**Subtask 1.2 Data Collection and Review:** ANNUAL CONSULTANT shall collect and review background information including:

- Site legal description – to be provided by the City
- Water quality data for the new well
- Pressures in the corresponding water distribution system.
- Buried facility maps from other utilities in the project area

**Subtask 1.3 Geotechnical Investigation:** ANNUAL CONSULTANT shall provide, through a qualified consultant, the necessary soil borings and soil investigations to analyze conditions present in the area where the proposed Project shall be physically located and as required to support the design of the proposed facilities. Any geotechnical information in the City's records for the Project site shall be made available to the ANNUAL CONSULTANT.

**Subtask 1.4 Topographic Survey and Base Sheet Preparation:** Topographic survey services for the well site shall be completed under this Project. Control shall be established based on City of Chandler datum. The survey information shall identify surface features (including park vegetation), establish survey control, and topography of the site. ANNUAL CONSULTANT shall prepare a topographic map of the entire site, at a scale of 1 inch equals 40 feet, to be used as the base sheet for the construction documents.

## TASK 2.0 PRELIMINARY DESIGN

**Subtask 2.1 Conceptual Site Layout and Pipeline Alignments:** ANNUAL CONSULTANT shall develop conceptual site layout and pipeline alignments for the well site. The site shall include sufficient detail to accurately depict the well site layout, pipe lay-down storage areas, major equipment, connection to the existing reservoir, and alignment for the pump-to-waste line. One informal meeting shall be conducted to discuss the conceptual layout and to coordinate the detailed layout and design with the City.

**Subtask 2.2 Drainage Report:** ANNUAL CONSULTANT shall prepare one Drainage Report for the well site. The Drainage Report shall be submitted with the 90% plans and specifications. ANNUAL CONSULTANT shall submit five (5) copies the Drainage Report to the City for review.

**Subtask 2.3 Preliminary Design Report:** ANNUAL CONSULTANT shall prepare a preliminary design report for submittal to the City. Based on the available data, site investigations, and the City's design standards, ANNUAL CONSULTANT shall prepare a preliminary design report for the Well Site to include the following:

- Conceptual well site layout as required by Subtask 2.1
- Design criteria and standards for pipelines, pumps, structures, and other critical items of equipment
- Equipment preferences
- Operating and control strategies
- Preliminary Process and Instrumentation Control Diagrams
- Preliminary construction cost estimate
- Estimated site power requirements
- Identification of any additional design issues and recommendations

ANNUAL CONSULTANT shall submit eight (8) copies of the preliminary design report to the City for review. ANNUAL CONSULTANT shall attend a review meeting with City staff to discuss comments to the preliminary design report. These comments shall be incorporated and five (5) copies of the final design report shall be submitted.

## TASK 3.0 FINAL DESIGN

**Subtask 3.1 Preparation of 60% Plans:** ANNUAL CONSULTANT shall prepare preliminary (60%) construction documents (plans only) for the well site. The 60% plans shall include the following detailed design areas:

- Civil: Site plan and piping locations.
- Mechanical: Constant speed well pump, discharge piping, valves, and piping appurtenances.
- Disinfection: A calcium hypochlorite disinfection system shall be provided. The design shall mirror existing layouts within the City.
- Electrical and Instrumentation: Preliminary Process & Instrumentation Diagrams.

Five (5) copies of the preliminary, 60 percent, plans shall be submitted for review to the City's Engineering and Operations Departments. ANNUAL CONSULTANT shall attend a review meeting with City staff to discuss comments to the preliminary design received from the City.

**Subtask 3.2 Preparation of 90% Plans and Specifications:** ANNUAL CONSULTANT shall prepare preliminary (90%) construction documents including plans, specifications, and a construction cost estimate for the well site.

The 90% plans shall include the following detailed design areas:

- Civil: Site plan and piping locations.
- Structural: Equipment pads and foundations.
- Mechanical: Constant speed pump, piping, valves, and piping appurtenances.
- Disinfection: An calcium hypochlorite disinfection system shall be provided. The design shall mirror existing layouts within the City.
- Electrical and Instrumentation: Power supply requirements, control descriptions and instrumentation.
- Remote Telemetry Unit Design: ANNUAL CONSULTANT shall design a remote Input/Output (IO) for the well site and provide the connection design to the RTU interface.
- Pad and electrical for a portable generator with a transfer switch sized for the new Well Facility.
- Landscaping services as required supporting the design of the proposed facilities. This shall include landscape and irrigation system design.

Eight (8) copies of the 90 percent plans and specifications shall be submitted for review to the City. ANNUAL CONSULTANT shall attend a review meeting with City staff to discuss comments received from the City.

Subtask 3.3 Maricopa County and Development Services Review: One (1) set of the 90 percent plans and specifications shall be presented to Maricopa County and the City's Development Services Department for review. If necessary, ANNUAL CONSULTANT shall attend a review meeting with City and County staff to discuss any comments received from the County. Also, one review meeting shall be conducted to discuss any comments received from the City's Development Services Department.

NOTE: It is assumed that the City of Chandler shall pay all review fees directly. For MCESD, ANNUAL CONSULTANT shall coordinate the check request.

Subtask 3.4 Preparation of 100% Plans and Specifications: The final 100% plans and specifications shall be prepared including incorporation of the City and County comments. One (1) reproducible set of plans and specifications shall be submitted to the City for preparation of bid sets.

#### TASK 4.0 BID SERVICES

Subtask 4.1 Pre-Bid Conference: ANNUAL CONSULTANT shall attend the pre-bid conference to answer bidder questions pertaining to the Contract Documents.

Subtask 4.2 Questions: ANNUAL CONSULTANT shall receive and respond to bidder inquires after the pre-bid conference.

Subtask 4.3 Prior Approval Review/Addenda: ANNUAL CONSULTANT shall review equipment submittals presented for prior approval (according to the City's requirements) and prepare addenda required to clarify or modify the Contract Documents.

Subtask 4.4 Attend Bid Opening: ANNUAL CONSULTANT shall attend the bid opening, review bids, and make recommendation for award.

**EXHIBIT B  
FEE SCHEDULE**

<b>CONSTRUCTION COST ESTIMATE</b>		\$ 1,088,038
<b>ASCE CURVE A:</b>		7.50%
<b>ASCE CURVE NO.</b>	0.075 X \$1,088,038 =	\$ 81,603
<b>ESCALATOR:</b>	1.3145 X \$81,603 =	\$ 107,267
<b><u>BASIC SERVICES</u></b>		
1.1	Kick-Off Meeting	\$ 1,540
1.2	Data Collection and Review	\$ 1,660
2.1	Conceptual Site Layout & Pipe Alignments	\$ 3,320
2.2	Drainage Report	\$ 7,180
2.4	Preliminary Design Report	\$ 14,700
3.1	60% Construction Documents	\$ 21,220
3.2	90% Construction Documents	\$ 19,900
3.4	Final Submittal	\$ 17,180
4.0	Bid Services	\$ 10,180
3.0	McCloskey Peltz - Landscape Sub (Design Services)	\$ 8,500
	<b>SUBTOTAL - BASIC SERVICES</b>	<b>\$ 105,380</b>
<b><u>SPECIAL SERVICES</u></b>		
1.3	Survey & Mapping	\$ 6,034
1.4	Soils Investigation	\$ 4,810
3.3	Maricopa County / Development Services Submittal	\$ 4,980
	Jenson Systems - Panel RTU Design	\$ 5,400
	<b>SUBTOTAL - SPECIAL SERVICES</b>	<b>\$ 21,224</b>
<b>III. TOTAL FEE PROPOSAL</b>		
I	<b>BASIC SERVICES</b>	<b>\$ 105,380</b>
II	<b>SPECIAL SERVICES</b>	<b>\$ 21,224</b>
III	<b>TOTAL FEE</b>	<b>\$ 126,604</b>