



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CP16-094**

1. Agenda Item Number: 17
2. Council Meeting Date: November 19, 2015

TO: MAYOR AND CITY COUNCIL

3. Date Prepared: November 2, 2015

THROUGH: CITY MANAGER

4. Requesting Department: Municipal Utilities

5. SUBJECT: Project Agreement with Southwest Ground-water Consultants, for the Fire Station Well Design and Construction Management Services

6. RECOMMENDATION: Staff recommends City Council award a Project Agreement to Southwest Ground-water Consultants, for Fire Station Well design and construction management services, pursuant to Annual Hydrogeological Services Contract No. EN1203.101, Project No. WA1521.451, in an amount not to exceed \$105,449.

7. BACKGROUND/DISCUSSION: The 2008 Water Master Plan recommends 74.5 million gallon per day (MGD) build-out capacity for groundwater wells. As the City's wells age, well production will decrease over time. To maintain the recommended build-out capacity, new replacement wells are needed. The new well, known as the Fire Station Well, will be located at 5211 S. McQueen Road, adjacent to Fire Station No. 10.

The project scope of work consists of: well spacing analysis, permitting, preparing specifications, bid assistance and construction management for installation, testing, and reporting.

8. EVALUATION: This project is being performed under the Annual Hydrogeological Services Contract No. EN1203.101, to Southwest Ground-water Consultants. The costs proposed for this project have been evaluated by staff and are determined to be reasonable. The contract completion time is 365 calendar days following Notice to Proceed.

9. FINANCIAL IMPLICATIONS:

Cost: \$105,449
Savings: N/A
Long Term Costs: N/A

Fund Source:

<u>Account No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
603.3820.6713.6WA034	Water SDF	Well Construction/Rehabilitation	Yes	\$105,449

10. PROPOSED MOTION: Move City Council award a Project Agreement to Southwest Ground-water Consultants, for Fire Station Well design and construction management services, pursuant to Annual Hydrogeological Services Contract No. EN1203.101, Project No. WA1521.451, in an amount not to exceed \$105,449.

ATTACHMENTS: Agreement, Location Map

APPROVALS

11. Requesting Department


John Knudson, Utilities Engineering Manager

13. Department Head


Gregg Capps, Acting Municipal Utilities Director

12. Transportation & Development


Bob Fortier, Capital Projects Manager

14. City Manager


Marsha Reed, Acting City Manager

**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN1203.101**

PROJECT AGREEMENT NO: WA1521. 451

This PROJECT AGREEMENT is made this _____ day of _____, 2015, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Southwest Ground-water Consultants, an Arizona corporation, (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1203.101.

CITY and Southwest Ground-water Consultants, in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1 - DESCRIPTION OF WORK:

This project is Fire Station Well - Design and Construction Management Services, Project Number WA1521.451. The scope of work consists of permitting, specifications, bidding assistance and construction management for the installation, testing, and reporting for a new municipal production well referred to as the Fire Station Well, all as more particularly set forth in Exhibit A attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

ARTICLE 2 - CONTRACT PRICE:

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed One Hundred Five Thousand Four Hundred Forty Nine Dollars (\$105,449) determined and payable as set forth in Annual Contract EN1203.101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3 - CONTRACT TIME:

The contract time is Three Hundred Sixty Five calendar days and Annual Consultant agrees to complete all work within Three Hundred Sixty Five (365) calendar days of the date CITY issues a Notice to Proceed.

ARTICLE 4 - GENERAL:

This Project Agreement is entered into pursuant to Annual Contract No. EN1203.101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

IN WITNESS WHEREOF, the parties hereto have executed this Project Agreement on the day and year first written above.

This Project Agreement will be effective on this _____ day of _____, 2015.

CITY OF CHANDLER

FOR THE ANNUAL:

MAYOR DATE:

By: *Bill Greenslade*
Title: Principal

ADDRESS FOR NOTICE
City of Chandler
P.O. Box 4008, Mail Stop 407
Chandler, AZ 85244-4008
480-782-3307

ADDRESS FOR NOTICE
Mr. Bill Greenslade
Southwest Ground-water Consultants
3033 N. 44th St., Ste. 120
Phoenix, AZ 85018

APPROVED AS TO FORM:

Phone: 602-955-5547

City Attorney By: *[Signature]*

ATTEST:

City Clerk

**EXHIBIT A
SCOPE OF WORK**

ANNUAL CONSULTANT shall provide Design and Construction Management services related to the Fire Station Well project:

TASK 1.0 - PERMITTING

Sub-task 1.1 – Develop Permitting Strategy

ANNUAL CONSULTANT will assess the hydrogeologic conditions in the area, compile well construction data on surrounding wells and review the permitting strategy employed at other wells in the general area. ANNUAL CONSULTANT will develop permitting strategy options that address the need for acceptable quality and yield of the new well.

Sub-task 1.2 –Permitting Strategy Meeting

ANNUAL CONSULTANT will schedule a meeting with the City and present permitting options for discussion and decision.

Sub-task 1.3 – ADWR Pre-Application Meeting

ANNUAL CONSULTANT will schedule and attend a pre-application meeting with ADWR to review the planned approach and determine the type and amount of analyses (well spacing) and data required in the permit application.

Sub-task 3.4 – Prepare Permits

ANNUAL CONSULTANT will prepare and submit the relevant ADWR well drilling and testing permits. The specific permits and timing of submittal will be determined in Sub-tasks 1.1 and 1.2. Costs of permits are included in the cost estimate below.

TASK 2.0 - BIDDING ASSISTANCE

Sub-task 2.1 - Kick-off Meeting

ANNUAL CONSULTANT will schedule a kick-off meeting with the City to review the scope and schedule for the project. Work tasks will be reviewed and a detailed timeline determined. The new well is in an area that potentially has both hydrogeologic (yield and water quality) and well impact (nearby wells) constraints. ANNUAL CONSULTANT will provide data on these issues and propose alternative solutions.

Sub-task 2.2 - Assistance with Contractor Selection

ANNUAL CONSULTANT will attend the pre-bid meeting and assist the City in responding to technical questions from potential bidders.

TASK 3.0 - TECHNICAL SPECIFICATIONS

ANNUAL CONSULTANT shall provide technical specifications and bid schedule.

Sub-task 3.1 - Review Existing Technical Specification and Site Information

ANNUAL CONSULTANT will review existing City well installation and testing technical specifications, and propose updates to the specifications to conform to the requirements of the contractor selection process as well as any proposed technical changes. The City will provide to ANNUAL CONSULTANT initial design criteria and well specific information for the new well. Based on this information and review of local hydrogeologic conditions, ANNUAL CONSULTANT will develop a preliminary well design for the new well.

Draft technical specifications and bid schedule for the well installation will be presented to the City for review and comment.

Sub-task 3.2 - Technical Specification Progress Meeting

ANNUAL CONSULTANT shall conduct progress meeting.

Sub-task 3.3 - Preparation of Final Technical Specification

The final technical specifications and bid package shall be prepared by ANNUAL CONSULTANT based on the results of the Progress meeting with the City (Sub-task 3.2). The City will prepare the final bid package for distribution to contractors for bidding purposes.

TASK 4.0 - CONSTRUCTION MANAGEMENT AND TESTING

Construction management services provided by ANNUAL CONSULTANT will include the documentation of contractor activities for the drilling, installation, and testing the Fire Station Well. In addition, in consultation with the City, ANNUAL CONSULTANT will also provide the contractor clarification and oversight for certain tasks which require response to evaluation of site specific conditions.

Sub-task 4.1 - Pre-Construction Meeting

Prior to drilling and well construction, ANNUAL CONSULTANT will attend one (1) on-site meeting with the City and contractor. The intent of pre-construction meeting is to develop a shared understanding between the City, ANNUAL CONSULTANT and contractor of the requirements of the project, the expectations of the City and to develop the lines of communication. Questions and comments regarding the scope of work, technical specification and contracting will be addressed.

Sub-task 4.2 - Drilling and Logging

During pilot borehole drilling activities ANNUAL CONSULTANT personnel will ensure that contractor activities are in compliance with the technical specifications. A geologist will describe the drilled cuttings, review the drilling penetration rate log and analyze the geophysical logs to prepare a lithologic log of the pilot borehole. These data will be used to identify the major water bearing intervals. Geophysical logging services of the pilot borehole will be subcontracted by the drilling contractor.

Sub-task 4.3 - Zonal Water Quality Sampling

The identified major water bearing intervals will be selected for zonal water quality sampling. The zonal sampling results and the lithologic logs interpretations will be used to design the screened interval of the new well. One (1) meeting with the City will be conducted to present and review the selected intervals for City approval.

Up to 12 zonal samples will be collected for water quality analysis. ANNUAL CONSULTANT will present the approved zonal sampling intervals to the contractor in graphical form including depths and intervals and will respond to contractor questions regarding the design of the zonal sampling program. ANNUAL CONSULTANT will provide oversight during zone construction and purging of each zone.

ANNUAL CONSULTANT will collect water samples in laboratory-supplied containers and submit the samples to the City laboratory under chain-of-custody for rush analysis (48 hour turn-around).

The City shall be responsible for the cost of the laboratory analysis. Samples will be analyzed for the following parameters:

- Total Dissolved Solids
- Nitrate as Nitrogen
- Fluoride
- Total Arsenic
- Total Chromium

Following the performance and analysis of lithologic log and zonal water quality data ANNUAL CONSULTANT will prepare a final well design. The well design will be presented to the City for approval. Upon approval, the final design will be presented to the contractor for well construction.

Sub-task 4.4 - Well Construction

ANNUAL CONSULTANT will monitor and document the installation of the well casing, screen, and annular materials at the well to ensure compliance with the well design and technical specification. ANNUAL CONSULTANT staff will be available during the installation of these materials to assist the contractor with questions regarding the well design and to provide oversight in meeting the requirements of the technical specifications.

Sub-task 4.5 - Well Development

ANNUAL CONSULTANT will provide oversight and document well development activities.

During swabbing and airlift development of the well, ANNUAL CONSULTANT will collect field water quality parameters including Imhoff cone sand content, specific conductance, pH and visual turbidity measurements. An estimated 10 to 20 minutes of swab and surge development per foot of perforated interval will be conducted. However, if more development time is necessary based on the observed and measured results, ANNUAL CONSULTANT will review the data with the City for authorization to extend the development time.

Following swab and airlift development, the contractor will install temporary test pumping equipment. The maximum duration of pump and surge development is anticipated to extend no longer than 50 hours. Actual duration of pump and surge activities will be based on field analysis of Rossum sand content and specific capacity results during testing, as recommended by ANNUAL CONSULTANT and approved by the City.

Sub-task 4.6 - Pumping Tests

Pumping tests at the well will include a step-rate test, constant-rate test and a production profile survey. Rates for the step-rate test will be selected by ANNUAL CONSULTANT based on the results of pump and surge development. Following a 12-hour recovery period, a 24-hour constant-rate test and 24-hour recovery test will be conducted. The pumping rate for the constant-rate test will be based on the results of the step test.

During pumping test activities, ANNUAL CONSULTANT personnel will monitor water levels, discharge rates, Rossum sand content and field water quality parameters including pH, specific conductance and temperature. Water levels will be monitored with a data-logging transducer and a manual sounder. The pump contractor will be on-site during this period to ensure that the test pumping equipment functions as required. City staff will collect a ground-water sample during the constant-rate test to be analyzed by an Arizona State licensed laboratory for New Source Approval. The test data will be evaluated by ANNUAL CONSULTANT to estimate well and aquifer parameters.

Sub-task 4.7 - Post-Construction Surveys

Post-construction surveys will include a final well video and plumbness and alignment surveys which will be subcontracted by the drilling contractor. ANNUAL CONSULTANT will be onsite to witness the surveys and evaluate the results for compliance with the final well design and requirements of the technical specification.

TASK 5.0 – WELL COMPLETION REPORT

Following the completion of the above tasks, ANNUAL CONSULTANT will prepare a well completion report on the new well. Report will document contractor activities and results of the above tasks including an as-built diagram of the new well. ANNUAL CONSULTANT will recommend the production rate and estimated pumping water level for the new well and the estimated pumped water quality. Additional information to be presented in the final report includes the following:

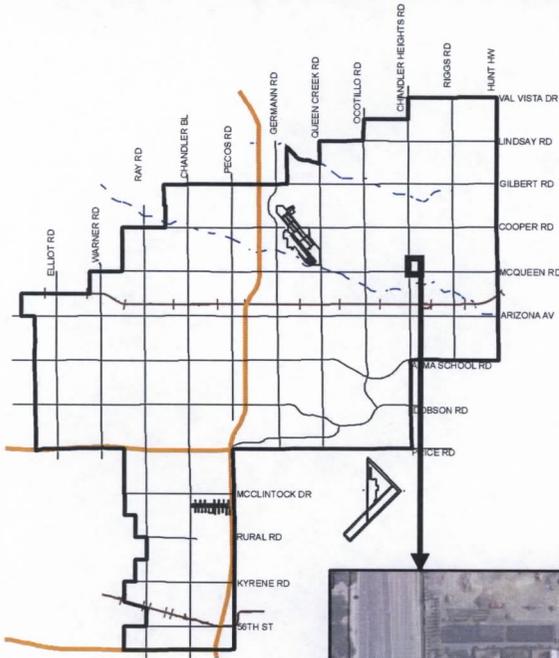
- ADWR permits
- Pilot borehole penetration rate and lithologic logs
- Geophysical logs
- Zonal sampling water quality results
- Well completion forms and summaries
- As-built well diagram of new well
- Pumping test data and analysis
- Post-construction surveys
- Additional water quality data provided by the City

**EXHIBIT B
FEE SCHEDULE**

Task	Hours	Fees	Sub-Contractor Cost	Total
Task 1.0-Permitting	84	\$11,840	\$0	\$11,840
Task 2.0-Bidding Assistance	16	\$2,552	\$0	\$2,552
Task 3.0-Technical Specifications	56	\$7,156	\$0	\$7,156
Task 4.0 Construction Management	679	\$76,491	\$0	\$76,491
Task 5.0 Well Completion Report	60	\$7,410	\$0	\$7,410
Total	895	\$105,449	\$0	\$105,449



**FIRE STATION WELL
DESIGN AND CONSTRUCTION
MANAGEMENT SERVICES
PROJECT NO WA1521.451**



MEMO NO. CP16-094



PROJECT LOCATION

