



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CP14-127**

1. Agenda Item Number: 8
2. Council Meeting Date: March 13, 2014

TO: MAYOR & CITY COUNCIL

3. Date Prepared: February 24, 2014

THROUGH: CITY MANAGER

4. Requesting Department: Municipal Utilities

5. SUBJECT: Project Agreement with Stantec Consulting, Inc., for Hillcrest Recovery Well Equipping Design Services.

6. RECOMMENDATION: Staff recommends City Council award a Project Agreement to Stantec Consulting, Inc., for Hillcrest Recovery Well Equipping Design Services, pursuant to Annual Contract No. EN1311-101, Project No. WW1412-201, in an amount not to exceed \$162,472.

7. BACKGROUND/DISCUSSION: The Hillcrest Well was originally drilled in February 2005. The well site is located north of Riggs Road, between Val Vista Drive and Lindsay Road. Due to high arsenic levels, the well was not equipped for potable use. It has since been determined the well can be repurposed as a recovery well to supplement the reclaimed water system during peak demand periods.

The project scope of work consists of design to provide a new well pump, mechanical piping and valving, electrical service, as well as design of a decorative wall surrounding the site. Equipping of this well to serve as a recovery well for the reclaimed water distribution system will help to maintain adequate supply and pressure to the reclaimed water system.

8. EVALUATION: This project is being performed under the Annual Permitting, Study, Design and Post-Design Services for Water and Wastewater facilities Contract, No. EN1311-101, to Stantec Consulting, Inc. The costs proposed for this project have been evaluated by staff and are determined to be reasonable. The contract completion time is 270 calendar days following Notice to Proceed.

9. FINANCIAL IMPLICATIONS:

Cost: \$162,472
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>
610.3910.6713.6WW189	Reclaimed Water SDF	Effluent Reuse – ASR Wells	Yes	\$162,472

10. PROPOSED MOTION: Move City Council award a Project Agreement to Stantec Consulting, Inc., for Hillcrest Recovery Well Equipping Design Services, pursuant to Annual Contract No. EN1311-101, Project No. WW1412-201, in an amount not to exceed \$162,472.

ATTACHMENTS: Project Agreement, Location Map

APPROVALS

11. Requesting Department

13. Department Head,

John Knudson, Utilities Engineering Manager

Dave Siegel, Municipal Utilities Director

12. Transportation & Development

14. City Manager

Bob Fortier, Capital Projects Manager

Rich Dlugas

**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN1311-101**

PROJECT AGREEMENT NO: WW1412-201

This PROJECT AGREEMENT is made this ____ day of _____, 2014, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Stantec Consulting, Inc., an Arizona corporation (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1311-101.

CITY and Stantec Consulting, Inc., in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1 - DESCRIPTION OF WORK:

This project is Hillcrest Recovery Well Equipping Design, Project Number WW1412-201. The scope of work consists of providing well equipping and facility design services, 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 Sixty Two Thousand Four Hundred Seventy Two Dollars (\$162,472) determined and payable as set forth in Annual Contract EN1311-101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3 - CONTRACT TIME:

The contract time is two hundred seventy calendar days and Annual Consultant agrees to complete all work within Two Hundred Seventy (270) 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. EN1311-101 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 _____, 2014.

CITY OF CHANDLER

FOR THE ANNUAL:

MAYOR DATE:

By: WY Brady
Title: Sr Associate

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

ADDRESS FOR NOTICE

Stantec Consulting Services, Inc.
8211 S. 48th St.
Phoenix, AZ 85044

APPROVED AS TO FORM:

Phone: 602-438-2200
Fax: 602-431-9562

City Attorney By: [Signature]

ATTEST:

City Clerk

EXHIBIT A SCOPE OF WORK

Background

The Hillcrest Drive Well Site is located north of the Mesquite Groves Aquatic Center at 5901 S Hillcrest Drive and on the northeast end of the same Maricopa County parcel, Parcel Number 304-81-0009D, in Section 29, Township 2S, Range 6E of the Gila and Salt River Baseline Meridian in Chandler, Arizona.

The purpose of this project is to develop the existing well site as a reclaimed water system facility capable of producing 2,000 gallons per minute (GPM) as recommended in the *Completion Report, Installation and Testing of the Hillcrest Drive Well*, prepared by Brown and Caldwell, dated September 28, 2005. Construction documents shall be utilized by the City for low bid procurement.

The well facility components to be designed at the site are as follows:

- A new well pump, mechanical piping, and valving
- A reduced pressure principle backflow prevention assembly will be installed between the well pump and the reclaimed water system instead of an air-gap
- Connection to the existing reclaimed water distribution system and a connection stub for a future City park in the north adjacent parcel.
- Variable Frequency Drive(s) (VFD) enclosed in a low profile electrical building with cooling.
- Electrical power supply, a motor control system, generator and instrumentation & controls (I&C).
- Site grading & drainage, roadway access and retention basin.
- A decorative masonry perimeter security wall with an access gate designed to accommodate a well rig. The site will be sized to allow a well rig to be on-site with the gate closed.

Scope of Work

Task 1.0: Project Management

Task 1.1: Project Coordination

ANNUAL CONSULTANT shall provide project management services that include planning, organizing, staffing, and coordinating the work efforts of the team members and sub-consultants. In addition, ANNUAL CONSULTANT shall be responsible for preparing monthly status reports, invoices, meetings minutes, performing quality control verification, and ensuring project delivery.

Task 1.2: Project Meetings

It is anticipated that ANNUAL CONSULTANT's Project Manager and Design Manager, if applicable, will meet with City staff on four separate occasions, including:

- i. Kickoff meeting
- ii. Pre-design report review
- iii. 60-percent deliverable

- iv. 90-percent deliverable

The purpose of these meetings is to review the project status, budgets, schedule, and performance issues. ANNUAL CONSULTANT shall also provide bidding services and attend one pre-bid meeting as outlined under *Task 3.10: Bidding Services*.

Task 1.3: Quality Assurance / Quality Control (QA/QC)

Engineering quality assurance and control will be incorporated through review by senior professional staff at key points in the project.

Task 2.0: Preliminary Design

Task 2.1: Pre-Design Report

ANNUAL CONSULTANT shall prepare five (5) copies of a pre-design report summarizing the well facility requirements and design criteria including:

- i. site layout
- ii. pump selection criteria
- iii. piping materials and pressure classes
- iv. thrust restraint methods
- v. valve selection and location
- vi. site structural facility requirements and foundation design
- vii. electrical power and standby generator evaluation
- viii. preliminary SCADA control concepts
- ix. drainage and drywell criteria
- x. well discharge to waste evaluation
- xi. construction and maintenance access

In addition to the above onsite items, ANNUAL CONSULTANT shall provide service load information for delivery of new electrical service from SRP. It is anticipated that the City will coordinate with the utility company to obtain the new electrical service.

Task 2.2: Survey

ANNUAL CONSULTANT shall perform and prepare a topographic survey for the site to include spot elevations, contours, depiction of existing utilities, drainage features, existing facilities, and major vegetation. ANNUAL CONSULTANT shall set one permanent monument at a location deemed necessary to support construction and also calibrate to City's established benchmarks.

Task 2.3: Geotechnical

ANNUAL CONSULTANT shall subcontract with Speedie and Associates to conduct a geotechnical investigation providing data required for use as the basis of structural foundation designs, selection of fill materials, and percolation rates for retention basin(s). It is assumed that four (4) structural borings within the vicinity of the perimeter wall, generator set and access road will be excavated for this investigation. It is assumed two (2) infiltration tests will be conducted to determine the size and location of the retention basin(s). Actual characteristics may vary between the test point and locations other than where the investigation has been made.

Task 3.0: Engineering Design

The purpose of this task is to prepare final construction drawings, specifications, construction schedule, and opinion of probable construction cost. Deliverables for this task will include design reviews at 60 percent, 90 percent, and final construction documents. ANNUAL CONSULTANT shall create drawings in AutoCAD using company and Chandler drawing standards.

For the 60 percent submittal ANNUAL CONSULTANT shall prepare:

- design development drawings
- technical specifications
- process control descriptions
- draft geotechnical report
- draft drainage report
- preliminary opinion of probable construction cost

For the 90 percent submittal ANNUAL CONSULTANT shall prepare:

- detailed design drawings
- technical specifications
- final geotechnical report sealed and signed by State of Arizona registered engineers
- final drainage report sealed and signed by State of Arizona registered engineers
- structural calculations sealed and signed by State of Arizona registered engineers
- opinion of probable construction cost

For the 100 percent submittal ANNUAL CONSULTANT shall prepared:

- Final permit approval design drawings sealed and signed by State of Arizona registered engineers
- Final technical specifications sealed and signed by State of Arizona registered engineers
- Final opinion of probable construction cost
- Construction duration schedule for key milestone completions, if applicable, substantial completion, and final completion

ANNUAL CONSULTANT shall provide five (5) copies of full size plans (24X36) and three (3) half size plans (11x17) for the 60 percent. Seven (7) full size plans and three (3) half size plans for 90 percent submittals to the City.

ANNUAL CONSULTANT shall modify the contract documents to reflect all agreed-upon final review comments from the City and shall submit seven (7) copies of the final construction documents including full size drawings and technical specifications stamped and signed by a State of Arizona registered Professional Engineer, and opinion of probable construction cost. ANNUAL CONSULTANT will also provide, via ftp site, a digital PDF copy of the plans and specifications and any associated AutoCAD drawings as requested by the City. Via ftp, a Microsoft Word of specifications and Microsoft Excel version of cost estimate shall be provided. ANNUAL CONSULTANT shall provide one full size copy of coversheet on Mylar to the City.

Task 3.1: Civil Design

ANNUAL CONSULTANT shall prepare required technical specifications and design drawings for civil improvements at the new well site to include layout design and grading. The location of the generator pad will be selected in relation to the well and access gate to provide adequate clearances to maneuver the generator using a boom truck. ANNUAL CONSULTANT will also

consider accommodations for parking a secured well rig within the confines of the perimeter walls. It is anticipated that a retention basin and drywell will be required for onsite drainage and discharge from well pump starts. ANNUAL CONSULTANT shall also prepare a *Drainage Report*, required for permitting, under this task.

Task 3.2: Mechanical Design

ANNUAL CONSULTANT shall prepare required technical specifications and design drawings for mechanical improvements, including a new vertical turbine pump, pump enclosure, motor, and other associated connections. Based on the results of the final hydraulic calculations and capacity needs, ANNUAL CONSULTANT shall identify pump suppliers recommended for consideration by the City. ANNUAL CONSULTANT shall also provide system curves, pump curves, and specifications for the recommended pumping units to the City for review.

The design will also include mechanical piping to connect the new pump discharge to the existing reclaimed water distribution system, a connection stub for a future City park and a drywell.

Task 3.3: Electrical Design

ANNUAL CONSULTANT shall prepare required technical specifications and design drawings for electrical improvements to include an electrical supply for the new well with a standby generator. ANNUAL CONSULTANT shall prepare a one-line diagram for the purpose of identifying pump station power distribution layout, motor control, preliminary demand electrical loads, connected electrical loads, and utility service requirements.

Task 3.4: Instrumentation and Controls (I&C)

I&C design will include Modicon M340 PLC based control panels; radio telemetry; monitoring and control from the City's SCADA to the well; flow, level, and pressure monitoring; automatic control of well pumps; local, and remote alarms; automatic transition to local control in the event of a communications failure; and automatic restart, and load handling in the event of a power failure. Jensen Systems Inc. will be subcontracted for this task.

Task 3.5: Structural Design

ANNUAL CONSULTANT shall provide required technical specifications and design drawings for structural improvements, including a perimeter wall with access gate and a low profile enclosure to house equipment and cabinets. The design will include foundation designs for the electrical enclosure and perimeter wall. The perimeter wall will be a decorative masonry design and will include appropriate architectural treatment so as to provide a compatible exterior appearance with the neighboring Mesquite Groves Aquatic Center to the west of the site. J.T. Engineering will be subcontracted for the structural portion of this task. ANNUAL CONSULTANT will design the architectural treatment with the City's input and recommendations.

Task 3.6: Planting Plan

ANNUAL CONSULTANT will provide a planting plan for the exterior of the Hillcrest Drive well site, as needed, to include native vegetation with irrigation. ANNUAL CONSULTANT will coordinate with any local community planting codes and the City's planting preferences. ANNUAL CONSULTANT shall prepare applications for a new or modified water irrigation meter, if and as appropriate.

Task 3.7: Specifications

ANNUAL CONSULTANT shall complete the specifications in accordance with the City's general conditions for construction using the CSI format based upon the sample specification(s) provided by the City.

Task 3.8: Opinions of Probable Cost

ANNUAL CONSULTANT shall prepare a preliminary opinion of probable construction cost at the 60 percent design, an updated opinion of probable construction cost at the 90 percent design, and final opinion of probable construction cost at 100 percent design.

Task 3.9: Permitting

ANNUAL CONSULTANT shall coordinate and prepare Maricopa County Environmental Services Department Approval To Construct (ATC) permit concerning the connection of a well to the existing reclaimed water system. ANNUAL CONSULTANT shall assist the City in preparing and obtaining a civil/grading permit, encroachment permit, and building permit from the City's Planning and Development Department. ANNUAL CONSULTANT shall prepare permitting applications and assist City in obtaining or confirming drywell registration with Arizona Department of Environmental Quality.

Task 3.10: Bidding Services

ANNUAL CONSULTANT shall attend one pre-bid meeting to answer contractor questions during the meeting and will respond to other design inquiries during the bidding period. It is assumed that contractor inquiries will be routed through the City and the consultant will respond directly to the City. It has been assumed that the City will communicate directly with all contractors. ANNUAL CONSULTANT shall also support the City in the evaluation of qualified bid submittals. ANNUAL CONSULTANT shall provide justification to award a construction contract in the event that the bid price is over or under 10 percent of the final opinion of probable construction cost.

Responsibilities of the City

The following are responsibilities of the City staff during the project:

- Make available pertinent data affecting design including but not limited to well test reports, hydraulic grade levels and system maps for the well, and generator preference.
- Pay City permit and plan review fees.
- Reproduce bidding documents.
- Distribute bidding documents to prospective bidders.

Assumptions

This engineering design and coordination services are based upon the following assumptions:

1. It is assumed that the Hillcrest Drive Well is functioning with associated parameters as defined by the Brown and Caldwell well report and that a well diagnosis will not be part of this scope.
2. Only one iteration of the site layout, with the City's suggestions, is included and anticipated to be needed for design.

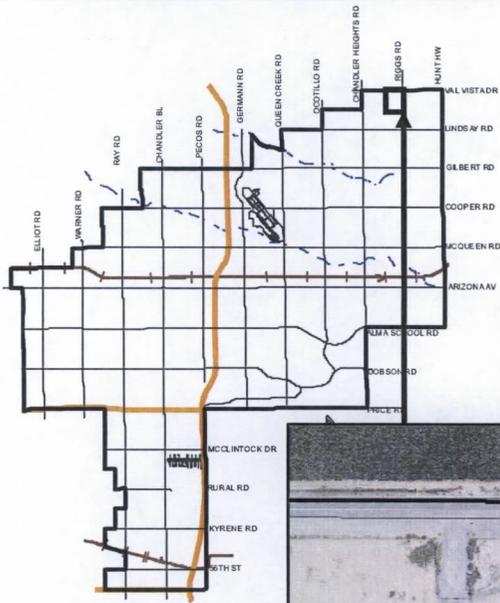
3. An Approval Of Construction (AOC) permit, as-built certifications, and construction management are not included in this scope.
4. Few pipelines are proposed outside of the well site and potential conflicts with existing utilities running thru the well site shall be avoided. Thus, it is assumed no potholes will be required.
5. It is assumed that no fire sprinklers are required for the electrical enclosures.
6. Final construction documents are required to be detailed adequately for the City to have a low bid contractor perform the work and to obtain all necessary permits.
7. Billing of labor performed by ANNUAL CONSULTANT or sub-consultants shall only be done for hours actually expended. ANNUAL CONSULTANT's hourly rates shall be billed at the standard hourly rates.
8. An Owner's allowance is included and shall only be utilized with City's prior written approval to do so.

**EXHIBIT B
FEE SCHEDULE**

Task	Description	Subtotal
1.0	Project Management	
1.1	Project Meetings (4 meetings included)	\$3,912
1.2	Project Coordination	\$5,052
1.3	QA/QC	\$2,672
Subtotal - Project Management		\$11,636
2.0	Preliminary Design	
2.1	Pre-Design Report	\$9,758
2.2	Survey	\$7,752
Subtotal - Preliminary Design		\$17,510
3.0	Engineering Design	
3.1	Civil Design (Including Drainage Report)	\$22,016
3.2	Mechanical Design	\$18,024
3.3	Electrical Design	\$19,272
3.4	Instrumentation and Controls (Sub Contracted)	\$1,248
3.5	Structural and Architectural Design (Structural Calcs. Sub Contracted)	\$9,444
3.6	Planting Plan	\$5,536
3.7	Specifications	\$16,322
3.8	Opinion of Probable Costs	\$1,872
3.9	Permitting	\$2,496
3.10	Bidding Services	\$2,496
Subtotal - Engineering Design		\$98,726
TOTAL LABOR COST		\$127,872
SUB-CONSULTANT AND DIRECT REIMBURSEMENT ALLOWANCES		
2.3	Speedie and Associates; fees for Geotechnical Investigation	\$3,600
3.4	Jensen Systems Inc.; fees for I&C Design	\$24,300
3.5	J.T. Engineering; Fees for Structural Calcs.	\$500
1.0, 2.0, 3.0	Printing, Reproduction, and Mileage	\$1,200
	Owner's Design Allowance	\$5,000
TOTAL ALLOWANCES		\$34,600
TOTAL FEE		\$162,472



HILLCREST RECOVERY WELL EQUIPPING DESIGN PROJECT NO. WW1412-201



MEMO NO. CP14-127

PROJECT SITE

