



**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
Memo No. CP16-026**

**1. Agenda Item Number:**  
**23**  
**2. Council Meeting Date:**  
August 13, 2015

**TO: MAYOR & COUNCIL**

**3. Date Prepared:** July 29, 2015

**THROUGH: CITY MANAGER**

**4. Requesting Department:** Municipal Utilities

**5. SUBJECT:** Project Agreement with CH2M HILL Engineers, Inc., for Construction Management Services, for the Hahn Water Production Facility Rehabilitation

**6. RECOMMENDATION:** Staff recommends City Council award a Project Agreement to CH2M HILL Engineers, Inc., for construction management services, for the Hahn Water Production Facility Rehabilitation, pursuant to Annual Water and Wastewater Services Contract No. EN1519.101, Project No. WA1411.451, in an amount not to exceed \$280,726.

**7. BACKGROUND/DISCUSSION:** This project is a continuation of the Municipal Utilities Department's ongoing efforts to rehabilitate and modernize the City's older water production facilities. The Hahn Water Production Facility (WPF), located at 490 East Warner Road, was originally constructed in 1985 to support water distribution needs in the central part of the City. The Hahn WPF consists of a two million gallon steel reservoir and an associated 7.6 million gallons per day capacity pumping station. A number of improvements are needed to upgrade the facility in order to accommodate the anticipated future operational needs within its service area. The completed facility will play an important role in maintaining adequate water supply and consistent water pressure in the surrounding service area.

The project scope of work consists of: project management services, construction observation, substantial and final completion, engineering reviews, process instrumentation and control systems integration, and close-out assistance.

A Construction Contract, Project No. WA1411.401, to MGC Contractors, Inc., for the Hahn WPF Rehabilitation, is also scheduled for this Council meeting.

**8. EVALUATION:** This project is being performed under the Annual Water and Wastewater Services Contract No. EN1519.101, to CH2M HILL Engineers, Inc. The costs proposed for this project have been evaluated by Staff and are determined to be reasonable. The contract completion time is 300 calendar days following Notice to Proceed.

**9. FINANCIAL IMPLICATIONS:**

Cost: \$280,726  
Savings: N/A  
Long Term Costs: N/A

**Fund Source:**

<u>Acct. No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
601.3820.6718.6WA230	Water Bond	Water Production Facility Improvements	Yes	\$280,726

**10. PROPOSED MOTION:** Move City Council award a Project Agreement to CH2M HILL Engineers, Inc., for construction management services, for the Hahn Water Production Facility Rehabilitation, pursuant to Annual Water and Wastewater Services Contract No. EN1519.101, Project No. WA1411.451, in an amount not to exceed \$280,726.

**ATTACHMENTS:** Location Map, Agreement

**APPROVALS**

**11. Requesting Department**

*John Knudson*  
John Knudson, Utilities Engineering Manager

**13. Department Head**

*Dave Siegel*  
Dave Siegel, Municipal Utilities Director

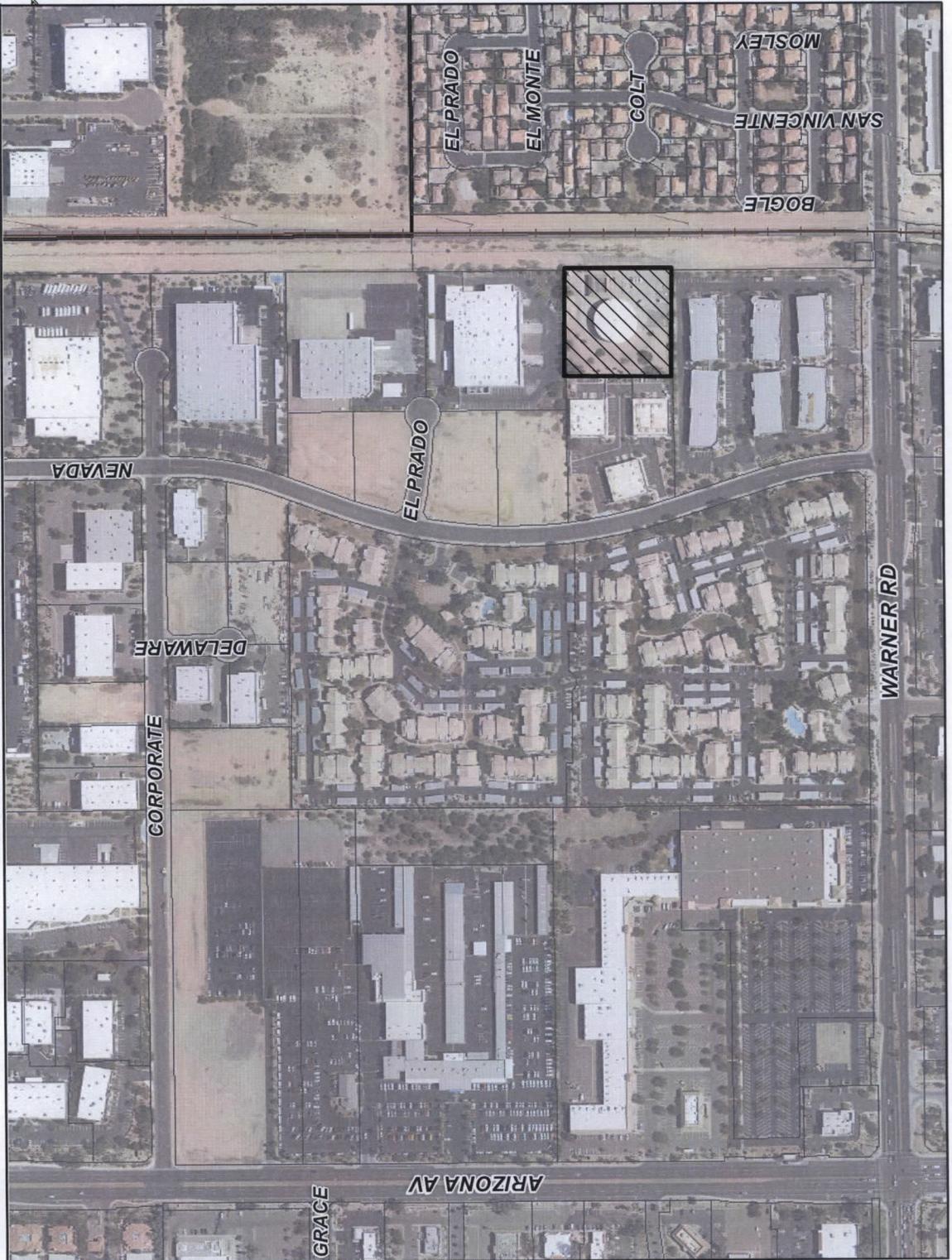
**12. Transportation & Development**

*Bob Fortier*  
Bob Fortier, Capital Projects Manager

**14. Acting City Manager**

*Marsha Reed*  
Marsha Reed

**HAHN WATER PRODUCTION  
FACILITY REHABILITATION  
PROJECT NO. WA1411.451**



**MEMO NO. CP16-026**

 **PROJECT SITE**

**PROJECT AGREEMENT  
PURSUANT TO ANNUAL CONTRACT NO. EN1519.101**

**PROJECT AGREEMENT NO: WA1411.451**

This AGREEMENT is made this \_\_\_\_ day of \_\_\_\_\_, 2015, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and CH2M Hill Engineers, Inc., a Delaware corporation, licensed in the State of Arizona (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1519.101.

CITY and CH2M Hill Engineers, Inc., in consideration of the mutual covenants herein set forth, agree as follows:

**ARTICLE 1 - DESCRIPTION OF WORK:**

This project is Hahn Water Production Facility Improvement Construction Management Services, Project Number WA1411.451. The scope of work consists of construction management services for Hahn Water Production Facility Improvement project, 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 Two Hundred Eighty Thousand Seven Hundred Twenty Six Dollars (\$280,726) determined and payable as set forth in Annual Contract EN1519.101 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 Three Hundred (300) 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. EN1519.101 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: Thomas McLean  
Title: VICE PRESIDENT

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

ADDRESS FOR NOTICE  
Mr. Tom McLean  
CH2M Hill Engineers, Inc.  
1501 W. Fountainhead Pkwy., Ste. 401  
Tempe, AZ 852-1868

APPROVED AS TO FORM:

Phone: 480-377-6239

\_\_\_\_\_  
City Attorney By: [Signature]

ATTEST:

\_\_\_\_\_  
City Clerk

## **EXHIBIT A SCOPE OF WORK**

ANNUAL CONSULTANT shall provide the following services for the Hahn Water Production Facility Improvement project:

### **1.0 PROJECT MANAGEMENT**

The ANNUAL CONSULTANT will provide services to assist in coordinating the site activities, communication, reporting, and administering the contract for construction. The ANNUAL CONSULTANT will implement and maintain regular communications with the CONTRACTOR during the construction. The ANNUAL CONSULTANT will receive and log all major communications from the CONTRACTOR and will coordinate the communications between the CITY and CONTRACTOR. The ANNUAL CONSULTANT will not communicate directly with the CONTRACTOR's subcontractors.

#### **1.1 Project Management Manual**

The ANNUAL CONSULTANT will develop a general work plan that defines the ANNUAL CONSULTANT's delivery approach, staffing, responsibilities and project deliverables. The ANNUAL CONSULTANT will establish a system and set of procedures for managing, tracking and storing all relevant documents between the CONTRACTOR, ANNUAL CONSULTANT, and the CITY produced during Construction and Closeout phases of the project. The ANNUAL CONSULTANT will, in coordination with the CITY, maintain hard copy records, suitably organized, of all relevant documentation. The ANNUAL CONSULTANT will implement procedures for the logging and tracking of all relevant correspondence and documents to assist the CITY in monitoring all outstanding decisions, approvals or responses required from the CITY.

#### **1.2 Progress Reports**

The ANNUAL CONSULTANT will keep the CITY advised of the progress of the construction throughout. The ANNUAL CONSULTANT will submit a monthly construction progress summary via email that includes construction schedule, expected date of completion, contract price, retainage, pending changes to the contract price or completion date and other issues material to the cost and time for completion of the construction and attachments of documentation logs including the CONTRACTOR's Quality Control Reports. In addition, the ANNUAL CONSULTANT will provide monthly reports and invoices to the CITY activities related to the ANNUAL CONSULTANT's scope.

#### **1.3 Pre-Construction Conference**

The ANNUAL CONSULTANT will coordinate, conduct and attend one pre-construction conference with the CONTRACTOR and the CITY to review the project communication, coordination and other procedures and discuss the CONTRACTOR's Quality Control System. The ANNUAL CONSULTANT will lead the meeting and record the results of this conference.

#### **1.4 Progress Meetings**

The ANNUAL CONSULTANT will conduct up to 22 bi-weekly 1 hour progress meeting with the CONTRACTOR, subcontractors as appropriate, and CITY attending. The progress meeting conducted by ANNUAL CONSULTANT will review work progress, progress schedule, quality control, schedule of submittals, application for payment, contract modification, and other matters requiring discussion and resolution. These meetings will be combined with pre-installation meetings and quality control meetings as defined by the specifications. In addition to the inspector attending under task 2, up to one additional ANNUAL CONSULTANT staff will be in attendance.

## **1.5 Work Change Directives**

The ANNUAL CONSULTANT will issue field instructions, orders or similar documents during construction as provided in the contract for construction. The ANNUAL CONSULTANT may authorize minor variations in the work which do not involve an adjustment in the CONTRACTOR's contract price nor time for construction and are not inconsistent with the intent of the contract documents. Additionally, the ANNUAL CONSULTANT will assist the CITY with the issuance of field directives to authorize allowances in the contract for construction. The ANNUAL CONSULTANT will also review CONTRACTOR requested changes to the contract for construction. The ANNUAL CONSULTANT will make recommendations to the CITY regarding the acceptability of the change order and, upon approval of the CITY, assist the CITY in negotiations of the requested change. Upon agreement and approval, the ANNUAL CONSULTANT will assist the CITY in preparing final change order documents.

The ANNUAL CONSULTANT will maintain logs regarding the status of field directives, including pending field directives and their amounts. The ANNUAL CONSULTANT will also receive, log, and notify the CITY about all letters and notices from the CONTRACTOR concerning claims or disputes between the CONTRACTOR and CITY pertaining to the acceptability of the work or the interpretation of the requirements of the contract for construction.

## **1.6 Review of Contractor Application For Payment**

The ANNUAL CONSULTANT will receive and review the CONTRACTOR's requests for payment and will determine whether the amount requested reflects the progress of the CONTRACTOR's work, and is in accordance with the contract for construction. The ANNUAL CONSULTANT also will review the CONTRACTOR's schedule of values at the beginning of construction. The ANNUAL CONSULTANT will provide recommendations to the CITY as to the acceptability of the requests, in addition will advise the CITY as to the status of the total amounts requested, paid, and remaining to be paid under the terms of the contract for construction.

Recommendations by ANNUAL CONSULTANT to the CITY for payment will be based upon the ANNUAL CONSULTANT's knowledge, information and belief from its observations of the work on site and selected sampling that the work has progressed to the point indicated. Such recommendations do not represent that continuous or detailed examinations have been made by the ANNUAL CONSULTANT to ascertain that the CONTRACTOR has completed the work in exact accordance with the contract for construction.

## **1.7 Review Of Contractor's Construction Schedule**

The ANNUAL CONSULTANT will review the CONTRACTOR's baseline construction schedule and verify that it is consistent with the requirements of the contract for construction. The ANNUAL CONSULTANT will also review the CONTRACTOR's monthly schedule updates as submitted with the payment application. The ANNUAL CONSULTANT will advise the CONTRACTOR of any areas where the schedule is not in compliance with the contract for construction. The ANNUAL CONSULTANT will provide comments to the CITY to assist the CITY in approving, accepting or taking other action on the CONTRACTOR's schedule, in accordance with the contract for construction. The ANNUAL CONSULTANT's review and comments will not be considered as a guarantee or confirmation that the CONTRACTOR will complete the work in accordance with the contract for construction.

## **1.8 Safety**

The ANNUAL CONSULTANT will manage the health, safety and environmental activities of its staff and the staff of its subcontractors to achieve compliance with applicable health and safety laws and regulations. The ANNUAL CONSULTANT will coordinate its health, safety and environmental

program with the responsibilities for health, safety and environmental compliance specified in the contract for construction. The ANNUAL CONSULTANT will coordinate with responsible parties to correct conditions that do not meet applicable federal, state and local occupational safety and health laws and regulations, when such conditions expose ANNUAL CONSULTANT staff, or staff of ANNUAL CONSULTANT subcontractors, to unsafe conditions.

The ANNUAL CONSULTANT will notify affected personnel of any site conditions posing an imminent danger to them which ANNUAL CONSULTANT observes. The ANNUAL CONSULTANT is not responsible for health or safety precautions of any party other than ANNUAL CONSULTANT staff and the staff of its subcontractors. The ANNUAL CONSULTANT is not responsible for the CONTRACTOR's compliance with the health and safety requirements in the contract for construction, or with federal, state, and local occupational safety and health laws and regulations.

## **2.0 PERIODIC ON-SITE CONSTRUCTION OBSERVATIONS**

### **2.1 Construction Observation**

The ANNUAL CONSULTANT will conduct periodic on-site observations of the CONTRACTOR's work for the purposes of determining if the work generally conforms to the contract for construction and that the integrity of the design concept as reflected in the contract for construction has been implemented and preserved by the CONTRACTOR. The ANNUAL CONSULTANT will not provide a full time Resident Engineer/Inspector. All observation will be provided on an as needed basis to confirm compliance with the Contract Documents. For the purposes of this scope of work up to three site visits per week for 4 hours each by ANNUAL CONSULTANT are anticipated. As necessary, a CITY inspector will be assigned to this project for certain aspects of the work based on the CITY's discretion.

The ANNUAL CONSULTANT will prepare written reports of their observations. The ANNUAL CONSULTANT will attend the bi-weekly progress meetings. The ANNUAL CONSULTANT's observation staff will obtain from the CONTRACTOR monthly photographs of the work in progress. The ANNUAL CONSULTANT's observation of the work is not an exhaustive observation or inspection of all work performed by the CONTRACTOR. The ANNUAL CONSULTANT does not guarantee the performance of the CONTRACTOR. The ANNUAL CONSULTANT's observations will not relieve the CONTRACTOR from responsibility for performing the work in accordance with the contract for construction.

The ANNUAL CONSULTANT will observe the CONTRACTOR's quality control coordination. Should ANNUAL CONSULTANT discover or believe that any work by the CONTRACTOR is not in accordance with the contract for construction, or is otherwise defective, or not conforming to requirements of the contract or applicable rules and regulations, ANNUAL CONSULTANT will bring this to the attention of the CONTRACTOR's Quality Control Manager and the CITY. The ANNUAL CONSULTANT will thereupon monitor the CONTRACTOR's corrective actions and will advise the CITY as to the acceptability of the corrective actions.

### **2.2 Substantial and Final Completion**

The ANNUAL CONSULTANT will assist the Owner with inspections at substantial and final completion, in accordance with the contract for construction. The ANNUAL CONSULTANT will prepare up to two (2) separate punch lists of items requiring completion or correction. The ANNUAL CONSULTANT will make recommendations to the CITY regarding acceptance of the work based upon the results of the final inspection.

### **3.0 ENGINEERING REVIEWS**

#### **3.1 Submittal Reviews**

The ANNUAL CONSULTANT will obtain from the CONTRACTOR and review a proposed submittal schedule of shop drawings, samples, submittals, and operation and maintenance (O&M) manuals required by the contract for construction, along with the anticipated dates for submission. The ANNUAL CONSULTANT will coordinate with the design team for the reviews of the CONTRACTOR's, shop drawings, samples, submittals, and O&Ms in accordance to the contract documents. ANNUAL CONSULTANT's review of all shop drawings, samples and submittals will be for general conformance with the design concept and general compliance with the requirements of the contract for construction. Such review will not relieve the CONTRACTOR from its responsibility for performance in accordance with the contract for construction.

#### **3.2 Requests for Information**

The ANNUAL CONSULTANT will review the CONTRACTOR's requests for information (RFI) or clarification of the contract for construction. The ANNUAL CONSULTANT will coordinate such review with the design team and with the CITY as appropriate. The ANNUAL CONSULTANT will coordinate and issue responses and log the CONTRACTOR's requests. The ANNUAL CONSULTANT will assist the CITY in reviewing and responding to the CONTRACTOR's requests for substitution of materials and equipment. The ANNUAL CONSULTANT will review such requests and will advise the Owner as to the acceptability of such substitutions.

#### **3.3 Process Instrumentation and Control Systems (PICS) Integration**

The ANNUAL CONSULTANT will contract with a PICS Integrator for the work tasks related to the installation and implementation of the Process Instrumentation and Control Systems (PICS) as indicated in their engineering services proposal including site inspections, point to point testing verification, calibration verification, installing and testing software, and operator training. The ANNUAL CONSULTANT will coordinate construction activities with the PICS integrator when work activities are scheduled. The ANNUAL CONSULTANT will schedule and conduct up to 2 coordination meetings to review task requirements as outlined in the specifications with up to one ANNUAL CONSULTANT representative attending. Attendees will include ANNUAL CONSULTANT, CITY, CONTRACTOR, PLC programmer, and PICS subcontractor/Installer.

#### **3.4 Specialty Inspections and Testing**

The ANNUAL CONSULTANT will provide specialty inspections and testing in accordance with the construction specifications. This will include such work as structural, electrical, mechanical, coatings, and corrosion. Up to two corrosion inspections for the tank are anticipated during abrasive blasting phase at 16 hours each for the ANNUAL CONSULTANT's corrosion engineer. An email report will be issued following each inspection to provide the results of the testing and any clarification on the CONTRACTOR's work.

The ANNUAL CONSULTANT will contract for material testing to independently verify the quality of the CONTRACTOR's work in an amount not to exceed \$12,500. The testing is anticipated to consist of soil proctors, soil density testing, coatings testing and inspection, and limited concrete testing. The ANNUAL CONSULTANT will review the reports and other information prepared by the independent firms and provide to the CITY.

#### **3.5 Equipment Testing and Facility Startup**

Start-up planning meetings shall be conducted by ANNUAL CONSULTANT in order to facilitate completion and communication of the start-up plan. The ANNUAL CONSULTANT will review start up plan which include facility and performance demonstration plan. The ANNUAL CONSULTANT will provide 1 day for witness field performance tests required to confirm that individual components and

systems operate as specified in startup plan. ANNUAL CONSULTANT will provide up to 3 days of witness pump functional testing in the field after pump installation to verify pump performance in accordance with the specifications. The CONTRACTOR will perform testing under the witness of the ANNUAL CONSULTANT. A report will be issued for the testing based on data presented by the CONTRACTOR.

Upon completion of startup the ANNUAL CONSULTANT will receive and review functional and performance test results, and advise the CITY that the facility is functioning in accordance with the contract for construction.

Start-up planning meetings will be conducted by ANNUAL CONSULTANT to facilitate completion and communication of the start-up plan. ANNUAL CONSULTANT will review CONTRACTOR'S start-up plan, which includes facility and performance demonstration plan. The ANNUAL CONSULTANT will provide 1 day for witness field performance tests required to confirm that individual components and systems operate as specified in contract documents. ANNUAL CONSULTANT will provide up to 24 hours of field witnessed pump testing after pump installation to verify pump performance is in accordance with specifications. CONTRACTOR will perform testing under the witness of ANNUAL CONSULTANT. ANNUAL CONSULTANT will provide a report on the testing based on field witness test observations, and data provided by CONTRACTOR.

Upon completion of start-up, ANNUAL CONSULTANT will review functional and performance test results submitted by CONTRACTOR, and advise CITY if the facility is functioning in accordance with contract documents.

As part of the Start Up plan, the ANNUAL CONSULTANT will receive and review disinfection plan and procedures including review and approval of independent testing agency for performing water quality sampling and testing. ANNUAL CONSULTANT will witness disinfection performance. Upon receiving water quality test results from the CONTRACTOR, the ANNUAL CONSULTANT will review and advise the CITY on the acceptance and water quality is met based upon the conformance of bacterial limitations for public drinking water.

#### **4.0 PROJECT CLOSE-OUT**

The ANNUAL CONSULTANT will assist the CITY in closing out the contract for construction and commencement of the CITY's use of the completed work.

#### **4.1 MCESD Approval of Construction**

The ANNUAL CONSULTANT will assist the CITY with securing the Approval of Construction (AOC) from the Maricopa County Environmental Services Department (MCESD). The ANNUAL CONSULTANT will review all Approval to Construct Permit Stipulations and prepare all required documentation, and will submit on behalf of the CITY to MCESD.

#### **4.2 Close-Out Documentation**

The ANNUAL CONSULTANT will coordinate with the CONTRACTOR for the submission of required warranties, guarantees, lien releases and other similar documents as required by the contract for construction. The ANNUAL CONSULTANT will advise the CITY as to the acceptability and compliance of these documents with the contract for construction. The ANNUAL CONSULTANT will provide to the Owner an organized set of project documents and records.

#### **4.3 Record Drawings**

The ANNUAL CONSULTANT will coordinate the CONTRACTOR's submittal of construction red lines of drawings, specifications and other record documents in preparation for finalizing record drawings

and will transmit these to the Owner. The ANNUAL CONSULTANT will meet with the CONTRACTOR to discuss the preparation and submittal of as-built or record drawings. The parties agree that record drawings will be prepared on the basis of information provided by others, and therefore may not always represent the exact location, type of various components, or exact manner in which the project was finally constructed. Therefore, ANNUAL CONSULTANT is not responsible for any errors or omissions in the information from others that is incorporated into the record drawings.

Up to 4 electronic CDs (pdf and AutoCAD format) will be submitted to the CITY. Based on experience of similar work and drawing count, up to 4 hours of CAD technician labor is anticipated for each sheet. An As-Built Certification note will be included on each drawing that contain as-built changes that will state: "I certify that the "as-built" information shown hereon was obtained under my direct supervision and is correct and complete to the best of my knowledge and belief." This note will be sealed by a Registered Professional Engineer in Arizona. The following note will be included in the title block for each drawing: "This drawing was originally sealed on *referenced date* by *referenced PE*, a registered Professional Engineer in Arizona."

### **ASSUMPTIONS AND CLARIFICATIONS**

- The ANNUAL CONSULTANT's services are based upon construction duration of 270 calendar days to Substantial Completion and 300 calendar days to Final Completion as advertised in the Contract Documents.
- The Contract Documents consist of one (1) set of final drawings and one set of project specifications.
- Based on the requirements in the Contract Documents, it is assumed that there will be a maximum of 60 CONTRACTOR submittals including shop drawings, informational submittals, and operations and maintenance manuals to be reviewed.
- It is assumed that there will be a maximum of 42 Requests for Information (RFIs).
- The CITY will be actively involved in the construction process to make decisions, provide approvals, and perform other actions necessary for the completion of the construction.
- The ANNUAL CONSULTANT general nature of the work will be to provide services during construction, review of CONTRACTOR's work in accordance with the Contract Documents, engineering services during construction, and construction close-out. The ANNUAL CONSULTANT will not be responsible for the means, methods, techniques, sequences or procedures of the CONTRACTOR.
- The CITY will review all bids and evaluate them for responsiveness and bid amount. The CITY will perform any additional investigation such as verifying the financial and performance history documentation submitted. The CITY will prepare and issue the notice of award and the notice to proceed to the CONTRACTOR.
- The CITY will verify that the required permits, bonds and insurance have been obtained and submitted by the CONTRACTOR prior to the CITY issuing construction Notice to Proceed. The CONTRACTOR will be required to list CH2M HILL as the CITY REP as an additional insured and indemnified party along with the CITY for construction.
- ANNUAL CONSULTANT will administer up to two subcontracts for (1) Materials Testing and Coatings Inspection and (2) Process Instrumentation and Control Systems (PICS) Integration.

- The CITY will obtain and provide to the CONTRACTOR those permits issued by the CITY of Chandler in accordance with the general conditions.
- The fee estimate breakdown is included in Attachment A. This fee estimate is based on work being completed in calendar year 2016.

**EXHIBIT B  
FEE SCHEDULE**

Task No.	Description	PW/CM	Inspctr	Design Mgr	Strctr/ Eng	Mech Eng	Elec/I&C Eng	Coatings	CAD	Admin	PIC	Total Hrs	Labor	Subs	Travel	Expenses	Total Cost
		Billable Rate	\$ 176	\$ 158	\$ 158	\$ 158	\$ 158	\$ 205	\$ 139	\$ 84	\$ 205						
<b>1</b>	<b>Project Management</b>	<b>120</b>	<b>110</b>	<b>32</b>	-	-	-	-	-	<b>18</b>	<b>20</b>	<b>300</b>	<b>\$ 49,168</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 49,168</b>
1.1	Project Management Manual	4	8							6	2	20	\$ 2,882				\$ 2,882
1.2	Progress Reports	16	40							12	10	78	\$ 12,194				\$ 12,194
1.3	Pre-Construction Conference	8	8	8							2	26	\$ 4,346				\$ 4,346
1.4	Project Meetings	30	30	24							6	90	\$ 15,042				\$ 15,042
1.5	Work Change Directives	16	16	-								32	\$ 5,344				\$ 5,344
1.6	Review Payment Applications	30										30	\$ 5,280				\$ 5,280
1.7	Review Construction Schedule	12										12	\$ 2,112				\$ 2,112
1.8	Safety	4	8									12	\$ 1,968				\$ 1,968
<b>2</b>	<b>Periodic On-Site Observations</b>	<b>48</b>	<b>472</b>	-	-	-	-	-	-	-	-	<b>520</b>	<b>\$ 83,024</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 83,024</b>
2.1	Construction Observation	40	448									488	\$ 77,824				\$ 77,824
2.2	Substantial and Final Completion	8	24									32	\$ 5,200				\$ 5,200
<b>3</b>	<b>Engineering Reviews</b>	<b>22</b>	-	<b>198</b>	<b>30</b>	<b>94</b>	<b>128</b>	<b>72</b>	-	<b>4</b>	-	<b>548</b>	<b>\$ 90,068</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 90,068</b>
3.1	Submittal Reviews			110	10	50	50	20				240	\$ 38,860				\$ 38,860
3.2	Requests for Information			80	20	20	20	28				168	\$ 27,860				\$ 27,860
3.3	PICS Integration	4		-			24					28	\$ 4,496				\$ 4,496
3.4	Specialty Inspections and Testing	10		-			18	24				52	\$ 9,524				\$ 9,524
3.5	Equipment Testing and Facility Start	8		8		24	16			4		60	\$ 9,328				\$ 9,328
<b>4</b>	<b>Project Close-Out</b>	<b>6</b>	<b>16</b>	<b>16</b>	-	-	-	-	<b>64</b>	<b>12</b>	-	<b>114</b>	<b>\$ 16,016</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 16,016</b>
4.1	MCESD Approval of Construction			8								8	\$ 1,264				\$ 1,264
4.2	Close-Out Documentation	6	16							8		30	\$ 4,256				\$ 4,256
4.3	Record Drawings			8					64	4		76	\$ 10,496				\$ 10,496
<b>Total (Base)</b>		<b>196</b>	<b>598</b>	<b>246</b>	<b>30</b>	<b>94</b>	<b>128</b>	<b>72</b>	<b>64</b>	<b>34</b>	<b>20</b>	<b>1,482</b>	<b>\$238,276</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$238,276</b>
<b>Hours/Week (40 weeks)</b>		<b>4.6</b>	<b>13.9</b>	<b>5.7</b>	<b>0.7</b>	<b>2.2</b>	<b>3.0</b>	<b>1.7</b>	<b>1.5</b>	<b>0.8</b>	<b>0.5</b>	<b>34.5</b>					
<b>Other Expenses</b>																	
<b>5</b>	<b>Subconsultants and Direct Reimbursables Allowance</b>	-	-	-	-	-	-	-	-	-	-	-	<b>\$ -</b>	<b>\$35,450</b>	<b>\$6,100</b>	<b>\$ 900</b>	<b>\$ 42,450</b>
5.1	Materials Testing												\$ -	\$12,500			\$ 12,500
5.2	PICS												\$ -	\$22,950			\$ 22,950
5.3	Travel and Miscellaneous Expense												\$ -		\$6,100	\$ 900	\$ 7,000
													<b>\$238,276</b>	<b>\$35,450</b>	<b>\$6,100</b>	<b>\$ 900</b>	<b>\$ 280,726</b>