



Chandler - Arizona  
Where Values Make The Difference

**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
Memo No. CA11-166**

1. Agenda Item Number:

24

2. Council Meeting Date:

June 9, 2011

TO: **MAYOR & COUNCIL**

THROUGH: **CITY MANAGER**

3. Date Prepared: May 24, 2011

4. Requesting Department: Municipal Utilities

5. **SUBJECT:** Award a project agreement to CH2MHill for Arsenic Treatment Bypass, Project No. WA1105-201, in an amount not to exceed \$59,070.

6. **RECOMMENDATION:** Staff recommends Council award a project agreement to CH2MHill for Arsenic Treatment Bypass, Project No. WA1105-201, in an amount not to exceed \$59,070.

7. **BACKGROUND/DISCUSSION:** In 2006, the U.S. Environmental Protection Agency (EPA) reduced the Maximum Contaminant Level (MCL) for arsenic from 50 parts per billion (ppb) to 10 ppb in public water systems. Chandler identified eight groundwater wells with arsenic levels close to or above the new regulatory limit. Historical water quality testing of these wells showed some variability in arsenic levels and well treatment was recommended. Arsenic treatment was installed to maintain adequate water production capacity until design and construction of new surface water treatment capacity at both the Pecos and Santan Vista Water Treatment Plants was completed. Since installation of the arsenic treatment systems, bi-weekly water quality testing showed four wells consistently produce water below the arsenic MCL. After review, staff believes recent water quality is more consistent than older historical information. Water quality variations are not expected in these wells in the foreseeable future. Another well has arsenic levels slightly higher than the MCL. An alternative to maintain water quality compliance through a blending system approach will be investigated. Staff believes bypassing the arsenic treatment systems on these wells will achieve operational cost savings in excess of \$300,000 annually. This will allow the City to maintain water quality compliance while preserving the City's ability for future arsenic treatment, if necessary.

This project will analyze methodology for bypass or blending using the existing water system infrastructure. Review of well piping and arsenic treatment layout drawings, and several years of water quality data for each of the five wells is included. Maricopa County Environmental Services permitting and design of the bypass piping to be constructed will be brought forward under a separate contract. Staff anticipates construction costs to be approximately \$350,000.

8. **EVALUATION:** On May 26, 2011, Council approved the annual contract EN1003-104 to CH2MHill for permitting, assessment, and design of water and wastewater facilities. Staff reviewed the scope of work, billing rates, and total fee for this project, compared them to historical costs, and determined they are reasonable.

9. **FINANCIAL IMPLICATIONS:**

Cost: \$59,070  
Savings: \$300,000/Year  
Long Term Costs: N/A  
Fund Source:

Acct. No.:	Fund Name:	Program Name:	CIP Funded:	Amount:
601.3820.0000.6713.6WA034	Water Bonds	Well Construction/Rehab	FY 05/06	\$59,070

10. **PROPOSED MOTION:** Move Council award a project agreement to CH2MHill for the Arsenic Treatment Bypass, Project No. WA1105-201, in an amount not to exceed \$59,070, and authorize the Mayor to sign the contract documents.

ATTACHMENTS: Project Agreement, Map

**APPROVALS**

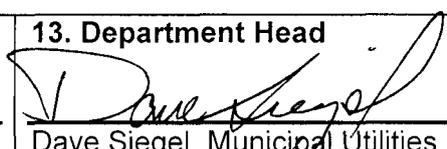
11. Requesting Department

  
John Knudsen, Senior Engineer

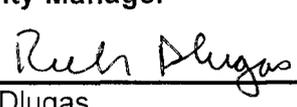
12. City Engineer

  
Sheina Hughes, City Engineer

13. Department Head

  
Dave Siegel, Municipal Utilities Director

14. City Manager

  
Rich Dlugas



**PROJECT AGREEMENT  
PURSUANT TO ANNUAL CONTRACT NO. EN1003-104**

**AGREEMENT NO: WA1105-201**

This AGREEMENT is made this            day of            2011, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and CH2M Hill, Inc., a corporation of the State of Florida licensed in the State of Arizona (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1003-104.

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

**ARTICLE 1. DESCRIPTION OF WORK**

This project is Arsenic Treatment Bypass, Project Number WA1105-201. The scope of work consists of engineering services related to the analysis and design of providing the optional capability for the mechanical bypass of a limited number of existing well-head arsenic treatment systems. Work shall include analysis of the methodology for successful blending utilizing the existing water system infrastructure, review of Maricopa County Environmental Services Department (MCESD) permitting requirements, meeting with the MCESD to receive concurrence on bypassing the existing well-head arsenic treatment systems, engineering design for the piping modifications, and pre-construction 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 Fifty Nine Thousand Seventy Dollars (\$59,070) determined and payable as set forth in Annual Contract EN1003-104 and Exhibit B attached hereto and made a part hereof by reference.

**ARTICLE 3. CONTRACT TIME**

The contract time is One Hundred Fifty days and Annual Consultant agrees to complete all work within One Hundred Fifty (150) days of the date CITY issues a Notice to Proceed.

**ARTICLE 4. GENERAL**

This Project Agreement is entered into pursuant to Annual Contract No. EN1003-104 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

**ARTICLE 5. ARIZONA PROCUREMENT LAW**

Compliance with A.R.S. § 41-4401. Pursuant to the provisions of A.R.S. § 41-4401, the Consultant hereby warrants to the City that the Consultant and each of its subcontractors ("Subconsultants") will comply with all Federal Immigration laws and regulations that relate to the immigration status of their employees and the requirement to use E-Verify set forth in A.R.S. §23-214(A) (hereinafter "Consultant Immigration Warranty").

A breach of the Consultant Immigration Warranty (Exhibit C) shall constitute a material breach of this Contract that is subject to penalties up to and including termination of the contract.

The City retains the legal right to inspect the papers of any Consultant or Subconsultant employee who works on this Contract to ensure that the Consultant or Subconsultant is complying with the Contractor Immigration Warranty. The Consultant agrees to assist the City in the conduct of any such inspections.

The City may, at its sole discretion, conduct random verifications of the employment records of the Consultant and any Subconsultant to ensure compliance with Contractors Immigration Warranty. The Consultant agrees to assist the City in performing any such random verifications.

The provisions of this Article must be included in any contract the Consultant enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a consultant or subconsultant. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property.

In accordance with A.R.S. §35-393.06, the Consultant hereby certifies that the offeror does not have scrutinized business operations in Iran.

In accordance with A.R.S. §35-391.06, the Consultant hereby certifies that the offeror does not have scrutinized business operations in Sudan.

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

This Agreement will be effective on this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

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  
2626 S. Plaza Dr., Ste. 300  
Tempe, AZ 85282-3397

APPROVED AS TO FORM:

Phone: 480-988-8188  
Fax: 480-988-9450

ATTEST: City Attorney By: [Signature]

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

## EXHIBIT A SCOPE OF WORK

This project is for engineering services related to the analysis and design of providing the optional capability for the mechanical bypass of a limited number of existing well-head arsenic treatment systems. It is anticipated that this operational flexibility shall result in increased cost savings to the City while continuing to ensure compliance with existing water quality regulations.

In 2006, the U.S. Environmental Protection Agency (EPA) implemented changes which resulted in a reduction of the Maximum Contaminant Level (MCL) for Arsenic in public water systems. In response, the City identified several groundwater production wells with Arsenic levels sufficiently close to the new limit which warranted the addition of treatment capabilities at these locations. Since these treatment systems were installed, continuous water quality monitoring over the last several years has demonstrated that four of the wells (Hahn, Arrowhead, Apache, and Roosevelt) have consistently produced water that has been below the arsenic MCL prior to its introduction into their adjoining treatment systems. The City anticipates little or no change to the water quality characteristics of these wells in the foreseeable future and, therefore, feels that it is prudent at this time to implement additional operational capability at these sites. The City also feels that a fifth well (Monterey) is a viable candidate for achieving operational cost savings by maintaining its water quality compliance through a local system blending approach. This project shall carefully analyze the methodology for successful blending utilizing the existing water system infrastructure.

The City has requested the ANNUAL CONSULTANT review Maricopa County Environmental Services Department (MCESD) permitting requirements and meet with the MCESD to receive concurrence on bypassing the existing well-head arsenic treatment systems prior to performing an engineering design for the piping modifications.

### Work Tasks

#### **Task 1: Project Administration**

##### **Task 1.1: Project Management**

The ANNUAL CONSULTANT's Project Manager shall plan, organize, staff, and oversee the work efforts of the team members. The ANNUAL CONSULTANT's Project Manager shall oversee engineering tasks associated with this Scope of Work and coordinate deliverables, invoicing, project oversight, and quality assurance.

##### **Task 1.2: Provide Quality Assurance**

ANNUAL CONSULTANT shall review work products and deliverables for quality assurance and quality control.

##### **Task 1.3: Project Meetings**

It is anticipated that the ANNUAL CONSULTANT shall meet with the City on four separate occasions, including i) kick-off meeting, site visit, and data collection, ii) preliminary data review summary and MCESD meeting strategy session, iii) 60-percent engineering deliverable, and iv) 90-percent deliverable. These meetings shall be attended by the ANNUAL CONSULTANT's Project Manager and Project Engineer. The ANNUAL CONSULTANT shall also schedule additional MCESD coordination meetings, as outlined in Task 2.

### **Deliverables:**

- The ANNUAL CONSULTANT shall prepare and distribute meeting summaries to the project team via e-mail.

#### **Task 2: Data Review and MCESD Coordination**

The ANNUAL CONSULTANT shall review well piping and arsenic treatment layout drawings, as well as review several years of water quality data for each the five well facilities. It is assumed that the City shall make these records available to the ANNUAL CONSULTANT at the kick-off meeting. No further water quality sampling is anticipated as part of this project.

Based on a review of the City's documents, the ANNUAL CONSULTANT shall develop a design concept for each of the well facilities, and shall also develop a strategy for presenting the design concept to MCESD for consideration. It is anticipated that the design concept and permitting requirements for the four wells (Hahn, Arrowhead, Apache, and Roosevelt) with arsenic levels below the MCL shall be relatively straightforward. However, the ANNUAL CONSULTANT anticipates that the permitting requirements for the Monterey Well shall be more complex, and MCESD may require either a technical evaluation to demonstrate an acceptable blended concentration, and/or an operational plan to ensure the blended water remains below the arsenic MCL. The City has requested that they would like to avoid having to submit an official blending plan to MCESD as part of the permitting process.

The ANNUAL CONSULTANT shall meet with the City to present the design concept and permitting strategy for all the well facilities prior to meeting with MCESD. Based on the initial data review, the ANNUAL CONSULTANT shall determine whether further technical evaluation of the Monterey Well is required, potentially including hydraulic

model simulations for different demand scenarios, and developing a well operating procedure that work within the City's normal operating structure.

The ANNUAL CONSULTANT shall plan on attending two meetings with MCESD. The first meeting shall be scheduled to discuss the four wells with arsenic levels below the MCL, and receive concurrence on the bypass approach. A second meeting shall be held later with MCESD after a more thorough technical evaluation of the Monterey Well. Staggering the MCESD meetings shall allow the ANNUAL CONSULTANT to work on the bypass design of the four wells while simultaneously developing a technical strategy for the Monterey Well. All meetings with MCESD or any other regulatory agency must be approved in advance by the City. ANNUAL CONSULTANT shall submit all meeting agenda and presentation materials to the City for review prior to each meeting, and a City representative shall accompany the ANNUAL CONSULTANT to each MCESD meeting.

Any work beyond Task 2 must be approved by the City prior to initiating that work.

**Deliverables:**

- ANNUAL CONSULTANT shall submit meeting agenda and presentation materials to the City at least one week prior to the MCESD meetings.
- ANNUAL CONSULTANT shall issue MCESD meeting summaries by e-mail within one week of each meeting.
- The ANNUAL CONSULTANT shall provide a brief (5 – 10 pages) Technical Memorandum (TM) to the City presenting preliminary data review summary and design concepts for both well scenarios in a narrative format, and the design criteria for new mechanical components shall be presented in tabular format. The ANNUAL CONSULTANT shall also include within the TM any changes in operational procedures required as a consequence of the permitting effort.

**Task 3: Engineering Design**

The purpose of this task is to prepare construction drawings, construction cost estimate, and bid documents for the arsenic treatment bypass deliverable set. It is not anticipated that separate technical specifications shall be required for this project, and shall be performed per the Maricopa Association of Governments Uniform Standard Details for Public Works Construction (2006 version). The proposed deliverables for these well facilities shall be at the 60 and 90 percent-complete milestones.

It is anticipated that three (3) general and six (6) engineering drawings shall be required, as outlined below. It is anticipated that the deliverables for all Task 3 items shall be created in MicroStation using the ANNUAL CONSULTANT's drawing standards.

**CITY OF CHANDLER – ARSENIC TREATMENT BYPASS**

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**Drawings**

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General

Title Sheet and Vicinity Map

Abbreviations and General Legend

Mechanical Legend

Mechanical

Mechanical Layout – Hahn Well

Mechanical Layout – Arrowhead Well

Mechanical Layout – Apache Well

Mechanical Layout – Roosevelt Well

Mechanical Layout – Monterey Well

Mechanical Details

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For each delivery milestone, the ANNUAL CONSULTANT shall perform internal QA/QC reviews of the deliverables prior to delivery to the City. It is assumed that the City shall take two weeks to perform their review and one set of comments shall be provided back to the ANNUAL CONSULTANT. After receipt of the City's 90 percent review comments, the ANNUAL CONSULTANT shall develop 100-percent final Contract Documents, stamped and signed by an Arizona registered professional engineer. The ANNUAL CONSULTANT shall also compile the City's front end specifications, bid tabulation, construction schedule and other bidding information.

**Deliverables:**

- The ANNUAL CONSULTANT shall submit 10 half-size sets of drawings to the City at the 60 and 90 percent-complete stages of design and 10 full-size sets of drawings for the final construction documents.
- The ANNUAL CONSULTANT shall submit 10 copies of bid documents to the City at the 90 percent-complete stage of design and 10 sets of the final bid documents.
- The ANNUAL CONSULTANT shall submit a DVD with electronic files of the final approved bid documents, with drawings provided in both AutoCAD 2008 and .tiff format.

**Task 3.1: Engineering Design**

The ANNUAL CONSULTANT shall use the design criteria established in Task 2 to estimate the general arrangement of the mechanical piping for the well facilities. The ANNUAL CONSULTANT shall size, detail, and specify, as necessary, piping, valves, or any other mechanical appurtenances to be constructed as part of this project. It is assumed that the City shall provide electronic drawings in CAD format of the existing facilities. The ANNUAL CONSULTANT shall reference in the existing pipe layout as the basis of the overall site layout. No additional survey or subsurface investigation at the well sites is anticipated.

It is assumed that electrical or instrumentation and control designs shall not be required for this project. It is assumed that all new mechanical components shall be manually operated, and that any instrumentation modifications or reprogramming shall be minor, to be performed by the City.

**Task 3.2: Cost Estimating**

The ANNUAL CONSULTANT shall prepare an engineer's cost estimate with the final design drawings. The cost estimate is considered a Budget Level or Class 1 estimate as defined by the American Association of Cost Engineering (AACE). It is considered accurate to +15% to -5%, based upon the final design deliverables.

**Deliverables:**

- The ANNUAL CONSULTANT shall submit an engineer's cost estimate report in Word and Excel format.

**Task 4: Pre-Construction Services**

As requested by the City, the ANNUAL CONSULTANT shall provide services during construction, to include:

- The ANNUAL CONSULTANT shall prepare and submit an application for an Approval to Construct (ATC) permit with MCESD. The City shall be responsible for payment of the permit;
- Attend one pre-bid meeting to answer any questions during the meeting, and respond to all further inquiries during the bidding period;

**Schedule**

The project schedule is anticipated to be as follows:

Kick-off Meeting	June 15, 2011
Submit Data Review Summary and Design Concept TM	June 29, 2011
TM Review and MCESD Strategy Meeting	July 6, 2011
MCESD Meeting No. 1	July 13, 2011
MCESD Meeting No. 2	July 27, 2011
Begin Task 3, Engineering Design	July 28, 2011
60 Percent Design Submittal	August 24, 2011
60 Percent Review Meeting	September 7, 2011
90 Percent Design Submittal	September 21, 2011
90 Percent Review Meeting	October 5, 2011
Final Bid Documents	October 19, 2011
Services During Construction	TBD

**EXHIBIT B  
FEE SCHEDULE**

	<b>Labor Hours</b>	<b>Subtotal Cost</b>
<b>Task 1.1 – Project Management</b>		
Labor		
Principal Project Manager	24	
Senior Technologist (Contracts Administration)	2	
Office/Clerical/Accounting (Contracts Administration)	34	
Sub-Total Labor	60	\$7,376
Expenses		\$100
Sub-Total Task		\$7,476
<b>Task 1.2 – Provide Quality Assurance</b>		
Labor		
Senior Technologist	16	
Total Labor	16	\$2,688
Expenses		\$0
Sub-Total Task		\$2,688
<b>Task 1.3 – Project Meetings</b>		
Labor		
Principal Project Manager	10	
Project Engineer	20	
Total Labor	30	\$4,800
Expenses		\$760
Sub-Total Task		\$5,560
<b>Task 2 – Data Review and MCESD Coordination</b>		
Labor		
Principal Project Manager	16	
Project Engineer	32	
Total Labor	48	\$7,680
Expenses		\$400
Sub-Total Task		\$8,080
<b>Task 3.1 – Engineering Design</b>		
Labor		
Principal Project Manager	12	
Project Engineer	90	
Senior Engineering Tech	90	
Office/Clerical/Accounting (Specs Processor)	24	
Office/Clerical/Accounting (Misc)	12	
Total Labor	224	\$30,100
Expenses		\$0
Sub-Total Task		\$30,100
<b>Task 3.2 – Cost Estimating</b>		

	<b>Labor Hours</b>	<b>Subtotal Cost</b>
<b>Labor</b>		
Senior Technologist (Cost Estimator)	12	
Project Engineer	4	
<b>Total Labor</b>	<b>16</b>	<b>\$2,616</b>
<b>Expenses</b>		<b>\$0</b>
<b>Sub-Total Task</b>		<b>\$2,616</b>
 <b>Task 4 -- Pre-Construction Services</b>		
<b>Labor</b>		
Project Engineer	16	
<b>Total Labor</b>	<b>16</b>	<b>\$2,400</b>
<b>Expenses</b>		<b>\$150</b>
<b>Sub-Total Task</b>		<b>\$2,550</b>
 <b>Total Cost</b>		 <b>\$59,070</b>

EXHIBIT C

**Contractor Immigration Warranty  
To Be Completed by Consultant Prior to Execution of Contract**

A.R.S. § 41-4401 requires as a condition of your contract verification of compliance by the consultant and subconsultants with the Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of its employees.

By completing and signing this form the Engineer/Annual Consultant shall attest that it and all subconsultants performing work under the cited contract meet all conditions contained herein.

Project Number: WA1105-201		
Name (as listed in the contract):		
Street Name and Number:		
City: Chandler	State: AZ	Zip Code:

I hereby attest that:

1. The Engineer/Annual Consultant complies with the Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of those employees performing work under this contract;
2. All subconsultants performing work under this contract comply with the Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214 related to the immigration status of their employees; and
3. The Engineer/Annual Consultant has identified all consultant and subconsultant employees who perform work under the contract and has verified compliance with Federal Immigration and Nationality Act (FINA), all other Federal immigration laws and regulations, and A.R.S. § 23-214.

**Signature of Engineer/ Annual Consultant (Employer) or Authorized Designee:**

Thomas McLean

Printed Name: THOMAS MCLEAN

Title: VICE PRESIDENT

Date (month/day/year): 5/24/11