

CITY COUNCIL

For City Clerk's Use:

☐ **APPROVED** ☐ **DENIED**

Reso No. _____ File No. _____

Ord No. _____

Agenda Item No.: 4

Date: February 1, 2012

TO: Honorable Mayor and Members of the City Council

FROM: Christopher W. McKinney, Director of Utilities

SUBJECT: Escondido-Vista Water Treatment Plant Onsite Chlorine Generation

RECOMMENDATION:

It is requested that the City Council:

1. Adopt Resolution No. 2012-15 authorizing the Mayor and City Clerk to execute the First Amendment to the Consulting Agreement with Black & Veatch Corporation in the amount of \$214,707 for additional engineering services to prepare construction drawings and specifications for the Escondido-Vista Water Treatment Plant Onsite Chlorine Generation project.
2. Approve a budget adjustment in the amount of \$215,000.
3. Approve a sole source with Process Solutions Incorporated for the sodium hypochlorite generation equipment.

FISCAL ANALYSIS:

A budget adjustment of \$215,000 from the Emergency Treated Water Connection CIP (701906) funds to the Escondido-Vista Water Treatment Plant Onsite Generation Project CIP (701001) funds. Vista Irrigation District (VID) will be responsible for 20% of the cost of the project; this share is represented by the CIP Reimbursement figure of \$42,940 listed in the Budget Adjustment Request.

PREVIOUS ACTION:

On April 8, 2010, an RFP was distributed to six qualified engineering firms for the Evaluation and Recommendation for Onsite Generation of Sodium Hypochlorite at the Escondido-Vista Water Treatment Plant. The original Consulting Agreement to perform Phase II – Detailed Design was approved at the City Council Meeting on February 16, 2011, as Resolution No. 2011-125 in the amount of \$619,014. VID staff went to the VID Board of Directors on January 18, 2012, and approved the First Amendment.

BACKGROUND:

The City of Escondido presently uses a chlorine gas system to disinfect the water produced at the Escondido-Vista Water Treatment Plant (WTP). This project will replace the existing disinfection system with a system that converts salt to sodium hypochlorite onsite.

The original design contract assumed the existing chlorine building and scrubber site would be utilized for the new onsite sodium hypochlorite generation (OSG) equipment. During Phase II – Detailed Design, it became apparent that the existing chlorine building and scrubber site was not adequate and expansion into the granite slope east of the existing chlorine building would be necessary. This expansion would significantly increase construction costs and create limited access to equipment. Additional concerns included blocked driveway access to the WTP during offloading of chemicals. Different alternatives were evaluated to minimize impacts of these issues, and it was determined that the best option was to move the chemical storage tanks and the feed piping to an unused area south of and down slope from the existing chlorine building. This alternative was considered due to the economical and operational benefits. Although savings would be seen in the construction costs, moving the chemical tanks and feed piping would require additional design effort that was not originally anticipated. These additional items include design for new chemical containment areas, site fencing and security, access roads, additional piping, additional conduit, fiber optic cable for SCADA, covers for metering pumps and blowers, and a construction sequencing technical memorandum.

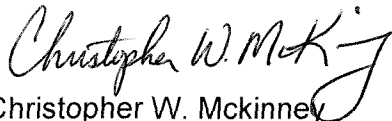
The original contract assumed the existing chlorine feed piping would be utilized. During design, City Staff researched the existing chlorine feed piping and it was determined that the piping was near the end of its useful life and needed to be replaced with this project. This was further verified as WTP staff performed recent repairs on various portions of the existing chlorine feed piping.

During the design phase, various onsite sodium hypochlorite generation (OSG) system vendors were evaluated. Of the OSG vendors evaluated, it was determined that three OSG vendors meet our requirements. Due to the extreme variations in the size, configuration and operation of the equipment of the various manufacturers, a selection of this specific equipment must be made in order to finalize the design.

The following process was performed to determine the OSG equipment that best suited the needs of the WTP. The project team which consisted of staff from the City, VID, and Black & Veatch attended presentations provided by three OSG system vendors. Following the presentations, Black & Veatch prepared a technical memorandum comparing the three OSG systems. A thorough evaluation of multiple manufacturers' equipment was performed to select the equipment that best suited the needs at the WTP. The selected manufacturer was determined to be Process Solutions Incorporated (PSI).

The attached sole source memo is provided to show satisfaction of the "quality and performance criteria" as required by Escondido Municipal Code Section 10-137.

Respectfully submitted,

A handwritten signature in black ink that reads "Christopher W. McKinney". The signature is written in a cursive style with a large, stylized "M" and "K".

Christopher W. McKinney
Director of Utilities



CITY OF ESCONDIDO
BUDGET ADJUSTMENT REQUEST

Date of Request: January 24, 2012
Department: Water
Division: Capital Projects
Project/Budget Manager: Craig Whittemore 4038
Name Extension
Council Date (if applicable): February 1, 2012
(attach copy of staff report)

For Finance Use Only	
Log #	_____
Fiscal Year	_____
_____	Budget Balances
_____	General Fund Accts
_____	Revenue
_____	Interfund Transfers
_____	Fund Balance

Project/Account Description	Account Number	Amount of Increase	Amount of Decrease
WTP Onsite Chlorine Generation	556-701001	\$215,000	
Emergency Treated Water Connection	556-701906		\$215,000
CIP Reimbursement	4455-555-000	\$42,940	

Explanation of Request:

To fund the Onsite Chlorine Generation project at the Escondido-Vista Water Treatment Plant. Any unused funds will be returned to the Emergency Treated Water Connection. Vista Irrigation District will be responsible for 20% of the project cost.

APPROVALS

Christopher W. McK... 01-24-2012
Department Head Date
John ... 1/24/12
Finance Date

City Manager Date

City Clerk Date

RESOLUTION NO. 2012-15

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ESCONDIDO, CALIFORNIA, AUTHORIZING THE MAYOR AND CITY CLERK TO EXECUTE, ON BEHALF OF THE CITY, A FIRST AMENDMENT TO THE CONSULTING AGREEMENT FOR DESIGN PROFESSIONALS WITH BLACK & VEATCH CORPORATION FOR THE ESCONDIDO-VISTA WATER TREATMENT PLANT ONSITE CHLORINE GENERATION, A BUDGET ADJUSTMENT TO FUND THE WORK, AND A SOLE SOURCE WITH PROCESS SOLUTIONS INCORPORATED FOR THE SODIUM HYPOCHLORITE GENERATION EQUIPMENT

WHEREAS, the City of Escondido desires to have the construction drawings and specifications prepared for the Escondido-Vista Water Treatment Plant Onsite Chlorine Generation (the "Project"); and

WHEREAS, the City entered into an agreement with Black & Veatch Corporation on April 18, 2011, for said Escondido-Vista Water Treatment Plant Onsite Chlorine Generation; and

WHEREAS, the physical constraints of expansion into the granite slope would significantly increase construction costs and limit access to equipment; and

WHEREAS, the ease of construction at the unused area located south and down slope of the existing chlorine building would provide economical and operational benefits; and

WHEREAS, City of Escondido staff have completed negotiations with Black & Veatch Corporation for additional engineering services and the Director of Utilities

recommends that the First Amendment to the Consulting Agreement ("Agreement") be approved; and

WHEREAS, this City Council desires at this time and deems it to be in the best public interest to approve said Agreement in an amount not to exceed \$214,707; and

WHEREAS, a thorough evaluation of multiple manufacturers' onsite sodium hypochlorite generation equipment was performed to select the equipment that best suited the needs at the Escondido-Vista Water Treatment Plant; and

WHEREAS, the City of Escondido staff provided key justification in safety, operation, and maintenance to show satisfaction of the quality and performance criteria as required by Escondido Municipal Code Section 10-137; and

WHEREAS, the Director of Utilities recommends that a sole source with Process Solutions Incorporated for the sodium hypochlorite generation equipment be approved;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Escondido, California, as follows:

1. That the above recitations are true.
2. That the Mayor and City Clerk are authorized to execute, on behalf of the City, an Agreement with Black & Veatch Corporation. A copy of the Agreement is attached as Exhibit "A" and is incorporated by this reference.
3. That the Mayor and City Council approve the sole source with Process Solutions Incorporated.



CITY OF ESCONDIDO
FIRST AMENDMENT TO CONSULTING AGREEMENT

This "Amendment" is made this _____ day of _____, 20__.

Between: CITY OF ESCONDIDO
 a municipal corporation
 201 N. Broadway
 Escondido, California 92025
 ("CITY")

And: Black and Veatch Corporation
 300 Rancheros Drive, Suite 250
 San Marcos, CA 92069
 Kevin Davis
 760-510-7705
 ("CONSULTANT")

Witness that whereas:

- A. CITY and CONSULTANT entered into an agreement on April 18, 2011 ("Agreement"), wherein CITY retained CONSULTANT to provide detailed design including preparation of construction drawings and specifications for the Escondido-Vista Water Treatment Plant Onsite Chlorine Generation project; and
- B. CITY and CONSULTANT desire to amend the Agreement to include additional work, which is defined in "Attachment A" to this Amendment, which is incorporated by reference;

NOW THEREFORE, it is mutually agreed by and between CITY and CONSULTANT as follows:

- 1. The CONSULTANT will furnish the services described in "Attachment A" to this Amendment.
- 2. CITY will compensate the CONSULTANT in an additional amount not to exceed \$214,707, pursuant to the conditions contained in "Attachment A" to this Amendment.

3. All additional terms under the Agreement between CITY and CONSULTANT still apply to the additional work to be performed by CONSULTANT under this Amendment. If any of the terms of this Amendment conflict with the Agreement, this Amendment must prevail.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the day and year first above written.

CITY OF ESCONDIDO

Date: _____

Sam Abed
Mayor

Date: _____

BLACK & VEATCH CORPORATION

[Same Person from the Company Here]
Vice President

(The above signature should be notarized)

APPROVED AS TO FORM:

OFFICE OF THE CITY ATTORNEY
JEFFREY R. EPP, City Attorney

By: _____



ESCONDIDO-VID WTP
DISINFECTION AND ELECTRICAL SYSTEM UPGRADES
AMENDMENT #1

CITY OF ESCONDIDO

GENERAL

The planned improvements to the Escondido-VID Water Treatment Plant (WTP) include upgrades to the plant disinfection and electrical systems. The work is being performed in two phases as follows:

- ▼ PHASE 1: PROJECT DEFINITION
- ▼ PHASE 2: DETAILED DESIGN SERVICES

The *Phase 1 - Project Definition* is considered complete. The design services included in *Phase 2 - Detailed Design Services* are based on the results of the project definition phase. The detailed design services will include preparation of construction documents, including drawings and specifications. Permitting assistance and agency coordination will also be performed under this phase.

Additional tasks for the design effort have been identified and are described below:

ADDITIONAL SCOPE OF WORK- ITEMS TO BE AUTHORIZED UNDER ADDITIONAL SERVICES:

Based on the design decisions that were made during the basis of design phase, the following tasks have been identified as tasks to be authorized under additional services (beyond the existing optional services).

Task 1 - Inclusion of fiber optic cable for connection of new systems to SCADA

- ▼ Detailed design effort associated with re-ducting existing conduit for fiber optic cable for connection of new systems with SCADA and partial rerouting of existing fiber optic cable within the Operations building.

Task 2 - New site fencing and security. Specific task items include:

- ▼ Design of new fencing and an electronic gate for new facilities in avocado grove area. Design change impacts civil site plan, civil details, civil specifications, electrical site plan, and electrical/I&C specifications.
- ▼ Incorporate up to five site security video cameras in the design documents for various areas of the WTP site, including monitoring of the newly developed areas. New camera locations to be determined in conjunction with City staff.

Task 3 - Replacement and re-routing of chlorine feed piping. Specific task items include:

- ▼ As-built review and field investigation of the existing piping to determine routing of new pipe to feed points.
- ▼ Effort associated with additional civil and mechanical sheets to show pipe routing, relocation of the existing San Diego County Water Authority (SDCWA) chemical feed point, and associated details. It is assumed that profiles will not be required and that level of detail will be limited to general pipe routing, points of connection, reference to pothole information, and notes describing other constraints determined by the City, VID, and Black & Veatch (B&V). Photos will also be utilized to illustrate existing conditions at periodic intervals or key interior locations. It is assumed that general pipe routes will be developed collaboratively with WTP staff. Exact routes will be determined by the Contractor, who will be required to prepare and submit shop drawings for review and acceptance by the City, VID, and B&V prior to construction.
- ▼ Development of specifications for the new double wall piping.
- ▼ Leak detection system for site piping will be incorporated into primary chemical storage/containment areas. As such, separate leak detection systems for the pipe distribution network will not be required. Minor related items are included in this task.



ESCONDIDO-VID WTP
DISINFECTION AND ELECTRICAL SYSTEM UPGRADES
AMENDMENT #1

CITY OF ESCONDIDO

Task 4 – Addition of canopies for outdoor metering pumps and blowers. Specific task items include:

- ▼ Design effort for canopies over chemical feed pumps and blowers at the sodium hypochlorite and brine storage areas.
- ▼ Design effort for a canopy over chlorine dioxide generator cabinets.
- ▼ Additional lighting underneath the canopies.

Task 5 – Potholing. Specific task items include:

- ▼ Provide up to 24 potholes of existing utilities on the WTP site as described in the subconsultant proposal from Rick Engineering Company, dated December 20, 2011.
- ▼ Coordination with the City and Rick Engineering for potholing.

Task 6 – Additional design effort for new chemical areas (chlorine and chlorine dioxide). Specific task items include:

- ▼ Design of new access road surrounding the avocado grove area.
- ▼ Site utility coordination for expanded site work and identification of areas to pothole.
- ▼ Additional design effort associated with additional service water connections and piping across plant roadways.
- ▼ Additional site grading and drainage associated with new sodium hypochlorite and brine storage area and new Purate and sulfuric acid storage area.
- ▼ Design of access stairway from upper area down to the new sodium hypochlorite and brine storage area (BDR concept only, detailed design deleted per client).
- ▼ Chemical trench across roadway at chlorination building.
- ▼ Additional plumbing design for the sodium hypochlorite and brine storage area and Purate and sulfuric acid storage areas at new locations.
- ▼ Additional I&C design associated with additional panel requirements due to decentralization of new facilities.
- ▼ Additional electrical work for longer conduit runs, additional outdoor lighting, etc.
- ▼ Additional sodium hypochlorite/brine and purate/sulfuric acid storage area layouts for the Basis of Design Report/20% Design.
- ▼ Additional design effort associated with addition of metering pumps beyond what was included in the Basis of Design Report/20% Design.

Task 7 – Fire code review services. Specific task items include:

- ▼ Provide a review of the 60% design and a fire code compliance report as described in the subconsultant proposal from Aon Fire Protection Engineering.
- ▼ Coordination between the City and a fire protection subconsultant to provide the fire code review services.

Task 8 – Additional meetings, project management, and administration. Specific task items include:

- ▼ Attend three additional meetings, as required to support additional design efforts.
- ▼ Additional project management and administration due to increased project duration by approximately 3 months.



**ESCONDIDO-VID WTP
DISINFECTION AND ELECTRICAL SYSTEM UPGRADES
AMENDMENT #1**

CITY OF ESCONDIDO

Task 9 – Construction sequencing TM. Specific task items include:

- ▼ Preparation of a construction sequencing TM to help develop, identify, and coordinate constraints for construction sequencing that will be incorporated into the construction documents. It is assumed that the TM effort will include one meeting with WTP staff and the City's Construction Manager to review and develop key constructions that will need to be included.

Task 10 – Pre-negotiation of OSG system pricing with OSG vendor. Specific task items include:

- ▼ Assist the City and VID with pre-negotiation efforts with one (1) pre-selected OSG vendor including:
 - Preparation of a letter of solicitation to the selected OSG vendor, including system design information needed for preparing a firm bid for the OSG system to be provided.
 - Expedited design of OSG system (plans and specifications) to assist with the pre-negotiation process.
 - Evaluation of the scope of supply and equipment pricing submitted by the OSG vendor, and negotiation of an acceptable proposal in coordination with the City and VID.
 - Preparation of the pre-negotiated equipment package information to be included in the contract documents.

Task 11 – Additional optional services budget.

- ▼ This task has been established to set aside budget to accommodate additional tasks that may become required for completion of the design. Authorization from the City will be obtained prior to utilizing this budget for such work.

City of Escondido
Escondido-VID WTP
Disinfection and Electrical System Upgrades
Fee Estimate - Amendment #1

Trend No.	Description	Project Director	Project Manager (PM)	QA/QC - Electrical	QA/QC (Other)	Engineering Manager (TSD)	Project Engineer - Electrical	Project Engineer - Civil	Staff Engineer - Electrical	Staff Engineer - Civil	Staff Engineer - Other	CADD - Electrical	CADD - Civil	CADD - Other	Admin Staff	BAV Total Hours	Total Fee - BAV Labor	Indirect Expenses (\$/hr)	Subcontractors & Direct Expenses	Subcontractant Mark-up	Total Fee	Notes/Assumptions
PHASE 2 - DETAILED DESIGN PHASE SERVICES - TREND ITEMS																						
1	New fiber optic cable for SCADA interface	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	\$4,794	\$300	\$0	\$0	\$5,094	
2	New air fencing & security	0	2	4	4	0	0	0	0	0	0	0	0	0	0	0	\$20,292	\$1,510	\$0	\$0	\$21,802	
3	Replacement and retrofit of chlorine feed piping	0	4	0	4	16	0	16	0	0	0	0	46	0	0	0	\$17,876	\$1,170	\$0	\$0	\$19,046	
4	Add canopies for outdoor metering pumps and blowers	0	3	2	4	8	0	8	0	0	0	0	4	0	0	0	\$17,605	\$460	\$0	\$0	\$18,065	
5	Rebaking	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	\$3,416	\$200	\$22,460	\$0	\$26,076	Site Engineering (w/ Underground Solutions and Subsurface Alut)
6	Additional design effort for new chemical areas (OSS and CIO)	0	20	4	16	40	60	144	40	40	20	36	80	20	0	0	\$70,844	\$4,500	\$0	\$0	\$75,344	Assumes site source & one pump for separate SDOVA feed point
7	Fire protection engineering	0	2	0	0	0	0	12	5	0	0	0	0	0	0	0	\$2,910	\$180	\$4,200	\$0	\$7,340	Assumes 3 additional meetings & no additional meetings
8	Additional project management & administration	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	\$2,160	\$140	\$1,200	\$0	\$3,500	Assumes 3 additional meetings & no additional meetings
9	Construction sequencing TM	2	6	0	0	0	16	0	0	0	0	0	0	0	0	0	\$11,184	\$630	\$250	\$0	\$12,064	Helps resolve impacts & constraints resulting from add'l site improvements
10	Pre-negotiation with OBS vendor	2	12	0	8	20	0	8	40	0	0	0	0	4	0	0	\$16,376	\$820	\$250	\$0	\$18,446	Assumes pre-negotiation with a single vendor
11	Additional optional services budget	0	20	0	0	0	0	80	0	0	0	0	0	0	0	0	\$15,100	\$860	\$4,020	\$0	\$20,020	Allocation to be utilized only if authorized by City for additional tasks
TOTALS		4	82	11	38	105	142	360	114	0	54	20	96	146	38	8	\$371,547	\$10,870	\$12,400	\$0	\$394,797	