



CITY OF  
**HAYWARD**  
HEART OF THE BAY

10

**DATE:** March 2, 2010

**TO:** Mayor and City Council

**FROM:** Director of Public Works

**SUBJECT:** Authorization for the City Manager to Execute a Professional Services Agreement for Design and Construction Administration Services for the Emergency Wells Supervisory Control and Data Acquisition (SCADA) Installation Project

**RECOMMENDATION**

That Council adopts the attached resolution authorizing the City Manager to negotiate and execute a Professional Services Agreement with Carollo Engineers for design and construction administration services for the Emergency Wells Supervisory Control and Data Acquisition (SCADA) Installation Project in an amount not to exceed \$73,000.

**BACKGROUND**

In 1994, the City implemented a Supervisory Control and Data Acquisition (SCADA) system to monitor, gather data, and assist in control of water distribution, and wastewater collection and wastewater treatment. The heart of a typical SCADA system is a computer that monitors measurable parameters such as pressure, temperature, flow rates and the like (“sensors”), and performs operations such as turning pumps on or off, and opening and closing valves (“actuators”). The industrial design of SCADA computers requires special components not typically found in personal computers.

Hayward’s five emergency wells are a critical component of the City’s water system and will be relied upon to provide about half the City’s water supply in an emergency such as an earthquake. The wells currently are operated manually, by a worker visiting the site.

The purpose of this project is to design the necessary equipment for remotely operating each of the five well sites from the City’s SCADA Operations Room at the Utilities Center on Soto Road. The equipment to be added to each well site generally consists of a programmable logic controller (PLC), a radio, an antenna, wiring and a motorized operator for the valve that isolates each well from the distribution system. The SCADA interface in the Operations Room would also need to be reprogrammed to show the wells’ operation. Adding the wells into the City’s SCADA system would provide benefits of allowing the wells to be activated more quickly in an emergency and allowing staff to more easily monitor well operational data, such as groundwater levels, over time.

All SCADA programming will be performed by SCADA Support Group (SSG), the firm that does all the SCADA programming for the water and wastewater systems. SSG's work scope and budget will be negotiated once the design approach is finalized. Competitive proposals will be received for the PLC programming after the control strategy has been designed.

## DISCUSSION

On December 29, 2009, Requests for Proposals to provide engineering services for the Emergency Wells SCADA Installation Project were sent to four engineering consultants. On January 27, 2010, three proposals were received: Luhdorff & Scalmanini Consulting Engineers, TJC and Associates, and Carollo Engineers. After reviewing the proposals, Carollo Engineers was found to be the best qualified to perform the work based on its approach in designing the Emergency Wells SCADA installation, experience with similar projects, and the most highly qualified team. In terms of cost, Carollo Engineers was the middle of the three at about 26% higher than the lowest cost proposal. Therefore, staff recommends that the City Manager execute a professional services agreement with Carollo Engineers to provide design and construction administration services for the Emergency Wells SCADA Installation Project.

A detailed scope of work and proposal fee of \$59,700 have been negotiated with Carollo Engineers. The not-to-exceed amount of \$73,000 for the professional services agreement will allow \$13,300 for additional services, which may be needed during the design and construction phase of the project. In particular it is possible a \$3,500 radio line-of-sight survey may be needed.

## FISCAL AND ECONOMIC IMPACT

The estimated project costs are as follows:

Design and Construction Administration Services – Consultant	\$ 73,000
SCADA Programming (SSG)	56,000
PLC Programming	14,000
Design Administration – City Staff	20,000
Construction Contract	250,000
Inspection and Testing	<u>12,000</u>
Total	\$425,000

The FY 2009 Capital Improvement Program (CIP) includes \$350,000 for the Emergency Wells SCADA Installation Project in the Water System Capital Improvement Fund. Adjustments will be proposed to the FY 2011 CIP to provide sufficient funding for the construction contract.

In addition, per an agreement between the City of Hayward and the East Bay Municipal Utility District (EBMUD), EBMUD will contribute \$50,000 towards the project to as mitigation for potential impacts on the City's emergency wells from their Eastside Wellfield Project.

## **PUBLIC CONTACT**

All work will be done inside Utilities facilities, located in industrial or commercial areas. There will be no impact on the neighbors or the public.

## **SCHEDULE**

The estimated schedule for this project is summarized as follows:

Begin Design	March 2010
Complete Design and Advertise	July 2010
Award Construction Contract	September 2010
Begin Construction	September 2010
End Construction	February 2011

Prepared by: Alex Ameri, Deputy Director of Public Works

Recommended by: Robert A. Bauman, Director of Public Works

Approved by:



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Gregory T. Jones, City Manager

Attachment:

Attachment I - Draft Resolution

# DRAFT

HAYWARD CITY COUNCIL

RESOLUTION NO. 10-\_\_\_\_\_

Introduced by Council Member \_\_\_\_\_

RESOLUTION AUTHORIZING THE CITY MANAGER TO NEGOTIATE AND EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH CAROLLO ENGINEERS FOR DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES FOR THE EMERGENCY WELLS SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) INSTALLATION PROJECT, PROJECT NO. 7171

BE IT RESOLVED by the City Council of the City of Hayward that the City Manager is hereby authorized and directed negotiate and execute a Professional Services Agreement with Carollo Engineers for design and construction administration services for the Emergency Wells Supervisory Control and Data Acquisition (SCADA) Installation Project, Project No. 7171 in an amount not to exceed \$73,000 in a form to be approved by the City Attorney.

IN COUNCIL, HAYWARD, CALIFORNIA \_\_\_\_\_, 2010

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST: \_\_\_\_\_  
City Clerk of the City of Hayward

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney of the City of Hayward