



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: February 13, 2007
TO: Mayor and Councilmembers
FROM: Engineering Division, Public Works Department
SUBJECT: Contract For Design Of Influent Pumps At El Estero Wastewater Treatment Plant

RECOMMENDATION:

That Council authorize the Public Works Director to execute a professional services contract with Carollo Engineers (Carollo) for the design of influent pumps at the El Estero Wastewater Treatment Plant in the amount \$43,190, and authorize the Public Works Director to approve expenditures up to \$5,000 to cover cost increases that may result from contract change orders for extra work.

DISCUSSION:

BACKGROUND

At the El Estero Wastewater Treatment Plant (El Estero), large pumps are used to pump wastewater from approximately 20 feet below ground to the start of the treatment process located atop the clarifiers. The plant was constructed with three pumps. Typically, only one or two of the pumps is needed to keep up with the volume of water flowing to the treatment plant. However, in very high flows, such as those that occur during heavy rains, all three pumps are needed. Should one of the pumps fail during very high flows, the two remaining pumps would be insufficient to keep up with flows to the treatment plant. This would result in sewage spills.

To add reliability for this critical plant process, a fourth pump was added last year. The new pump is a dry-pit submersible pump, which is different than the original shaft-driven pumps. The dry-pit submersible pump has several advantages over the old type:

- It can be submerged, so if the influent dry well were to flood, the pumps would continue to run;
- There is no shaft, which reduces vibration, and consequently, maintenance requirements; and
- Shaftless pumps are more electrically efficient.

REVIEWED BY: _____

Finance

Attorney

Agenda Item No. _____

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PROJECT DESCRIPTION

Because of their age and performance, replacement of the original three influent pumps has been planned for some time. In late 2004, Carollo was retained to design the replacement pumps. Design is 90% complete for a project to replace the three existing shaft driven pumps with the new type of dry-pit submersible pump discussed above. At the time that design was completed, the fourth pump had yet to be installed. Therefore, staff decided to delay finalizing the plans and specifications for replacement of the three existing pumps until the fourth pump was installed and operating. This decision was made so that any problems identified with design or operation of the dry-pit submersible pump could be addressed prior to finalizing design and bidding the pump replacement.

The new pump was installed in December 2006, and is working well. Based on staff's experience with the installation, minor design modifications are recommended. Additionally, the proposed contract provides for the development of SCADA programming and integration specifications not included in the original design contract, as well as providing for Carollo's technical support during the bidding process.

FUNDING

Funding for this project was included in the Wastewater Bonds. There are sufficient funds to complete the design and construction of the replacement influent pumps.

Design Modifications	\$48,190
Previous Design Costs	\$124,136
Construction Cost Estimate w/Change Order Allowance	\$1,100,000
In House Engineering and Construction Management/Inspection	\$152,000
TOTAL	\$1,424,326

The Board of Water Commissioners endorsed staff's recommendation at their January 8, 2007 meeting.

SUSTAINABILITY IMPACT

Under the new Sustainable Santa Barbara Program, the City's goals are to prevent pollution and reduce energy consumption. The replacement of existing influent pumps will improve the treatment plant's ability to reliably treat wastewater. Additionally, new shaftless pumps will conserve electrical energy used to operate the plant.

PREPARED BY: Homer F. Smith II, Principal Engineer/LS/RB/cw 

SUBMITTED BY: Anthony J. Nisich, Public Works Director 

APPROVED BY: City Administrator's Office 