Agenda Item No. 3

File Code No. 540.01

CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: January 31, 2017

TO: Mayor and Councilmembers

FROM: Engineering Division, Public Works Department

SUBJECT: Contract For Construction Of Recycled Water Treatment Plant Modifications

RECOMMENDATION: That Council:

A. Find it in the best interest of the City to waive the formal bid procedures as authorized under Santa Barbara Municipal Charter Section 519 for projects relating to the extension, replacement, or expansion of the transmission or distribution system of the Water Resource Division, and award a contract to Stanek Constructors, Inc. in the amount of $455,687 for construction of the Recycled Water Treatment Plant Modifications;

B. Authorize the Public Works Director to execute the contract with Stanek Constructors, Inc. in the amount of $455,687, and approve expenditures up to $45,470 to cover any cost increases that may result from contract change orders for extra work and differences between estimated and actual quantities measured for payment;

C. Authorize the transfer of existing budgeted appropriations of $641,757 from the Water Operating Fund to the Water Capital Fund to cover the costs of the Recycled Water Treatment Plant Modifications, which includes $30,000 for City Engineering staff time, $35,000 for MNS Engineers for construction management, and $75,600 for the purchase of additional filtration membranes from Dow Chemical Company; and

D. Approve an increase in appropriations and estimated revenues in the Water Capital Fund in the amount of $641,757 related to the transfer from the Water Operating Fund to the Recycled Water Plant Project in the Water Capital Fund.

EXECUTIVE SUMMARY:

On April 29, 2014, the City awarded a construction contract to remove and rebuild a new Recycled Water Treatment Plant (Plant). Prior to entering into the construction contract the City entered into a contract with CDM Smith ("CMD") to design the new Plant.
The intent of the project was to replace the existing treatment plant which had been in service since 1989 and had reached the end of its useful life. The purpose of the Plant and the recycled water system is to reduce demand for potable water for irrigation purposes in the community. This will allow our limited potable water supplies to be stretched further during drought conditions to meet the critical health and safety needs of the community.

As the result of an engineering design error in the construction specifications prepared by CDM, the Plant once constructed, was unable to produce its designed production capacity. Currently the Plant is consistently producing approximately 1.5 million gallons per day (MGD), which is sufficient to meet low demand in the winter but inadequate to meet peak summer demands. In an effort to not only achieve compliance with the Plant's performance specifications of 2.5 MGD, but also to meet the upcoming summer demands, modifications to the existing Plant are necessary.

DISCUSSION:

Background

The City's original recycled water facility was constructed in 1989 at the El Estero Wastewater Treatment Plant (El Estero). It was one of the first recycled water facilities in California. It was in operation for over 20 years, and in need of significant rehabilitation to continue the effective production of recycled water. After a competitive Request for Proposals and selection process, Council awarded a professional service contract to CDM on January 24, 2012, to perform engineering assessment and preliminary design services for the Tertiary Filtration Replacement Project (Tertiary Project). Council subsequently awarded a contract to CDM on February 26, 2013, for final design services. Final design was completed and the Tertiary Project was competitively bid for construction.

On April 29, 2014, Council awarded a construction contract in the amount of $8,490,000 to Schock Contracting Corporation (Schock) for the construction of the Tertiary Project, Bid No. 3688A. The work generally consisted of demolishing the existing Plant's media filters and constructing a new 3 MGD Ultrafiltration Complex, including ancillary facilities for cleaning the membranes and associated chemical systems. Additional work included rehabilitation of the recycled water storage reservoir, reconfiguring pipes and existing chemical storage sites, and improvements to the storm water drainage system. Council also awarded contracts to MNS Engineers (MNS) for construction management services, CDM for design support services during construction, and Dudek for environmental monitoring.

During construction, it was discovered that CDM included water quality data in the bid documents that was not representative of the actual feed water to the Plant. Because this data was used as the basis for selecting and purchasing the filtration membranes, different membranes were needed to treat the quality of water actually supplied. This design error also impacted the timing of the Tertiary Project, delaying start-up of the new Plant to late October 2015. Additionally, the specifications were revised to account for the fact that, based on the actual feed water quality, the Plant as designed and constructed would only produce 2.5 MGD of recycled water.

On June 30, 2015, Council authorized an $897,000 increase to Shock's construction contract to cover costs associated with procuring and installing different filtration membranes that would be able to filter feed water to the new Plant. On October 30, 2015, the City received approval from the State Water Quality Control Board to discharge water from the newly constructed recycled water facility into its distribution system.

On November 2, 2015, the new Plant was commissioned, and the City began distributing recycled water to its customers; however, the new Plant only produced 0.7 MGD of recycled water on a reliable basis. Staff attempted to work with Schock and CDM to resolve the lack of water production, but was unsuccessful. While City Staff has not completed its full investigation into the issues related to the failure of the Plant to achieve the revised design criteria 2.5 MGD per day, evidence suggests that the failure is primarily due to design error by CDM.

On June 10, 2016, staff executed a professional services agreement with Trussell Technologies, Inc. (TT), in an amount not-to-exceed $34,956 to provide operational support for approximately eight weeks to optimize recycled water production to meet summer demands, and to evaluate the membrane system's capacity. TT is a leading expert in water and wastewater processes, and has direct experience assisting facilities, similar to the City's, in achieving ideal operating conditions and maximizing water production. Through TT's assistance, operational changes were made to the recycled water system so that the Plant could reliably produce 1.5 MGD of recycled water. The Plant, however, is still not producing at its designed capacity, and additional changes and modifications need to be made. Therefore, on September 20, 2016, Council authorized an amendment to TT's agreement to continue utilizing the firm's expertise and services to advise the City on the design and operational changes necessary for the Plant to reliably produce 2.5 MGD of recycled water. The amendment increased the contract amount by $149,524 for a total not-to-exceed amount of $184,480.

Current Status

TT has recommended modifications to the new Plant to reliably produce 2.5 MGD of recycled water, which will meet anticipated recycled water demands for the upcoming summer season. These modifications generally include the purchase of equipment and materials, and construction of the following:

- Install 42 additional City-purchased membranes.
- Install heaters and associated instrumentation in the chemical tanks.

- Construct a water recirculation line for all three skids.
- Install additional pressure transducers.
- Perform programming changes to the Plant and SCADA system.
- Perform 14-day acceptance test.

To accomplish the above-described work, staff recommends Council find it in the City's best interest to waive the public bidding requirements and award a contract to Stanek Constructors, Inc. (Stanek). Due to current drought conditions and anticipated upcoming recycled water demands, it is critical that these modifications are constructed prior to summer 2017. Charter Section 519 provides, in relevant part, that projects for the extension, replacement, or expansion of the transmission or distribution system of the Water Department operated by the City may be exempted from the competitive bidding requirements by the affirmative vote of a majority of the total members of the City Council.

Stanek is a general contractor with the necessary experience to construct the proposed Plant modifications. They are currently mobilized at El Estero constructing the Secondary Process Improvement Project; therefore, the City will save time and significantly minimize mobilization costs. Staff has reviewed Stanek's cost proposal, and found the costs consistent with costs to construct similar work under the original competitively bid construction contract. Stanek has previously performed well and ahead of schedule on similar work, and should be able to meet the City's critical timeline.

At its meeting on January 19, 2017, the Water Commission voted 5-0-0 in support of the staff's recommendations.

Funding

Staff recommends that Council authorize a transfer of $641,757 from the Water Operating Fund to the Water Capital Fund and approve the related budget adjustments for the construction and construction management work associated with the Plant Modifications. The Water Operating Fund budget included $4,250,000 for operating the Desalination Plant during Fiscal Year 2017. Because the Desalination Plant will not be operating for the full year, there will be unused Desalination Plant appropriations, and those unused funds will be used to perform the above work.

PREPARED BY: Brian D'Amour, P.E., City Engineer/AF/kts

SUBMITTED BY: Rebecca J. Bjork, Public Works Director

APPROVED BY: City Administrator's Office