



City Council Staff Report

From: City Manager

Report Type: CONSENT CALENDAR

Lead Department: Public Works

Meeting Date: February 12, 2024

Report #: 2311-2257

TITLE

Approval of Contract Number C24187805 With Carollo Engineers, Inc. in the Total Amount Not-to-Exceed \$1,628,326 for Planning and Preliminary Design of a Headworks Facility at the Regional Water Quality Control Plant, funded by Wastewater Treatment Enterprise Fund Capital Improvement Program Project WQ-16002; CEQA Status – Not a “Project.”

RECOMMENDATION

Staff recommends that Council approve and authorize the City Manager or their designee to execute Contract Number C24187805 with Carollo Engineers, Inc. in an amount not-to-exceed \$1,628,326 for planning and preliminary design of a Headworks Facility at the Regional Water Quality Control Plant, funded by Wastewater Treatment Enterprise Fund Capital Improvement Program Project WQ-16002. The contract amount includes \$1,480,296 for basic services and \$148,030 for additional services. The contract term is through June 30, 2032.

EXECUTIVE SUMMARY

The Regional Water Quality Control Plant requires a new Headworks Facility to replace aging raw sewage pumping equipment as well as preliminary treatment equipment that removes debris, rags, and grit from influent prior to conveyance to primary treatment facilities. Approval of Contract Number C24187805 with Carollo Engineers, Inc. will initiate planning and preliminary design that will allow for subsequent detailed design and eventual construction of a new Headworks Facility.

BACKGROUND

The Regional Water Quality Control Plant (RWQCP, Plant) was originally constructed in 1934 and has undergone several expansions and upgrades. Preliminary treatment of the Plant’s influent flows includes the removal of debris, rags, and grit via grinders, barscreens, and a cyclone classifier. Wastewater is pumped to the influent channel of four primary sedimentation tanks for further treatment.

The plant’s original raw sewage pumping plant consisted of only pumps. It was replaced in 1956 by another pumping plant (named Old Pumping Plant now) to add new pumps and grinders to

grind rags and large debris into smaller pieces that subsequently get removed at the primary sedimentation tanks. In 1972, another pumping plant (named New Pumping Plant) was constructed to add larger capacity pumps and equipment (i.e., barscreens) that can remove rags and large debris and thereby improve the performance of the primary sedimentation tanks and sludge pumps. To further reduce the loadings to the primary sedimentation tanks and protect downstream equipment, mechanical equipment (i.e., a cyclone classifier) was installed in 1988 to facilitate the removal of abrasive grit and sand from the primary influent channel. As the equipment continued to age, the Old Pumping Plant was rehabilitated in 2018 to supplement pumping capacity during maintenance events and high flow situations. Both the 1956 and 1972 raw sewage pumping plants remain in service to accommodate a larger regional community as well as wet weather influent flows of up to 80 million gallons per day. Because of age and obsolete technology, the existing two pumping plants, barscreens, and grit removal system do not remove as much screenings and grit as could be achieved with a newer system. During the winter storms in January 2023, large amounts of grit damaged sludge collection equipment in the primary sedimentation tanks, reinforcing the need for an upgrade to the aging equipment.

The proposed Headworks Facility replaces and upgrades the preliminary treatment equipment. The need for replacement of the preliminary treatment facility (a.k.a., headworks) was first identified in the Long Range Facilities Plan,¹ which was accepted by the Council in 2012.²

ANALYSIS

The proposed new headworks facility includes a new pumping plant; modern equipment for rags, debris, and grit removal; and upgraded ancillary systems to improve reliability and resiliency of the preliminary treatment process units. Staff recommends procuring a design consultant to perform planning, preliminary design, and detailed design of the headworks facility. The consultant's scope of work is summarized herein.

As part of the planning and preliminary design effort, the consultant will:

- verify the plant's influent flows and solids characteristics;
- perform alternative analysis to select the appropriate pumping equipment and technologies for solids removal and odor control;
- perform site layout alternative analysis and recommend the best layout for siting the headworks facility;

¹ Long Range Facilities Plan for the Regional Water Quality Control Plant, 2012;
<https://www.cityofpaloalto.org/files/assets/public/public-works/water-quality-control-plant/lrfp-final-report-08-2012.pdf>

² City Council, July 2, 2012; Agenda Item #1; SR #2914.
<https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2012/id-2914.pdf>

- perform preliminary design for the headworks facility housing new pumps, solids removal equipment, odor control system, power distribution equipment, and other ancillary systems. The design will include consolidation of the plant's electrical power feeds for the headworks facility and adjacent maintenance building and UV facility as well as modifications to existing facilities for process unit tie-ins;
- prepare a preliminary design report documenting the basis of design;
- develop preliminary construction sequencing plan that will allow continuous plant operation during construction with minimal interruption; and
- develop a preliminary cost estimate for construction of the headworks facility.

A request for proposals (RFP) for the project was posted on PlanetBids, the City's eProcurement platform, and 2,145 vendors were notified. The solicitation period was posted for 62 days; five proposals were received. The solicitation closed on June 6, 2023.

Table 1: Summary of Request for Proposal	
<i>Proposal Description</i>	Design Services for Headworks Facility, RFP187805
<i>Proposed Length of Project</i>	8 Years (2024 to 2032)
<i>Number of Vendors Notified</i>	2,145
<i>Number of Proposal Packages Downloaded</i>	31
<i>Total Days to Respond to Proposal</i>	62
<i>Pre-Proposal Meeting and Date</i>	Yes, Mandatory, 4/25/2023
<i>Number of Proposals Received</i>	5
<i>Proposal Price Range</i>	Basic Services (Planning and Preliminary Design): \$997,880 to \$2,073,444 Optional Services (First 10,000 Hours of Detailed Design): \$2,991,615 to \$4,220,398
<i>Public Link to Solicitation</i>	https://pbsystem.planetbids.com/portal/25569/bo/bo-detail/104153#

Note: The RFP included the scope of work for planning, preliminary design, and detailed design. The costs for optional services shown in the table above represent an estimated level of effort for the first 10,000 hours of detailed design in 2023 dollars. The total level of effort for the detailed design can only be determined after planning and preliminary design are completed.

The proposals were evaluated and determined to be responsive to the criteria identified in the RFP. Two of the proposals demonstrated less headworks design experience compared to the other three proposals, despite their lower price range. Carollo Engineers, Inc. (Carollo) was selected because of the quality of their proposal and effectiveness of their services; the experience of their staff, as demonstrated during their presentation; relatively higher number of headworks projects completed to date; prior record of performance with the City; and their ability to provide future services. Staff from the City of Sunnyvale and San Francisco Public

Utilities Commission provided positive feedback to Public Works staff regarding Carollo's design of those cities' new headworks facilities. Staff recommends that Council approve and authorize the City Manager or their designee to execute Contract Number C24187805 (Attachment A) with Carollo Engineers, Inc. in an amount not-to-exceed \$1,628,326 including \$1,480,296 for basic services associated with planning and preliminary design (30 percent design stage) of a new Headworks Facility and \$148,030 for additional services. The total amount of \$1,628,326 excludes the cost for detailed design.

Upon completion of the preliminary design as part of the basic services and if Carollo's performance is deemed satisfactory, staff and Carollo will determine the scope for detailed design and negotiate the associated fee. Staff would then return to Council requesting an approval of an amendment to Carollo's contract to increase the funds to complete the detailed design. If Carollo's performance for planning and preliminary design is not satisfactory, staff would issue a new RFP and return to Council for approval of a new design contract with another design consultant. The RFP would include the preliminary design report completed by Carollo and the associated findings and design concepts would be incorporated into the detailed design by the new design consultant.

The project's planning and preliminary design is expected to be completed by December 31, 2025. Preliminary design will be followed by 18 more months of detailed design. Securing the project's detailed design and construction funding could take up to two years. After that, construction is anticipated to take up to three years. The completion date for Carollo's Contract No. C24187805 (Attachment A) is June 30, 2032, following the record drawing preparation.

FISCAL/RESOURCE IMPACT

Funding for the project's planning and preliminary design in an amount not-to-exceed \$1,628,326 is available in the Fiscal Year 2024 Adopted Wastewater Treatment Fund Headworks Facility Replacement Capital Project (WQ-16002).

Upon completion of the preliminary design, staff will return to Council requesting approval for 1) either a detailed design contract with a new consultant or a contract amendment with Carollo to perform detailed design and to increase funding, which is estimated to range from \$2.8 million to \$9.0 million; and 2) amendments to partner agency agreements to share the aforementioned increased costs which will be funded by an alternate financing mechanism. Detailed design financing is expected to be secured within six months following completion of the preliminary design from either a revenue bond issuance or from partner installment payments for a pay-as-you-go approach.

If eligible, financing of the detailed design and engineering services during construction will be rolled into the construction financing to obtain the most favorable rates and terms. Staff intends to seek federal and state financing through the United States Environmental Protection

Agency (USEPA) administered Water Infrastructure Finance and Innovation Act (WIFIA) and the Clean Water State Revolving Fund (CWSRF) program loans. If these lower-interest loans cannot be obtained, staff will seek bond financing. WIFIA, CWSRF, and bond interest rates are currently estimated at 3.9%, 1.7%, and 4.5%, respectively.

Based on the initial cost estimate in the 2012 LRFP, Carollo's recent headworks project experience, costs of other new headworks facilities constructed in the region, and the preliminary and more elaborate project definition described in the RFP scope of services, Carollo's preliminary estimate shows the RWQCP Headworks Facility construction is expected to cost between \$55 million and \$150 million. For comparison, the City of Sunnyvale's Headworks Facility, which will handle 25 percent less flow than the RWQCP facility and includes some upgraded primary treatment facilities, was constructed for \$99.5 million (2018 dollars). A preliminary construction cost estimate will be available by September 2025, which will be used to update the project's WQ-16002 capital budget amount.

STAKEHOLDER ENGAGEMENT

This project is part of the RWQCP's major capital improvement program funded by the City of Palo Alto and its five partner agencies who use the RWQCP for wastewater treatment. The five partner agencies are regularly updated on both the need for and the progress of wastewater treatment capital work. Updates are provided each year at an annual meeting and at other periodic meetings established to inform partner agency staff about the major capital improvement program. With respect to Palo Alto itself, the open meetings on the budget process serve as the main venue for engaging the community on both new projects such as this and associated rate impacts.

ENVIRONMENTAL REVIEW

Council action on this item is not a project under the California Environmental Quality Act (CEQA) because a contract for planning and preliminary design does not commit the City with regard to the proposed headworks facility. Evaluation under CEQA will be completed prior to the award of the construction contract and commencement of the construction work.

ATTACHMENTS

Attachment A: Contract C24187805 with Carollo Engineers, Inc.

APPROVED BY:

Brad Eggleston, Director of Public Works/ City Engineer