

CITY OF SANTA ROSA
BOARD OF PUBLIC UTILITIES

TO: BOARD OF PUBLIC UTILITIES

FROM: TRACY DUENAS, PE, SUPERVISING ENGINEER
CAPITAL PROJECTS ENGINEERING

SUBJECT: PROJECT WORK ORDER AMENDMENT NO. 3 APPROVAL –
PROFESSIONAL ENGINEERING SERVICES FOR THE LAGUNA
TREATMENT PLANT DISINFECTION IMPROVEMENTS

AGENDA ACTION: MOTION

RECOMMENDATION

It is recommended by the Santa Rosa Transportation and Public Works Department and the Contract Review Subcommittee that the Board of Public Utilities, by motion, approve Amendment No. 3 to Project Work Order No. A010014-2011-09 under the Master Professional Services Agreement with Carollo Engineers, Inc. of Walnut Creek to provide Professional Engineering Services for the Laguna Treatment Plant Disinfection Improvements Project in the amount of \$750,000 for a total contract amount not to exceed \$7,269,386.

EXECUTIVE SUMMARY

This proposed action will approve Project Work Order (PWO) Amendment No. 3 in the amount of \$750,000 to PWO No. A010014-2011-09 under the Master Professional Services Agreement with Carollo Engineers, Inc. of Walnut Creek to provide Professional Engineering Services for the Laguna Treatment Plant Disinfection Improvements Project (Project).

Due to several design changes and overall project delays, the City needs to amend the existing PWO to incorporate design modifications and complete the final construction contract documents.

BACKGROUND

In 2012, the State Water Resources Control Board Division of Drinking Water (DDW) re-evaluated and subsequently de-rated the disinfection system capacity from 67 million gallons per day (MGD) to 48.5 MGD, creating a disinfection deficiency under some wet

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weather conditions. Ultraviolet light (UV) is the primary disinfection process for the Laguna Treatment Plant (LTP). LTP staff has since faced operational challenges with the existing UV system, which is currently operating below its performance criteria. Plant staff must provide greater resources to address disinfection system limitations such as periodic UV under-dose, coliform exceedance, and cleaning frequency issues. These events triggered the need to assess disinfection system options to ensure that LTP has adequate disinfection capacity under all flow rates. Further, the UV system has been operating for over 20 years and is beyond its useful service life.

In 2013, a preliminary analysis reviewed the feasibility of four alternative concepts for upgrading the disinfection system capacity. These alternatives included adding additional UV channel(s), replacing the existing UV system with new UV equipment, augmenting the existing UV system with pasteurization, and augmenting the existing UV system with ozone.

In 2014, City staff organized a design charrette to evaluate 19 disinfection upgrade alternatives. The collaborative effort, which involved City staff and industry experts, focused on identifying both near-term and long-term alternatives, with consideration to costs, health and safety parameters, regulatory compliance, and operational flexibility.

In 2016, the City awarded the original PWO to Carollo Engineers, Inc of Walnut Creek to provide professional engineering services for the design of the Project.

In 2017, Carollo Engineers in association with Hazen and Sawyer was directed by the City to pause the design process and perform a value engineering (VE) study. The VE study further evaluated the economic feasibility of disinfection system alternatives and reviewed the system design parameters, to confirm that the Project provided the best value for the City. Through the VE effort and subsequent analyses, staff and the design consultants collectively determined that the most feasible alternative was to construct a full-capacity UV disinfection system to ensure reliability, operational simplicity, treatment consistency, and regulatory compliance.

In 2019, the City executed PWO Amendment No.1 with Carollo Engineers to amend the agreement due to design changes and significant project delays resulting from the 2017 Tubbs Fire. Design efforts subsequently resumed thereafter.

Since the time design efforts restarted, additional professional design services were required due to unforeseen design changes and project delay. This PWO amendment will provide the City with the work required for final construction contract documents.

PRIOR BOARD OF PUBLIC UTILITIES REVIEW

On January 7, 2016, the Board of Public Utilities (Board) approved a \$2,803,599 PWO under the Master Professional Services Agreement with Carollo Engineers, Inc., to

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provide professional engineering design services for the Project.

On August 15, 2019, the Board approved a \$1,584,655 PWO Amendment No. 1 with Carollo Engineers, Inc., to provide professional engineering design services for the Project.

On November 19, 2020, the Board approved a \$2,131,132 PWO Amendment No. 2 with Carollo Engineers to provide engineering services during construction for the Project.

ANALYSIS

With the execution of PWO No. 1 in 2019, the design restart effort assumed a majority of the 35% design submittal completed and placed on hold to conduct the 2017 VE study would be applicable. The restart effort also assumed a design criterion based on the 2017 VE recommendations. However, since the design restart the following unanticipated factors have contributed to the evolution of the Project requiring additional efforts and budget:

- additional 2-year duration of project management,
- additional design changes beyond those based on revised UV design criteria and 35% design submittal,
- coordination with the flood protection project,
- additional submittal review and design coordination with the UV equipment supplier,
- additional utility and geotechnical exploration efforts,
- buildability and constructability review and response.

After reviewing Carollo's amendment proposal, City staff determined that the request for additional budget is justified and the total revised design fee still remains within the City's expectations for a project of this size. The proposed amendment for professional engineering services will increase the total contract amount to \$7,269,386. \$5,138,254 of this amount is specific to design efforts only and is approximately 10.3% of the estimated construction cost of \$50M. Per the 2020 California Multi-Agency CIP Benchmark Study, the average design fee for similar-sized wastewater treatment plant and pump station projects range between 14% and 18% of total construction cost.

If this PWO amendment is not approved, the ongoing operational and regulatory compliancy challenges surrounding the disinfection deficiency will be exacerbated, and the City's overall project and construction costs will continue to increase.

Consistent with City of Santa Rosa Council Policy 600-01, Selection of Professional Services and City Code Section 3-08.110, Award Authority, PWO Amendment No. 3 must be approved by the Board of Public Utilities.

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FISCAL IMPACT

The existing engineering PWO contract is \$6,519,386. This proposed PWO amendment will increase the amount by \$750,000, for a total contract amount not to exceed \$7,269,386.

The total project cost is estimated at approximately \$67.5M, which includes engineering design services, equipment cost, construction, construction management and inspection, and regulatory and administrative fees. Future funding will be accomplished through a combination of budget transfers from currently appropriated funds, new budget appropriations from the 1631 Subregional Wastewater Facilities Fund, as well as the Series 2020 Bond Issuance.

ENVIRONMENTAL IMPACT

On November 6, 2003, the Board of Public Utilities certified the Final Environmental Impact Report (EIR) for the Incremental Recycled Water Program (IRWP).

To satisfy the requirements of the California Environmental Quality Act (CEQA), on November 19, 2020, the Board adopted Resolution No. 1241 and approved an addendum to the IRWP Program EIR to address minor changes to the Laguna Plant Upgrade component including adding proposed facilities that were not previously evaluated, as allowed by CEQA Guidelines Section 15162 and 15164. This Board also adopted a Mitigation Monitoring Program (MMP) and approved the Project.

For proposed PWO Amendment No. 3, no further action is required under the California Environmental Quality Act (CEQA), because executing this contract it is not an action which has the potential to result in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, pursuant to CEQA Guideline Section 15378. An environmental analysis for the UV Disinfection Project pursuant to CEQA has been completed and the amendment to the PWO will facilitate implementation of the Project.

BOARD/COMMISSION/COMMITTEE REVIEW AND RECOMMENDATIONS

On July 29, 2019, the Contract Review Subcommittee reviewed and recommended approval of the Design Project Work Order Amendment No. 1 for additional engineering design services.

On October 20, 2020, the Contract Review Subcommittee reviewed and recommended approval of the Design Project Work Order Amendment No. 2 for engineering services during construction and the Professional Services Agreement for construction management and inspection.

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On August 16, 2021, the Contract Review Subcommittee reviewed and recommended approval of the Design Project Work Order Amendment No. 3 for additional engineering design services.

ATTACHMENTS

- Attachment 1 – PWO Amendment Scope and Fee

CONTACT

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