

CITY OF SANTA ROSA  
BOARD OF PUBLIC UTILITIES

TO: BOARD OF PUBLIC UTILITIES  
FROM: JASON ROBERTS, PE, ASSOCIATE CIVIL ENGINEER  
SANTA ROSA WATER  
SUBJECT: PROJECT WORK ORDER APPROVAL – PROFESSIONAL  
ENGINEERING SERVICES WITH WOODARD AND CURRAN  
FOR TEMPORARY SEWER FLOW MONITORING, SEWER  
INSPECTION AND CONDITION ASSESSMENT, SANITARY  
SEWER SYSTEM MASTER PLAN UPDATE, AND ONGOING  
SEWER SYSTEM MODELING

AGENDA ACTION: MOTION

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RECOMMENDATION

It is recommended by the Water Department that the Board of Public Utilities (BPU), by motion, approve a Project Work Order (PWO) No. A010215-2017-05 with Woodard and Curran, a Maine corporation, to provide professional engineering services for Temporary Sewer Flow Monitoring, Sewer Inspection and Condition Assessment, Sanitary Sewer System Master Plan Update, and Ongoing Sewer System Modeling in the amount not to exceed \$2,133,308.00.

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EXECUTIVE SUMMARY

Under the proposed action, consultant will be engaged to develop the Water Department's Sanitary Sewer Master Plan Update. This effort will include installing and obtaining data from temporary flow meters that will be used to develop and calibrate a new sewer model. This model will be used to evaluate system deficiencies, if any, for both existing conditions and City build-out. The consultant will also perform an inspection of our larger diameter sewer pipes, along with a review of City performed inspections for conformance with industry standards. All of this information and data will be used to develop the Master Plan Update and recommendations for the Capital Improvement Program (CIP), as appropriate. The consultant will also be engaged to provide On-Call sewer modeling services to evaluate sewer capacity for future CIP projects and private development projects.

BACKGROUND

The City of Santa Rosa Water Department conducts master planning studies for water

and sewer infrastructure approximately every five years. The City's latest Sanitary Sewer Master Plan (SSMPU) was developed in 2014 by Arcadis and is due for another update. In addition, updated sewer flow data is necessary to develop an up-to-date computer model of the sewer network. An inspection and condition assessment task is also included and will assist Local Operations in complying with the California Riverwatch Settlement Agreement (Agreement). The Agreement requires all sewer pipes within 200 feet of a water body to be inspected for defects every five years (next due in 2021), and all sewer pipes to be inspected every seven years (next due in 2023).

The scope of work includes base services, ongoing services, and optional tasks as follows:

#### Base Services

- Temporary Flow Monitoring

This task includes the installation, data collection and analysis, and removal of 32 temporary flow meters and five (5) temporary rain gauges. This task will provide the basis for the development of an accurate sewer model, as well as the identification of areas with excessive inflow and infiltration (I&I).

- Sewer System Model Development

The consultant will utilize the City's GIS data to develop a computer model of the sanitary sewer network. Base level wastewater flows will be developed using parcel information, and the model will be calibrated using flow meter and rainfall data collected in the previous task. The sewer model will be used to assess the hydraulic capacity of the sewer system and identify potential CIP projects for the master plan.

- Inspection and Condition Assessment

The consultant will develop a sewer inspection plan outlining the scheduling and logistics of inspection operations, and identifying appropriate inspection technologies for approximately 67,657 feet of large diameter trunk sewer. This scope of work will also include the inspection and condition assessment of 28 siphons and 214 manholes. The result of the condition assessment will aid Local Operations in the fulfillment of the California River Watch Settlement Agreement and add pipe condition as a component of CIP prioritization in the master plan update.

Note: An allowance of \$600,000 was provided for estimating purposes and is subject to revision following the development of the sewer inspection plan and the identification of sewer inspection technology(s).

- Review of City Sewer Inspections

The consultant will review CCTV footage and pipe scores for 50 segments of sewer pipe previously assessed by City staff and provide feedback regarding conformance with industry standards.

- Sanitary Sewer System Master Plan Update

The consultant will coordinate with City staff to establish general performance criteria for the sanitary sewer. Using established criteria, the performance of the sewer system will be evaluated under existing conditions and future growth. Capacity deficiencies will be identified and CIP projects will be prioritized. In addition, rehabilitation and/or replacement (R&R) projects will be identified using information gathered in the Inspection and Condition Assessment task. The Sanitary Sewer Master Plan will be updated based on prioritized capacity and R&R projects, and used to drive decision making for the overall sewer CIP.

#### Ongoing Services

- On-Call Modeling Services

This task will provide engineering support in assessing the capacity of CIP sewer projects and private development projects. In addition, as CIP and private development projects are completed, the sewer model will be updated accordingly to ensure that the model sewer represents the current state and configuration of the actual sewer network.

#### Optional Services

- Additional Flow Meters and Model Calibration

Based on the initial analysis of the temporary flow monitoring task, the consultant (with authorization from the City Project Manager) may install additional temporary flow meters in excess of the 32 meters included in the base services. The additional meters may be necessary to provide greater model accuracy and will serve to better identify areas of high inflow and infiltration.

It should be highlighted that the structure of this project integrates the following four (4) traditional projects into one:

- Temporary Flow Monitoring
- Inspection and Condition Assessment
- Sanitary Sewer Master Plan Update
- On-Call Modeling Support

The benefits from this approach are greater efficiency in consultant and sub-consultant communication, coordinated execution of work, and less City overhead resulting from the management of a single consultant.

#### PRIOR BOARD OF PUBLIC UTILITIES REVIEW

Not applicable.

#### ANALYSIS

Because the proposed PWO exceeds \$500,000, Board approval is required.

Water department engineering staff issued a Request for Proposals (RFP) on August 1, 2019. Proposals were received from three (3) consultants on August 27, 2019. A review panel made up of an Associate Civil Engineer, a Supervising Engineer, two (2) Deputy Directors, and a Utility System Superintendent independently reviewed and evaluated the proposals. The review panel met on September 11, 2019, and unanimously selected Woodard and Curran (formerly RMC Water and Environment) as the most qualified consultant. Woodard and Curran exhibited experience executing master planning and condition assessment studies for many other municipalities and has a history of collaboration with the City on CIP projects. Additionally, the structure and presentation of the Scope of Work demonstrated a comprehensive and thorough understanding of the RFP requirements and the specific needs of the City. Woodard and Curran's fee estimate for base services was 1% less and 11% higher than the other two (2) fee estimates.

### FISCAL IMPACT

Approval of this contract has no additional impact on the budget. The funds required for this project were appropriated in the 2019/2020 fiscal year budget.

### ENVIRONMENTAL IMPACT

This action is exempt from the California Environmental Quality Act (CEQA) because it is not a project which has a potential for resulting 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.

### BOARD/COMMISSION/COMMITTEE REVIEW AND RECOMMENDATIONS

This contract was presented to the Contract Review Subcommittee on October 15, 2019. The Contract Review Subcommittee, by motion, unanimously recommended the PWO to the full BPU.

### ATTACHMENTS

- Attachment 1 – Project Work Order

### CONTACT

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