



SUMMARY REPORT

Agenda Date: 12/10/2024

To: Board of Directors, Sonoma County Water Agency
Department or Agency Name(s): Sonoma County Water Agency
Staff Name and Phone Number: Carlos Diaz 707-547-1956
Vote Requirement: Majority
Supervisorial District(s): Countywide

Title:

Water Transmission System Transient Analysis Update

Recommended Action:

Authorize Sonoma County Water Agency's General Manager to execute an agreement with Jacobs Engineering, Inc., in substantially the form as the draft presented to this Board, for a water transmission system transient analysis update through December 9, 2027, in the not-to-exceed amount of \$425,000.

Executive Summary:

Sonoma Water's water transmission system is a complex system of pumps, pipelines, valves, and tanks subject to damage from transient forces (water hammer) caused primarily by power failures but also through human error. A transient analysis of the water transmission system can assess vulnerabilities and make recommendations for protecting the existing transmission system and future planned expansions from transient forces.

Sonoma Water requests to hire a consultant to conduct a transient analysis which includes updating the existing water system hydraulic model, conducting field work to verify and update physical parameters of the system, comprehensively assessing and identifying any vulnerabilities under current conditions and future proposed expansions, and making recommendations for transient mitigation projects to protect the water system infrastructure.

Discussion:

HISTORY OF ITEM/BACKGROUND

Sonoma Water provides wholesale water supply to cities and water districts in Sonoma and Marin counties. This service area includes the cities of Santa Rosa, Rohnert Park, Cotati, Sonoma, and Petaluma; Town of Windsor; and the Valley of the Moon, North Marin, and Marin Municipal water districts. Collectively, these cities and districts serve a population of approximately 600,000 people.

The water transmission system is a complex system of pumps, valves, pipelines, and tanks subject to damage from transient forces (water hammer) primarily caused by power failures and less frequently by human error. Transient forces can cause catastrophic rupture of pipelines and increase maintenance and service frequencies.

The existing transmission system includes safeguards to mitigate the effects of transient forces, but the

efficacy of these safeguards is unknown.

Considering nearly two decades have passed since a comprehensive analysis has been performed, advances in transient modeling capabilities and transient mitigation solutions, and the advancing age of the water transmission system, Sonoma Water determined a transient analysis of the water transmission system should be performed.

SELECTION PROCESS

Jacobs Engineering, Inc. (Consultant) was selected from a list of qualified consultants developed from the July 6, 2021, competitive selection process. Attached is a memo that explains the competitive selection process.

Consultant was selected for the subject work because of familiarity with the water transmission system and demonstrated qualifications in conducting transient analyses and identifying capital projects to mitigate transient risk to critical infrastructure.

Sonoma Water may seek to amend or enter into subsequent agreement(s) with Board approval if required, relying upon this competitive selection process, after the preliminary or initial work is completed for the water transmission system transient analysis update.

SERVICES TO BE PERFORMED

Under the agreement, Consultant will provide engineering services to assess vulnerabilities of the existing system and proposed system expansions to damage from transient forces and make recommendations to protect the transmission system.

The cost of services will not exceed \$425,000; the term end date is December 9, 2027.

Strategic Plan:

N/A

Sonoma Water Strategic Plan Alignment

Goal: Planning and Infrastructure

Strategy: Conduct planning that integrates and balances operational, maintenance, and infrastructure priorities.

Action: Continue to engage in planning efforts and partnerships to protect and enhance our water supply

The Water Transmission System Transient Analysis Update will update the existing hydraulic model, perform a vulnerability assessment of the current system, and generate a prioritized set of system recommendations to mitigate against existing and future transient risk and to protect water system infrastructure.

Racial Equity:

Was this item identified as an opportunity to apply the Racial Equity Toolkit?

No

Prior Board Actions:

3/16/1999: Approve and authorize the Chairman to execute the Agreement, between the Sonoma County

Water Agency and Flow Science Incorporated for the Water Transmission System Transient Analysis

FISCAL SUMMARY

Expenditures	FY24-25 Adopted	FY25-26 Projected	FY26-27 Projected
Budgeted Expenses	\$425,000		
Additional Appropriation Requested			
Total Expenditures	\$425,000		
Funding Sources			
General Fund/WA GF			
State/Federal			
Fees/Other	\$425,000		
Use of Fund Balance			
General Fund Contingencies			
Total Sources	\$425,000		

Narrative Explanation of Fiscal Impacts:

Budgeted amount of \$425,000 is available from FY 2024/2025 appropriations for the Water Transmission System fund. No additional appropriation is required.

Staffing Impacts:			
Position Title (Payroll Classification)	Monthly Salary Range (A-I Step)	Additions (Number)	Deletions (Number)

Narrative Explanation of Staffing Impacts (If Required):

N/A

Attachments:

Attachment 1: Agreement with Jacobs Engineering, Inc.

Attachment 2: Competitive Selection Process Memo

Related Items "On File" with the Clerk of the Board:

None