



Legislation Text

File #: 2024-0563, **Version:** 1

To: Board of Directors, Sonoma County Water Agency
Department or Agency Name(s): Sonoma County Water Agency
Staff Name and Phone Number: Dale Roberts 707-547-1979
Vote Requirement: Majority
Supervisorial District(s): Countywide

Title:

Feasibility Study for Pumped Storage Hydropower at Lake Sonoma

Recommended Action:

Authorize Sonoma County Water Agency's General Manager to execute an agreement with HDR Engineering, Inc., in substantially the form as the draft presented to this Board, for a feasibility study for a pumped storage hydropower facility at Lake Sonoma through December 31, 2025, in the not-to-exceed amount of \$175,000.

Executive Summary:

Sonoma County Water Agency (Sonoma Water) is interested in exploring the feasibility of developing a pumped storage hydropower facility at Lake Sonoma.

Discussion:

HISTORY OF ITEM/BACKGROUND

Pumped storage hydropower is a type of hydroelectric energy storage. It is a configuration of two water reservoirs at different elevations that can generate power as water moves between the reservoirs, passing through a turbine.

Sonoma Water's Energy and Climate Resiliency Policy, adopted by the Board of Directors on August 15, 2023, directs Sonoma Water to "continue to develop reliable sources of electricity for the region, including decentralized projects that reduce dependency on outside energy sources and buffer the effects of market fluctuations, natural disasters, and transmission system failures." Pumped storage hydropower draws electricity from the grid to pump water from a lower to an upper reservoir in times of low power demand to create an energy storage bank. In times of high demand, the pumped storage hydropower systems generate electricity as water is routed back to the lower reservoir through the turbines.

Among the benefits of pumped storage hydropower is that it is a clean, sustainable, and renewable energy source. In addition, pumped storage hydropower has a low operating cost and long service life. The cost effectiveness of a pumped storage hydropower facility could offset or subsidize Sonoma Water's power costs for decades longer than battery storage devices.

Sonoma Water is interested in exploring the feasibility of developing a local pumped storage hydropower facility to support the Energy and Climate Resiliency Policy. Sonoma Water requires a consultant to conduct a conceptual-level study examining the feasibility of utilizing Lake Sonoma as the lower reservoir for a 10 to 20

megawatt pumped storage hydropower facility.

SELECTION PROCESS

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

Consultant was selected for the subject work because Consultant has extensive experience evaluating the feasibility of pumped storage hydropower statewide and nationally.

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.

SERVICES TO BE PERFORMED

Under the agreement, Consultant will conduct a conceptual-level study evaluating the feasibility of developing the infrastructure for a pumped storage hydropower facility at Lake Sonoma, including an upper pond, piping, mechanical pumping, power generation, and power transmission to and from the power grid.

The cost of services will not exceed \$175,000; the term end date is December 31, 2025.

The agreement includes authorization for the General Manager to make changes to lengthen time schedules or make minor modifications to the scope of work, which do not increase the amount paid under the agreement, in a form approved by County Counsel.

Under the agreement, the General Manager shall have the ability to extend the term of the agreement for two additional years by providing written notice to Consultant thirty days in advance of the expiration date. The extension shall be formalized in an amended agreement or amendment signed by Sonoma Water and Consultant.

County of Sonom Strategic Plan Alignment

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 identify opportunities to implement renewable and efficiency enhancing energy projects to meet energy policy objectives.

Developing a pumped storage hydropower facility at Lake Sonoma would help Sonoma Water support its Energy and Climate Resiliency Policy by providing a clean, sustainable, and renewable energy source that is cost-effective and reliable.

Racial Equity:

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

No

Prior Board Actions:

None

FISCAL SUMMARY

Expenditures	FY23-24 Adopted	FY24-25 Projected	FY25-26 Projected
Budgeted Expenses	\$175,000		
Additional Appropriation Requested			
Total Expenditures	\$175,000		
Funding Sources			
General Fund/WA GF			
State/Federal			
Fees/Other	\$175,000		
Use of Fund Balance			
General Fund Contingencies			
Total Sources	\$175,000		

Narrative Explanation of Fiscal Impacts:

Budgeted amount of \$175,000 is available from FY 2023/2024 appropriations for the Sustainability 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 HDR Engineering, Inc.

Attachment 2: Competitive Selection Process Memo

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

None