



Santa Clara Valley Water District

File No.: 16-0908

Agenda Date: 1/31/2017

Item No.: 2.2.

BOARD AGENDA MEMORANDUM

SUBJECT:

Potential Expansion of Pacheco Reservoir and/or Anderson Reservoir, Proposition 1 Funding Opportunity, and Potential Single Source Consultant Agreement.

RECOMMENDATION:

- A. Receive information on and discuss the merits of expanding Pacheco Reservoir and/or Anderson Reservoir;
- B. Discuss the merits of preparing a Proposition 1 funding application for one or both of these projects;
- C. Provide direction to staff to continue to evaluate Anderson Reservoir expansion as part of the 2017 Water Supply Master Plan update but not to proceed with studies or Proposition 1 application to expand the reservoir at this time; and
- D. Authorize the Interim CEO to negotiate and execute a single source agreement with a consultant for up to \$900,000 to prepare a Proposition 1 funding application for Pacheco Reservoir.

SUMMARY:

The potential expansion of Pacheco and Anderson Reservoirs was previously evaluated by the US Bureau of Reclamation and the District as part of the San Luis Low Point Improvement Project (SLLPIP). However, these two alternatives were screened out during the planning process because benefits were determined to be insufficient to justify projected costs. Recently updated modeling performed in preparation for the District's 2017 Water Master Plan update indicates that there may be greater water supply benefits than previously estimated, as well as potential ecosystem benefits for the Delta and local fisheries that could make the expansion of either of these reservoirs eligible for Proposition 1 funding. The recent modeling analysis considers these alternatives in the context of water supply portfolios that include options such as the California Water Fix and purified water indirect or direct potable reuse. The supply analysis also considers other storage alternatives including Los Vaqueros Expansion and Sites Reservoir, and Del Valle Reservoir expansion. A comprehensive analysis of various storage options and other water supply planning projects will not be complete until December 2017.

Staff performed preliminary assessments of both an expanded Pacheco Reservoir and an expanded Anderson Reservoir. The assessment indicates that expanding Anderson Reservoir would be nearly twice as expensive and likely result in delays in the critically important Anderson Dam Seismic Retrofit Project. Therefore, staff recommends that the District continue to evaluate Anderson Reservoir expansion as part of the 2017 Water Supply Master Plan update but not proceed with studies to expand the reservoir at this time, recognizing that the seismic retrofit project must proceed on schedule.

Proposition 1 funding application requirements for storage projects are extensive. An application requires complex analyses of ecosystem, water supply, and water quality benefits, an economic evaluation, and analysis of two different climate change scenarios. The potential aggregate funding opportunity available through the Proposition 1 Water Storage Investment Program (WSIP) is \$2.7 billion. There may ultimately be more than a dozen total applicants; the most significant applicants are the proponents of Sites Reservoir, Los Vaqueros Reservoir expansion project, and Temperance Flat for a combined project cost of roughly \$8 billion. Given the number of potential applicants and aggregate cost of proposals, it may be prudent to assume that the funding level potentially awarded to the District will be less than 20% of the project cost. The remainder of project costs would be potentially funded by the District and prospective project partners. Pending determination of whether the project would provide water supply benefits and thus be eligible for funding through groundwater charges, the costs of the initial studies, including Proposition 1 application costs would be funded through non rate-related revenue sources.

Time available for performing the required analysis is extremely limited. Proposition 1 funding applications are due by June 30, 2017, and, for the Pacheco Reservoir expansion application, the District will need to secure a consultant, perform the extensive analysis required, and develop partnerships with San Benito County Water District, Pacheco Pass Water District, and other potential beneficiaries prior to that date. District staff does not have the immediate expertise or availability to complete the application before June 30, 2017. Therefore, consultant resources are needed to develop the application in the event the District decides to move forward; however, securing consultant resources and completing a complex funding application in the short time frame available will be challenging.

Potential Benefits to the District

The Proposition 1 solicitation provides an opportunity for the District to potentially receive millions of dollars towards costs associated with the expansion of Pacheco Reservoir. The expansion and acquisition of this reservoir could provide 100 Thousand Acre-Feet (TAF) of needed dry and critical year supply for the District.

Challenges and Issues

In addition to time constraints for securing a consultant and preparing a Proposition 1 funding agreement, the following issues and challenges must be addressed:

- The estimated capital cost of enlarging Pacheco Reservoir to 130 TAF is roughly \$800 million in 2016 dollars, while the capital cost of enlarging Anderson Reservoir to 190 TAF is roughly \$1.5 billion in 2016 dollars. Annual operations and maintenance costs are estimated at roughly \$3.3 million and \$4.3 million, respectively. The District must demonstrate that the expected benefits exceed the expected costs, among other requirements, in order to be eligible for funding.
- Only public benefits are eligible for funding under WSIP. Public benefits are defined as ecosystem improvements, water quality improvements in the Delta or other river system, flood control, emergency response, and recreation. Ecosystem improvements are defined as changing the timing of water diversions or improving flow conditions or temperature to contribute to the restoration of aquatic ecosystems and fish and wildlife in the Delta. Water supply benefits are defined as increases in volume and potentially changes in timing and location of water provided for human uses, such as agricultural, residential, commercial, public, industrial and institutional uses. This includes the delivery of water for groundwater recharge that provides a usable supply for future extraction and human use. Water supply benefits are not eligible for funding under WSIP.
- The public benefit cost share cannot exceed 50% of total benefits, and ecosystem improvements must provide for at least half of the public benefit cost share.
- The cost of preparing a Proposition 1 funding application may range from \$500,000 to \$900,000, depending on the extent of analysis determined to be necessary for either enlarging Pacheco Reservoir or Anderson Reservoir. The cost would be significantly greater if applications for both enlargement projects were prepared, although some level of economy could be achieved given that certain components of the analysis for both projects would be similar.
- The District has committed \$100,000 to support development of the Prop 1 funding application and environmental documentation for expansion of Los Vaqueros Reservoir (LVE) and is working in good faith to participate in the Sites Reservoir project at a cost of roughly \$900,000. The District can withdraw from participation in the Sites Reservoir project at any time and receive a refund of unused funds; funds committed for LVE are not refundable. An analysis of the relative benefits of these storage projects, along with an expanded Pacheco and/or Anderson Reservoir, will be presented as part of the Water Master Plan update.
- Staff is still analyzing a broad range of projects for meeting water supply goals under a variety of different scenarios as part of the 2017 Water Supply Master Plan update. Potential benefits for the Anderson and Pacheco Reservoir expansion projects will be better quantified once the analysis is completed and the Board considers these reservoir projects in the context of alternative strategies for providing a reliable water supply. The Water Supply Master Plan will not be completed until December 2017.
- The District would need, at a minimum, a formal resolution of concurrence from the

recently reestablished Pacheco Pass Water District Board to enlarge Pacheco Reservoir in order for a Proposition 1 funding application to be successful. Pacheco Pass Water District has virtually no staff and a five member board that was elected in November 2016 after several years in which there were no Board members; therefore, coordination and communication with this agency will be challenging.

- The \$1.5 billion cost estimate for enlarging Anderson Reservoir to 190 TAF may vary depending on how the enlargement would be coordinated with the District's Anderson Dam Seismic Retrofit Project, a roughly \$400 million project initiated in 2012 to address seismic deficiencies in the dam. If the enlargement takes place as part of this effort, there would likely be delays in the seismic retrofit activities. Such delays would have to be vetted with and approved by the state and federal dam regulators who are overseeing the seismic retrofit work.

Single source contract for preparation of a Proposition 1 funding application:

While the District is considering the costs and benefits of a variety of projects as part of the Water Master Plan update, the window of time for applying for Proposition 1 funding is short. If the District chooses to pursue Proposition 1 funding, consultant services are needed to further evaluate expansion opportunities and challenges in parallel with developing a Proposition 1 funding application. If at any time, it is recognized that the project is infeasible or that benefits do not justify costs, or if a timely concurrence resolution is not received from the Pacheco Pass Water District, work on developing the Proposition 1 funding application would be halted.

It may be possible to prepare a credible Proposition 1 funding application in the abbreviated time available if an experienced consultant already familiar with Anderson and/or Pacheco Reservoir is secured through a single source agreement. The capabilities of six consultants have been reviewed and staff has identified Montgomery Watson Harza (MWH) as the highest ranked choice to carry out the scope of services required for analysis and preparation of the Proposition 1 application for the preferred reservoir expansion project. MWH has previously analyzed the expansion of Pacheco and Anderson Reservoirs, has the experience and resources needed to perform the work, and has the most extensive knowledge regarding the Proposition 1 funding requirements and analysis procedures. MWH is currently preparing a Proposition 1 funding application for the Temperance Flat storage project and is also assisting with the Proposition 1 funding application for the Sites Reservoir project. If negotiations with MWH are not successful, then staff has identified CH2M as the first backup choice and AECOM as the second backup choice to perform the work. It is anticipated that a consultant could be secured through this process in about a month, leaving 4 months to produce the required work. See Attachment 1 for a more detailed justification regarding the choice of consultants for a single source contract.

The District could potentially receive up to an estimated \$160 million in funding based on a successful grant application and substantiation of potential benefits. The remainder of project costs would be provided by the District and prospective project partners. The cost of initial studies, including Proposition 1 funding would come from non rate-related revenue sources.

BACKGROUND:*Pacheco Reservoir Expansion Project*

Pacheco Reservoir is a 6 TAF reservoir owned by Pacheco Pass Water District (PPWD). It is located approximately 0.4 miles north of Pacheco Pass Highway (Highway 152) in Santa Clara County and is formed by the North Fork Dam, which was built in 1936 on the north fork of Pacheco Creek. On September 23, 2008, the Board of Directors approved “Principles of Agreement for a Joint Investigation of Future Alternatives for Pacheco Reservoir” (Principles of Agreement) (Attachment 2), which included a provision that reservoir enlargement would not impact Henry Coe State Park, among other principles of joint engagement. Although some of the investigations outlined in the Principles of Agreement were conducted, progress was delayed due to difficulty gaining access to private lands in the watershed for geologic and technical studies, and changing priorities. By 2011, other efforts that had been considering reoperation or enlargement of Pacheco Dam (San Luis Low Point Improvement Project and Santa Clara Valley Habitat Plan) were no longer considering this alternative or were discontinued, and in September 23, 2011, the Principles of Agreement expired. Between December 2012, when the terms of the last three remaining PPWD board members expired, and December 2016, when the election of 5 new board members was certified, there was no official governing body for PPWD. The Division of Safety of Dams has identified a need to replace the spillway wall of the North Fork Dam. In December 2011, the Santa Clara County Local Agency Formation Commission (LAFCO) adopted a Countywide Water Service Review Report that identified the following concerns with PPWD:

“In summary, there are several concerns regarding the financing, operations and management of PPWD, including a lack of necessary revenue to complete essential capital improvements, lack of transparency and clarity in financial statements, inaccuracies in the District’s accounting and State reporting, failure to submit a timely audited financial statement to the County, lack of a website to inform constituents of district activities and functions, lack of a means to track operations and water flows at the dams, extended board vacancies and a lack of contested elections.”

Recent modeling and analysis performed by the District indicates that Pacheco Reservoir could be expanded to 130 TAF without inundating Henry Coe State Park, and that storage of imported water supplies in the enlarged reservoir and during extended drought periods integration of its operations with the District’s water supply system may provide up to 100 TAF of critically dry year supply; however, benefits are reduced if the quantities of imported supplies decline and are not replaced with new water supply sources. An expanded reservoir may also provide water quality benefits, operational flexibility, emergency storage, flood protection, and ecosystem benefits. As stated previously, a determination will be made once studies are complete as to whether the project will provide water supply benefits eligible for cost recovery of benefits through groundwater charges. The capital cost of this expansion is currently estimated to be roughly \$800 million; O&M costs are roughly estimated to be \$3.3 million annually. Staff is evaluating if benefits will likely justify potential costs, and whether Proposition 1 funding opportunities may increase the affordability of this project.

San Benito County Water District (SBCWD) has expressed interest in partnering with the District if the decision is made to move forward with a funding application.

Pacheco Reservoir releases water to Pacheco Creek in Santa Clara County and drains to the Pajaro River and ultimately to Monterey Bay. The California Department of Fish and Game has indicated that enhancement of the South Central Coast Steelhead run on Pacheco Creek is important and that recovery and fishery enhancement actions that could be taken for that water course could improve the fisheries habitat value. If expanding Pacheco Reservoir could lower water temperatures and increase summer flows, fisheries habitat value of the stream could be improved. The National Marine Fisheries Service, however has previously expressed concern about releasing Delta water into local creeks.

Anderson Reservoir Expansion Project

The concept of expanding Anderson Reservoir, currently the District's largest local reservoir, was also studied as an alternative solution for the SLLPIP. The capital cost of expanding Anderson Reservoir from 90 TAF to 190 TAF is roughly estimated at \$1.5 Billion in 2016 dollars; O&M costs are roughly estimated at \$4.3 million annually. Potential benefits and limitations of expanding the reservoir are similar to those of an expanded Pacheco Reservoir and include water supply, water quality, operational flexibility, emergency storage, and ecosystem improvements. The additional storage capacity may also enhance flood protection. The expansion was screened out in 2002 because benefits did not justify the projected costs. Plans to expand Anderson Reservoir would likely delay the District's \$400 million project initiated in 2012 to address seismic deficiencies in Anderson dam. Such delays would have to be vetted with and approved by the state and federal dam regulators who are overseeing the seismic retrofit work.

Proposition 1 Funding Available for Water Storage Projects

The California Water Commission (CWC), which is administering the \$2.7 billion available in the Proposition 1 WSIP, finalized its regulations on December 14, 2016. The due date for submittal is June 30, 2017, which is six months sooner than the date announced initially by the CWC. The CWC has identified multiple objectives that should be met in the application process, including more reliable water supplies, restoration of important species and habitat, and more resilient and sustainably managed water infrastructure. The WSIP allows for investment of public funds for public benefits associated with water storage. In other words, only the public benefits (environmental, flood protection, water quality, etc.) are eligible for funding. Water supply benefits are not eligible for funding under WSIP. Prior to approving funding, the CWC must make a determination that the project is feasible and that the expected benefits exceed the expected costs, among other requirements.

The most significant potential applicants for Proposition 1 WSIP funding are the proponents of Sites Reservoir, Los Vaqueros Reservoir expansion project, and Temperance Flat for a total project cost of roughly \$8 billion. There may ultimately be in excess of a dozen total applicants, although given the stringent requirements for both qualifying for funding and for completing the required analyses, it will be challenging for smaller projects to complete the applications. The District could be eligible for up

to 50 percent of the total cost of a reservoir expansion project approved for Proposition 1 funding; however, ecosystem improvements must account for at least half of the public benefit cost share. Given the number and size of potential applicants, the potential funding level awarded to the District will likely be less than 20% of the project cost.

In order to receive WSIP funding, the District would have to enter into contract with each appropriate State agency, including potentially the California Department of Fish and Wildlife (CDFW), the State Water Resources Control Board (SWRCB), and the Department of Water Resources (DWR), to administer the public benefits of the project. The contract would require implementation of an adaptive management plan that identifies trigger levels that initiate adaptive management actions, a decision making process that includes the administering State agency, assurances as determined by the administering State agency and the District regarding operations and O&M, and monitoring and reporting requirements, among other obligations. Potential costs will need to be developed as the project is better defined and may need to be covered by the District.

Expansion of Anderson Reservoir versus Pacheco Reservoir

The District had previously evaluated and has documentation regarding the potential expansion of both Pacheco and Anderson Reservoirs. Both the Pacheco Reservoir Expansion and the Anderson Reservoir Expansion could potentially meet the requirements of the WSIP Proposition 1 funding. Constructing both projects would impose a very high financial burden within the planning horizon. The expansion of Anderson Reservoir by 100 TAF is estimated to cost nearly twice as much as expanding Pacheco to 130 TAF (\$1.5 billion versus \$800 million), while initial estimates indicate that the water supply benefits appear to be similar. Initiating plans for expansion of Anderson Reservoir will likely result in delays in the Anderson Dam Seismic Retrofit Project; such delays would have to be reviewed and approved by the state and federal dam regulators who are overseeing the seismic retrofit work. For these reasons, staff recommends that the District does not proceed with studies to expand Anderson Reservoir at this time.

For the Pacheco Reservoir Expansion if the District's planning studies and economic analysis continue to indicate that the project would be a suitable storage project for the District as part of its long-term water supply portfolio, a number of considerations and potential risks would have to be considered before a recommendation could be brought to the Board to proceed with further planning, environmental analysis, design and construction. The considerations include which entity holds title to the land upon which the project would be constructed, environmental documentation including CEQA, permitting requirements, operational requirements, partnership commitments, stakeholder support, and design/construction uncertainties.

NEXT STEPS:

If Board approves moving forward with a single source consultant contract for development of a Proposition 1 funding agreement for Pacheco Reservoir Expansion Project, staff would proceed with the following:

- Move forward with negotiations to secure the most qualified consultant as described in Attachment 1. If negotiations are not successful, then staff will enter into negotiations with the next most qualified consultant until a successful agreement is reached.

- Develop a funding application for expansion of Pacheco Reservoir, requiring the following activities:
 - A meeting (involving District Board representation) with Pacheco Pass Water District's newly elected Directors.

 - Secure a formal resolution by Pacheco Pass Water District's Board to support the Proposition 1 application for enlarging Pacheco Reservoir.

 - Development of a cost-share-and-coordination agreement with San Benito County Water District.

 - Staff development of updated Principles of Agreement for Joint Investigation of Pacheco Reservoir (see Attachment 2) and submittal to the District Board for approval.

 - Development of a memorandum of understanding between Pacheco Pass Water District, San Benito County Water District (SBCWD), and the District regarding objectives, interests, and coordination related to expanding Pacheco Reservoir.

 - Coordination with the resource agencies regarding quantification of fishery benefits.

 - Communication with potential stakeholders, such as United States Bureau of Reclamation (USBR), CDFW, National Marine Fisheries Service (NMFS), and interested non-governmental organizations (NGO's).

 - Exploration of partnerships with other potential partners, such as State of California, USBR, SBCWD and PPWD.

 - Coordination and oversight of the consultant to develop the Prop 1 funding application.

 - Meet with and obtain written support from resource agencies and potentially other entities in order to validate potential benefits described in a Proposition 1 funding application.

 - Submit an application for a Proposition 1 funding.

ESTIMATED COST:

All Proposition 1 funding applications must satisfy certain criteria and perform similar analyses utilizing the same or functionally similar modeling tools, and all must analyze the benefits to protected fish species in the Delta. Therefore, the estimated costs of preparing the Proposition 1 funding applications for other projects may be useful to estimate costs for developing funding applications for expanding Pacheco Reservoir. The costs of preparing a Proposition 1 funding application is significant and ranges from \$900,000 for the Los Vaqueros Reservoir Expansion project to \$15 million for the Sites Reservoir Project.

Staff anticipates that the preparation of a Proposition 1 funding application for an expanded Pacheco Reservoir and/or expanded Anderson Reservoir will be significantly less complex than the analysis of Sites Reservoir and therefore significantly less costly. The cost will be more comparable to the cost of analysis for Los Vaqueros Reservoir Expansion. Staff estimates that the cost of preparing a Proposition 1 application for expansion of Pacheco Reservoir would be \$500,000 to \$900,000, depending on the extent of analysis determined to be needed. The consultant contract would be staged to allow it to terminate without incurring additional costs if at any time during the analysis it is determined by the District that the costs of the project outweigh the potential benefits. Costs would be better defined through discussions with the consultant on the required level of work to accomplish the necessary tasks to complete the application.

FINANCIAL IMPACT:

If the Board approves moving forward with a single source consultant contract for development of a Proposition 1 funding agreement:

- The cost of the consultant agreement will be determined through a negotiated process as District staff work with MWH to define the scope of work. The cost is anticipated to be \$500,000-\$900,000 for submittal of a single Proposition 1 funding application. The contract will be staged to allow it to terminate without incurring additional costs if at any time during the analysis it is determined by the District that the costs of the project outweigh the potential benefits.
- Because the District does not own the reservoir or yet have a right to it, groundwater charge revenue will not be used to fund consultant services, consistent with the District Act. Instead non rate-related revenue sources will be used. A budget adjustment to fund consultant services will be presented to the Board.
- If the District succeeds in securing Proposition 1 funding, up to 50% of the cost of preparing the grant application may be reimbursable.

CEQA:

The recommended action does not constitute a project under CEQA because it does not have the potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:

Attachment 1: Single Source Consultant Justification
Attachment 2: 090908 SCVWD Board Agenda Memo
Attachment 3: PowerPoint

UNCLASSIFIED MANAGER:

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