California WATER COMMISSION

Water Storage Investment Program: Screening Project - Regional Surface Water Supply Project Eligibility and Feasibility Determination (Action Item)

Introduction

The California Water Commission (Commission) is administering the Water Storage Investment Program (WSIP) to fund the public benefits associated with water storage projects using funds from the Proposition 1 Water Quality, Supply, and Infrastructure Improvement Act of 2014.

At its December 16, 2020, meeting, the Commission directed staff to open a screening process for new potential Water Storage Investment Program (WSIP) projects. The screening process allows the creation of a pool of potential projects should the Commission decide to open a second solicitation in the future. The screening process allows the Commission to receive information sufficient to meet the January 1, 2022, statutory requirements, while leaving the procedural requirements to implement a second solicitation and substantive evaluation of any new projects to a later date. The screening process was opened in 2021 with a workshop to explain the process to perspective project teams. Staff continued to meet with perspective project teams as they worked to understand if their projects could meet screening requirements. A total of two projects have filed screening forms, one being the Regional Surface Water Supply Project (Regional Project), submitted by the Stanislaus Regional Water Authority (SRWA).

The Regional Project will construct a raw water pump station and 48" diameter raw water transmission main to draw water from the Tuolumne River at the site of the existing infiltration gallery and wet well located along the south bank near Geer Road in Hughson, CA. The pump station will deliver raw water to the SRWA water treatment plant. The raw water will be treated and delivered to the cities of Ceres and Turlock. The raw water transmission main will also include a discharge structure to the Ceres Main Canal. The project will provide multiple public benefits to improve base water flow and temperature which will benefit Tuolumne River fish and other aquatic resources for a 26-mile stretch of the river by increasing releases from La Grange Dam to accommodate the diversion of water. Meanwhile, the underlying high-priority Turlock Groundwater subbasin will experience in-lieu recharge and provide emergency response benefits as the cities operate conjunctive use systems of surface water and groundwater to respond to natural disasters and drought response.

Water Code section 79757 and California Code of Regulations, Title 23, Division 7, section 6013(f)(2) requires a WSIP applicant to complete the following before January 1, 2022 as a condition of WSIP eligibility:

- Draft environmental documentation is available for public review.
- The Director of the Department of Water Resources receives commitments for at least 75 percent of the non-public benefit cost shares of the project.
- All feasibility studies are complete.

Additionally, as a condition of eligibility, the Commission must, by January 1, 2022:

- Make a finding that the project is feasible and will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses of the Delta.

The screening process allows projects to demonstrate feasibility per Water Code section 79757 but does not require project proponents to perform analyses required of existing project applicants. As such, screening projects do not have the analyses or information required in a WSIP application. Project proponents provided the feasibility documents, that could be prepared without regard to the WSIP, but which the project proponents nonetheless believe satisfy the WSIP feasibility requirement. The project proponents also explained how their projects have the ability to advance long term Delta objectives. This staff report presents the status of the January 1, 2022, requirements and staff's review and recommendation about the feasibility documents and other screening information for consideration in the Commission's deliberations.

Background

Through the WSIP, the Commission will invest nearly $2.6 billion in the public benefits of water storage projects, consistent with the requirements of Proposition 1 (the Water Quality, Supply, and Infrastructure Improvement Act of 2014), Chapter 8. In July 2018, the Commission made MCEDs, decisions that set the amount of Proposition 1 funding available to a given project. Since then, one applicant has withdrawn from the program. In early 2021, the Commission decided to adjust two project MCEDs to their initially requested amounts and made a 2.5 percent inflation adjustment to all seven project MCEDs. The Commission also held $63.9 million for a potential second solicitation and opened a screening process to see what projects might match the requirements of the WSIP.

This agenda item implements Goal Four of the Commission's Strategic Plan, which calls on the Commission to carry out its statutory responsibilities for the Proposition 1 Water Storage Investment Program.

Meeting Overview

At the December meeting, Commission staff will present its recommendations regarding the Regional Project's feasibility documentation and a summary of documents received that are responsive to the January 1, 2022, statutory requirements. The Commission will then decide whether to make required statutory determinations. The Commission will have the opportunity to ask questions of applicants and hear public comment before deliberating on its determinations.

This is an action item.

Summary of Issues

Status of January 1, 2022 Requirements. The documents that constitute compliance with Water Code section 79757 are listed below.

Requirement	Status
Draft environmental document available for public review.	Horizon Water and Environment LLC, 2018a. Surface Water Supply Project. Draft Environmental Impact Report (EIR). Prepared for Stanislaus Regional Water Authority. January. Horizon Water and Environment LLC, 2018b. Surface Water Supply Project. Final Environmental Impact Report (EIR) (page 62). Prepared for Stanislaus Regional Water Authority. July.
75% of non-public benefit cost share submitted to the Director of DWR.	Letter from Stanislaus Regional Water Authority containing cost share commitment. The letter was transmitted to the Director of DWR on 11/19/2021.
Completed feasibility documents.	West Yost, 2021. Stanislaus Regional Water Authority Regional Surface Water Supply Project Feasibility Study. October. (available upon request)

Feasibility Document Review. California Code of Regulations, Title 23, Division 7 incorporates by reference the Technical Reference for the WSIP. The Technical Reference specifies criteria to establish technical feasibility and constructability as well as environmental, economic, and financial feasibility. This staff review indicates where the supplied documents may not meet the Technical Reference criteria, and where, if the Commission proceeds with a second solicitation, the information is likely to be provided through a formal application.

Technical Feasibility and Constructability Review

The Regional Project would construct a raw water pump station, a wet well, and a 48" diameter raw water transmission main at the site of an existing infiltration gallery on the Tuolumne River to deliver raw water to a 15 mgd capacity surface water treatment plant. The raw water transmission main will include a discharge structure to the Ceres Main Canal. The raw water will

be treated at the water treatment plant and delivered to the cities of Ceres and Turlock via new pipelines.

The Regional Project would provide ecosystem benefits (flow, temperature and dissolved oxygen) in a 26-mile stretch of the Tuolumne River by increasing releases from La Grange Dam. The ecosystem improvements are achieved from the additional 23.2 – 46.4 cubic feet per second (cfs) of cold water released from La Grange Dam from June 1 to October 15 for all water year types except critical years in the portion of the Tuolumne River between LaGrange Dam and the Regional Project raw water intake. The Regional Project would increase in-lieu recharge in the high-priority Turlock Groundwater subbasin. Regional emergency response benefits would also be provided from an increase in groundwater storage from in-lieu recharge.

Technical Feasibility

Section 7 (Technical Feasibility) of the Feasibility Study summarizes the public benefits to be provided by the Regional Project. Section 7.1 Ecosystem Benefit Technical Feasibility describes the operation of the project to provide ecosystem benefits. During infiltration gallery operation in Phase 1, Turlock Irrigation District will release up to 23.2 cfs in addition to the releases required by the 1996 FSA to meet FERC-mandated minimum flows. The additional flow will provide ecosystem improvements in the 26-mile stretch of the Tuolumne River. For emergency response benefits, Section 7.1.1 of the Feasibility Study stated "A modeling effort was conducted as part of the EIR development to determine the years in which surface water shortages would have occurred over a 115-year period of record (1901 to 2015), and the volume of water that SRWA would have been required to (1) provide as offset water to TID, and (2) make up for shortages from TID using SRWA's own supplies to meet demands. As a worst-case scenario, it was assumed that all offset water and shortage-recovery water would be provided by pumping groundwater."

The analysis provided does not meet several WSIP requirements which limits reviewers' ability to substantiate benefits:

- It is not clear what operations modeling was conducted to determine the surface water shortages. There is no description of the operations analysis and the with- and without-project conditions assumed in the modeling analysis. In order to substantiate the project benefits, operations modeling of the with- and without project conditions encompassing a geographic scope necessary to quantify all benefits or impacts are necessary.
- It is not clear that the analysis incorporates climate scenarios equivalent to WSIP requirements limiting reviewer's certainty that benefits could be produced in the future.

If the applicant prepares a full WSIP application in a future solicitation, these analyses would be required to substantiate public and non-public benefits prior to any conditional eligibility determination or funding decision by the Commission.

As described in the Technical Reference, to meet the requirements of technical feasibility, the applicant must demonstrate that the project is consistent with the operations plan, including a description of data and analytical methods, the hydrologic period, development conditions, hydrologic time step, and water balance analysis showing, for the with- and without-project condition, all flows and water supplies relevant to the benefits analysis. The regulations for the Water Storage Investment Program (WSIP) application process require all applicants to either use the Climate and Variable Infiltration Capacity (VIC) model results data for the two without-project future conditions (2030 future conditions and 2070 future conditions) or the 2030 and 2070 without-project future conditions CalSim II and DSM2 model products provided by WSIP to quantify the benefits. The required use of either the VIC model results data or CalSim II model products is dependent on the type of storage project and whether there are quantified public benefits within the Delta or resulting from Delta improvements.

Constructability

The Feasibility Study provides descriptions of facilities needed for the operations of the Regional Project to provide the benefits. Facilities described include raw water pump station, raw water transmission main, water treatment plant, Ceres finished water transmission main, and Turlock finished water transmission main. Table 1 of the Feasibility Study shows the Regional Project design and construction costs. It is not clear if the construction costs estimates are at a feasibility-level. WSIP regulations (Technical Reference page 6-2) require feasibility-level cost estimates at Association for the Advancement of Cost Engineering or AACE Class 4 or better. Table 14 of the Feasibility Study (Summary of Anticipated Construction Technologies and Materials) provides an overview and description of construction techniques and materials used for the Regional Project facilities. The construction techniques and materials description demonstrated that the Regional Project facilities can be constructed with existing technology and materials.

Economic Feasibility Review

Economic feasibility is demonstrated when a project's expected benefits equal or exceed the expected costs, considering all benefits and costs related to or caused by the project. Staff reviewed the Feasibility Study and is unable to determine that the Regional Project meets the definition of economic feasibility as described in Section 3.5 of the Technical Reference. The lack of regional operations and hydrologic modeling of the with-project and without project conditions as mentioned in the Technical Feasibility section also impacts the economic feasibility analysis.

The Feasibility Study includes a description and quantification of the following benefits:

- Ecosystem improvement public benefit is quantified using as the additional water released for diversion into the treatment plant farther downstream. The flow is valued using an alternative cost method and unit values provided in the Technical Reference.

- Emergency response public benefit is estimated by determining the additional groundwater supplies that would become available for emergency use as a result of the operation of the Regional Project.
- Municipal and Industrial (M&I) non-public water supply benefit using the cost of an alternative project that would provide water quality improvement.

Staff's evaluation of these benefits and their quantification follows.

Project Benefits Not Supported by With-project and Without-project Operations and Hydrologic Analysis

The Feasibility Study does not provide operations and hydrologic modeling or analysis that provides a consistent comparison of with-project versus without-project operations, deliveries, and water use. As a consequence, some benefit estimates are unsubstantiated.

The Regional Project description (page 6) states:

> "A Water Sales Agreement was negotiated between SRWA and TID that governs the quantity, timing, and cost of diversions."

Page 8 states:

> "The new diversion is 26 river miles downstream of the location where TID currently diverts this water for use within their canal system."

Page 18 states:

> "SRWA is required to provide a minimum of 2,000 acre-feet of offset water to TID each year in the form of recycled water; however, in curtailment years additional offset water is required equal to the quantity of the curtailment with a maximum of 15,000 acre-feet/year. Any offset water requirements above 2,000 acre-feet can be met utilizing recycled water or groundwater. On average, this additional offset water volume is estimated to be 831 acre-feet of groundwater per year. The annual diversion from the river minus the 831 acre-feet of offset water is the assumed quantity of in-lieu recharge into the Turlock Subbasin each year because this volume of water use would otherwise be needed for extraction in the absence of the Regional Project."

Without the Regional Project, M&I use would come from groundwater and the water that would have been released for Regional Project diversion would instead be held in storage or diverted into TID's canals for agricultural use. With the Regional Project, water would be released from LaGrange Dam and diverted for M&I use. If 23.2 or 46.4 cfs (Phase 1 or Phase 2) is provided for M&I from June 1 to October 15 in most years, total additional flow past La Grange should be about 6,300 to 12,600 AF per year. The effect on irrigation supply is apparently accounted for by 2,000 AF of recycled water and, due to curtailment years, an average of 831 AF of offset groundwater pumping (see section 5.1.2.1 of the FS).

The analysis does not provide information regarding how irrigation water use changes in response to the reduced surface water supply. Without a detailed operations analysis, staff cannot determine if any other effects on irrigation supply or groundwater levels occur. If some irrigation that would have been supplied in absence of the Regional Project converts to groundwater, groundwater conditions might be improved in the vicinity of M&I wells but harmed in the vicinity of irrigation wells. If irrigation adapts by applied water conservation, then percolation to groundwater might be reduced. With project, in many years there may be enough stored surface water for both irrigation and the new M&I diversion. If this is the case in some years, then storage in New Don Pedro Reservoir might be affected. The addition of recycled water complicates matters even more because the fate of wastewater in the without-project future is not discussed.

Without a complete operations and hydrologic analysis staff cannot determine the net effect of the Regional Project on surface and groundwater storage, water use, river flows, and other hydrology.

Some costs are not included in the project costs

The regulations (Technical Reference Section 5.2.6.2 page 5-6) state:

> "Non-project costs or associated costs are not included in the proposed project's cost estimate but are required for a beneficiary to receive the benefits. Non-project costs must be subtracted from gross benefits to obtain the public or non-public benefits that are directly compared to project costs."

The Feasibility Study states:

> "Local facilities are being constructed by the Cities, including terminal storage tanks, booster pump stations, pressure relief valves, and transmission/distribution system upgrades and infrastructure modifications specific to each city, which will allow the integration of this new surface water supply into each distribution system. These local projects are not included in this evaluation."

The costs of these local projects should be included in project costs (or subtracted from economic benefits) to obtain net benefits for the economic feasibility analysis.

Avoided groundwater costs are not quantified

The Regional Project would substitute surface water for groundwater but the cost savings from reduced M&I groundwater use are not shown. These savings could include pumping energy, operations, and replacement costs.

Not clear that steelhead benefits are worth the alternative cost

Page 16 of the Feasibility Study states:

> "There is very little evidence to suggest a self-sustaining anadromous steelhead population on the River. . . Annual monitoring of adult returns has documented only 13 adult (>16") steelhead/rainbow trout passages since 2009. SRWA proposes to evaluate ecological benefits based on the "resident" steelhead/rainbow trout population (i.e., steelhead/rainbow trout that remain in the Tuolumne River regardless if they became anadromous or not)."

In other words, it is not clear that the project will produce any benefit to anadromous steelhead. The method of alternative cost is appropriate when the physical benefits of the Regional Project or its alternative are enough to justify their cost.

Emergency water supply benefits not supported

Page 19 of the Feasibility Study states:

> "Results shown in Table 7 are based on the assumption that the emergency supply benefit is available for use in the year in which it comes available."

The Regional Project claims emergency water supply benefits for every acre-foot recharged as it is recharged. There is no analysis of the type or frequency of emergency events, as required by the Technical Reference. If the emergency supply were utilized as claimed there would be no net recharge of groundwater over time. This analysis is not consistent with methods outlined in section 4.11 of the Technical Reference.

Water quality benefits based on alternative cost

The Regional Project bases its non-public benefits on the alternative cost of a Wellhead Groundwater Treatment and New Wells alternative. The Regional Project does not provide more M&I water supply so there is no quantity benefit. It is not clear that the water quality improvement provided by wellhead treatment is worth the alternative cost. In particular, no requirement for wellhead treatment or other regulatory constraint is discussed.

In conclusion, because the project has yet to conduct CalSim or equivalent modeling of with-project versus without-project operations, and has not developed a full economic analysis of all benefits and costs, there is insufficient information to show economic feasibility as required in the WSIP technical reference. The submission of a full application that meets the requirements of the WSIP regulations in a future solicitation, would allow for the identification of the benefits and costs of the project before any kind of conditional eligibility determination or funding decision by the Commission.

Financial Feasibility Review

The applicant has described its current sources of funding for repayment of borrowed funds and for annual operations and maintenance. Project sponsors are public agencies with the

capacity and authority to raise revenues, through water charges, land assessments, or other means, as needed to fund costs allocated to them.

Section 6.3 of the Feasibility Study provides cost allocation based on benefits and section 10 provides information on financial feasibility. As monetized by the applicant, ecosystem benefits compose about 14.9 percent of quantified benefits. The applicant limits emergency supply benefits to the same amount so that ecosystem benefits represent at least 50 percent, as required by WSIP statute and regulations. Therefore, according to the applicant's calculations, up to 29.8 percent of eligible costs could be funded.

Project capital costs eligible for WSIP funding are $310.6 million (Feasibility Study section 4.1). If benefits are substantiated and other WSIP requirements met, then 29.8 percent of eligible capital costs, or $92.56 million, could be funded, subject to WSIP fund availability.

The applicant listed other sources of committed capital funds, including Reclamation WaterSmart grants totaling $1.5 million and a state IRWM grant of $5.8 million. The applicant also has an agreement for a State Revolving Fund (SRF) loan and grant. The grant portion is $27.75 million, so existing grants total just over $35 million. It is unclear if any of those grant funds are obligated for any specific purpose or benefit. A $184.9 million SRF loan has also been obtained, but the applicant proposes to reduce its amount as needed if WSIP funding were obtained. Based on the amount of funding already secured, totaling about $220 million, staff notes that the applicant appears ready to proceed with the project even if WSIP funding does not become available.

The applicant describes the financial capacity of the municipal water beneficiaries, the cities of Turlock and Ceres, to repay financed capital and ongoing O&M. Staff has identified no specific concerns about the cities' ability to pay for costs allocated to them for this proposed project. However, adjustments to project benefits and costs that could follow from the concerns described under Economic Feasibility prevent staff from determining financial feasibility at this point. Staff notes that significant local costs are already not counted as part of project costs.

Based on staff's identified concerns with the benefits and costs, as described above under Economic Feasibility, staff cannot determine that each beneficiary is allocated project costs equal to or less than its benefits received. However, the applicant has demonstrated through its funding commitments to date that it believes that non-public benefits equal or exceed costs allocated to its ratepayers. Receiving WSIP funding would reduce the costs borne by ratepayers. Therefore, staff recommends that the Regional Project appears to meet the conditions for financial feasibility defined in Technical Reference Section 3.5 based on the feasibility information provided by the applicant.

Environmental Feasibility Review

Commission staff reviewed the 2021 Final Feasibility Study (West Yost, 2021), and Final EIR (Horizon Water and Environment LLC, 2018b) and related CEQA documents to determine

whether the applicant demonstrated environmental feasibility and described how significant impacts would be mitigated or whether the CEQA lead indicated they would file a Statement of Overriding Considerations. These materials demonstrate the project is environmentally feasible.

The Feasibility Study referenced the EIR and included discussion of possible effects of the Regional Project and proposed mitigation measures. The EIR indicated the Regional Project would result in significant and unavoidable environmental impacts to:

1. Agriculture and forestry by converting Prime Farmland to nonagricultural use;
2. Air quality by conflicting with or obstructing implementation of an applicable air quality plan and by violating air quality standards or contributing substantially to an existing or projected air quality violation;
3. Greenhouse gas emissions (GHG) by generating a substantial amount of GHG emissions, and by conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs;
4. Noise and vibration by exposing persons to excessive groundborne vibration or groundborne noise levels and by substantially temporarily or periodically increasing ambient noise levels in the Project vicinity above levels without the proposed project; and
5. Population and housing by inducing long-term substantial population growth, both directly and indirectly.

In 2018, Stanislaus RWA adopted a Statement of Overriding Considerations which addressed why the project benefits of 1) diversifying Ceres and Turlock's water supplies; 2) reducing Ceres and Turlock's reliance on groundwater by allowing for in-lieu recharge of groundwater to the affected groundwater basin; 3) improving drinking water quality in Ceres and Turlock; 4) improving quality of wastewater discharges; 5) increasing seasonal releases from La Grange Dam to benefit Tuolumne River fish to accommodate proposed diversion downstream at Turlock Irrigation District's (TID) infiltration gallery; 6) allowing Ceres and Turlock and TID to better coordinate and manage the area's surface water, groundwater, and recycled water supplies; and 7) assisting TID in implementing its water conservation and conjunctive water use programs, outweigh the project's significant and unavoidable environmental impacts.

In addition, the EIR identified potentially significant but mitigable impacts that include adverse impacts to aesthetics, air quality, biological resources, cultural resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise and vibration, population and housing, recreation, transportation and traffic, and tribal cultural resources. In 2018, Stanislaus RWA adopted a Mitigation Monitoring and Reporting Plan for the proposed project.

Beneficial Uses of the Delta.

SRWA has provided information related to the potential public benefits that could be provided by the Regional Project as well as a description of how the Regional Project will advance the long-term objectives for beneficial uses of the Delta.

The potential public benefits include improved steelhead spawning, incubation, and rearing habitat and reducing water temperatures in the Tuolumne River, which is a tributary to the Delta. The Regional Project also proposes emergency response benefits during droughts or infrastructure failures. The Regional Project would address the State Water Board's Bay-Delta Plan water quality objective to provide reasonable protection of fish and wildlife beneficial uses at a level which stabilizes or enhances the conditions of aquatic resources in the Lower San Joaquin River – including major tributaries such as the Tuolumne River.

Based on staff's review, it appears the project would advance the long-term objectives of the Delta, consistent with the WSIP.

Commission Decision
The Commission can decide to make a determination that the Regional Project is feasible and will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses of the Delta. If the Commission makes these two determinations, the project would be able to submit a full application for WSIP funds.

Screening projects do not have the benefit of completing the full application and therefore, lack some of the analyses required through the application process. The lack of an application makes it difficult to assess the feasibility based on the Technical Reference because applicants cannot provide information required from the Technical Reference, which are necessary to determine if the project meets the feasibility criteria. The Commission can still make the two determinations described above if the applicant can sufficiently respond to questions from the Commission regarding staff findings. If the Commission makes the two determinations and opens a future solicitation, screening projects would need to complete a full application and review process. Application requirements include specific project modeling requirements and detailed analysis of public and non-public benefits. The Commission could not make funding decisions on a screening project without an application and review process.

Alternatively, the Commission may opt to not make these determinations. If the Commission decides not to make these determinations by December 31, 2021, the project would no longer be eligible for funding through the WSIP.

Staff Recommendation
Based on information received from SRWA which includes the WSIP screening form, the Feasibility Study, a letter of commitment from SRWA to fund the project, and environmental

documentation, staff finds that SRWA has provided documents that meet the minimum requirements of Water Code section 79757. Staff cannot determine whether the project meets the Technical Reference requirements for feasibility because SRWA has not completed sufficient analyses. Staff recommends the Commission inquire of the applicant regarding staff's review of submitted documents before making a determination regarding the Project's feasibility.

Staff also recommends, based on its review of the environmental documentation submitted, that the Commission find the project "will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses of the Delta," consistent with Water Code section 79757(a)(2).

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