* Board of Directors

***Water Planning and Stewardship Committee***

3/8/2022 Board Meeting

**9-3**

# Subject

Review of the remaining planning process and funding needs for Sites Reservoir Project

# Executive Summary

This Board letter provides an update on the planning process for the proposed multi-benefit Sites Reservoir Project (Project), and the proposed three-year budget for completion of the planning, permitting and environmental review effort.

In 2017, 2019, and 2020, the Metropolitan Board (Board) authorized participation in the planning and environmental review/permitting effort for the proposed Project, which would be located in the Sacramento Valley in northern California, and appropriated $1,500,000, $4,212,500, and $5,000,000, respectively. In 2021, the Sites Project Authority proposed a workplan and budget for funding the remaining three-year planning effort through 2024.

The workplan, referred to as the Amendment 3 Workplan, will focus on finalizing the environmental planning documents, project construction/operation permits, and a coordinated operations plan with the federal and state water projects. The Amendment 3 Workplan would be implemented through an amendment to the 2019 Reservoir Project Agreement previously executed by Metropolitan and other project participants. The overall participant budget for this Amendment 3 Workplan is $142,863,000, which includes funding from the state of California, United States Bureau of Reclamation (USBR), and 23 public water agencies.

For Metropolitan to continue its participation and reserve 311,700 acre-feet (AF) of storage rights, which is equivalent to approximately 50,000 AF of annual water supply reservoir releases, the additional planning cost share would total $20 million. This cost-share amount is payable over a three-year period, $5 million in calendar year (CY) 2022, $7 million in CY 2023, and $8 million in CY 2024. The obligation of the proposed Project participants to make the second and third installments is conditioned upon the Sites Project Authority and the Sites Reservoir Committee members each annually reapproving the Amendment 3 Workplan by an affirmative vote of at least 75 percent.

Continued participation in planning, permitting and environmental review of the proposed Project will preserve the opportunity to work with the participants to jointly improve water supplies for both northern and southern California, enhance critical habitat and flows for native fish species, reduce the impacts of the frequent wet and dry hydrologic swings, and develop key analyses of project feasibility. The proposed Project is identified as one of only two priority surface water reservoir projects in the Governor’s Water Resilience Portfolio and is one of the first multi-benefit reservoirs in California that would have dedicated water storage and yield to be used for fishery enhancement, instream flow releases in drier periods, and improved habitat for native species.

Metropolitan’s agreement to participate in funding for the Amendment 3 Workplan does not commit Metropolitan to the proposed Project implementation.

# Details

History

The proposed Project first emerged as part of a second stage of the State Water Project (SWP) proposed in the 1980s, which included multiple water-related projects in northern California. In 1996, the proposed Project was further analyzed by the California Department of Water Resources (DWR) and the USBR as part of the state and federal water cooperative effort called the CALFED Bay-Delta process. The CALFED environmental planning process resulted in a Programmatic Record of Decision that recommended implementation of the proposed Project as a component of the Preferred Program Alternative. In 2010, the Sites Project Authority was formed as a joint powers authority to continue moving forward with development of the proposed Project. There are 31 agencies participating in the planning phases of the proposed Project, including the state of California and the USBR. In 2020, the proposed Project was identified as a priority in the Governor’s Water Resilience Portfolio.

Project Location

The proposed Project would be located in rural Glenn and Colusa counties, 60 miles north of Sacramento and about 10 miles west of the town of Maxwell in northern California (**Attachment 1)**. The proposed Project location is separated from the greater Sacramento Valley by a foothill range to the east, making it suitable for off-stream storage of water from the Sacramento River.

Project Description

The proposed Project is currently being analyzed as a 1.3 million to 1.5 million AF off-stream surface water storage reservoir that would divert unregulated high-flow water from the Sacramento River. The proposed Project would require the construction of two dams up to 310 feet high and nine smaller saddle dams. Water to be stored in the proposed Project would be conveyed through existing intakes on the Sacramento River at Red Bluff Pumping Plant and Glenn-Colusa Diversion Dam. Water from these diversions would be conveyed through the existing Tehama-Colusa and the Glenn-Colusa canals to the proposed Project (**Attachment 2**). Combined, the diversions could deliver as much as 3,900 cubic feet per second of water from the Sacramento River to the proposed Project. Water diversions would only occur when conditions exist that are: (1) protective of aquatic resources; (2) after all other downstream senior water rights and conditions are met; and (3) only when excess flow conditions exist in the Delta. Water discharged from the proposed Project would flow through the existing Tehama-Colusa Canal, then into the Colusa Basin Drain before reaching the Sacramento River or the Upper Yolo Bypass. Project participants would divert their share of the water as it moves through the Tehama-Colusa Canal and river system, including Central Valley Project and SWP participating agencies south of the Delta. Dedicated environmental storage funded with State Proposition 1 monies would also utilize this system to convey supplies to enhance fishery flows, habitat, and water quality.

KeyBenefits

For the Metropolitan service area, key benefits include improving drought-year supply reliability, securing additional sources for SWP dependent areas, providing low-salinity groundwater recharge, reducing risk of declining groundwater storage in the service area, and assisting in the Board’s water quality blending salinity objective. Other key benefits of the proposed Project include providing:

* Off-Stream, Fish-Friendly Storage. The proposed Project would provide storage off-stream of the Sacramento River using existing modern-screened fish intakes designed to minimize fish losses and not block fish migration or spawning.
* California’s Largest Dedicated Ecosystem Storage. Current methods of allocating water to support ecosystem health rely on minimum flow standards. The proposed Project will be one of the first reservoirs in California that will have dedicated ecosystem water and storage to enable more flexible and effective water management during dry times. This ecosystem water will be used to enhance instream fishery flows, water temperatures for spawning, pulse flows for out migrating fish, riparian/floodplain habitat, water quality, and other environmental purposes.
* Climate Change Resiliency to Shrinking Snowpack. The proposed Project is envisioned as a climate change adaptation measure to manage shrinking snowpack, to capture and manage the increased flood flows for use in dry times, to enhance upstream Sacramento River water temperature management for migrating salmon, and to augment flows for fishery protection. In 2021, if the proposed Project had been in operation, it is estimated that there could be close to one million AF of additional water supplies, previously stored during wet periods, available for release over a two to three-year period to farms, cities, and the environment.
* Enhance Statewide Depleted Groundwater Basins. The state estimates that approximately 50 percent of the water that could be used to replenish California’s groundwater will need to come out of the Sacramento River. The proposed Project is well suited to staging and conveying water to areas where groundwater depletion is producing undesirable effects.
* Local Flood Control and Recreational Opportunities. The proposed Project will enhance flood control protection for small communities prone to flooding near the reservoir project and expand recreational opportunities in northern California.
* Diversion Only During High-Flow Events. The proposed Project will enhance the ability to store unregulated flows during high precipitation years and release those water supplies for environmental and water supply purposed during dry water years.
* Significant Local and Statewide Support. The proposed Project has significant local, statewide, and bipartisan support from more than 175 organizations, agencies, businesses, and elected officials.

Tribal, Environmental, and Local Stakeholder Outreach

Sites Project Authority has been conducting an extensive outreach process to meet with local stakeholders, including environmental, salmon fishing, and tribal interests. During the past 18 months, over 40 meetings and workshops have been conducted to communicate and listen to additional input. This includes reaching out to over a dozen Native American tribes. The Sites Project team has also been holding monthly meetings with two local tribes with known historic connection to the proposed Project area. In addition, the USBR has consulted with federally recognized tribes. The proposed Project does not occur in an area that would affect tribal hunting or water rights nor is the alternative on tribal trust lands.

These listening sessions and public input have been used by the Sites Project Authority to substantially modify the proposed Project facilities and operations to be more protective of the environmental and reduce local impacts.

Sites Project Authority Members

The Sites Project Authority was formed under California law in 2010 as a joint powers authority and currently consists of 11 public agencies: Colusa County, Glenn County, Tehama-Colusa Canal Authority, Colusa County Water District, Glenn-Colusa Irrigation District, Reclamation District 108, Westside Water District, Sacramento County Water Agency/City of Sacramento, Placer County Water Agency/City of Roseville, Western Canal Water District, and Maxwell Irrigation District. DWR and USBR also participate on the Authority as non-voting members.

For decision-making purposes, approval of at least 75 percent of the total weighted vote of both the Sites Project Authority and the Sites Reservoir Committee members is required for any material change actions, including changes to budget, schedule, and workplan. For non-material changes, an affirmative vote of a least a majority of the total weighted vote is required.

Current Participating Project Partners

Currently, there are 31 agencies participating in the proposed Project, including the state of California and the US Bureau of Reclamation, with 23 agencies reserving water supply storage in the reservoir. In 2021, Rosedale-Rio Bravo Water Storage District and Irvine Ranch Water District joined in funding the planning effort. A full list of participating agencies is attached (**Attachment 5**). Metropolitan is currently a member of the Sites Reservoir Committee, which has certain decision-making authority in carrying out the budget and workplan.

Participating agencies are currently in the process of reviewing the Amendment 3 Workplan with their governing boards to consider approving participation and funding.  The Sites Project Authority is also in discussions with other water agencies that have expressed an interest in participating in the proposed Project.

Project Environmental Documentation

An initial feasibility study and Administrative Draft Environmental Impact Report (EIR) were completed in 2013 by DWR. A Public Draft EIR/ Environmental Impact Statement (EIS) for the proposed Project was released by the Sites Project Authority (state lead agency) and the USBR (federal lead agency) in August 2017.

However, with the completion of a Value Planning process in 2019, a Revised Draft EIR and Supplemental EIS was initiated due to modifications that included a smaller proposed Project footprint and operational changes to enhance environmental flows. The Revised Draft EIR and Supplemental EIS were released in November 2021, with a Final EIR/EIS scheduled for completion in the Fall 2022. The formal Notice of Determination and Record of Decision are scheduled for late 2022 or early 2023.

Responses to Common Questions about Potential Environmental Impacts

In November 2021, the Sites Project Authority released a fact sheet responding to common questions about the potential environmental impacts of the proposed Project (**Attachment 7**). In addition, the Revised Draft EIR/Supplemental Draft EIS includes more details related to the analysis of the proposed Project’s potential impacts on a range of environmental resource areas.

In general, the proposed Project is an off-stream facility that does not dam a major river system or block fish migration or spawning. The proposed Project diverts water only during high-flow events. In addition, after discussions with state and federal fishery agencies, local stakeholder, environmental and Native American interests, the proposed Project operations were modified to be more protective of the environment. These modifications reduced the proposed Project diversions from the Sacramento River substantially, by almost 50 percent, as compared to the criteria proposed in 2017.

Storing water in Sites Reservoir during high-flow wet periods, is part of the statewide strategy for adapting to changing climate conditions and to return much needed flexibility to enhance environmental and water user needs.

Project Yield

The current operations model estimates the annual water yield of the proposed Project at approximately 207,000 to 260,000 AF per year. This model utilizes upstream Sacramento River flow and fishery regulatory criteria to protect instream river flows and water temperatures for salmon and other native species. Additional modeling analyses will continue to be conducted as further refinements are made to proposed Project operations.

Implementation of the proposed Delta Conveyance Project could allow for greater yields south of the Delta due to potential savings in Delta carriage water losses and south Delta regulatory restrictions. In 2021, if the proposed Project had been in operation, it is estimated that there would be close to one million AF of additional water supplies, previously stored during wet periods, and available for release over a two to three-year period to farms, cities, and the environment.

For Metropolitan, that additional storage in 2021 would amount to an approximate 230,000 AF share, which could have been used to secure water for our SWP exclusive areas, provide low-salinity supplies to reduce salt impacts and recharge our region’s groundwater basins, and assist in meeting the Board’s 500 mg/L water quality blending salinity objective.

Final Project formulation and annual operations will determine how the reservoir storage and yield will be divided between meeting water supply and environmental improvements funded by state Proposition 1 grant and federal Water Infrastructure Investment for the Nation (WIIN) Act appropriations.

Effect of Potential Climate Change Impacts

California’s climate has always featured wide swings between drought and flood events. But being able to store that water in natural snowpack reservoirs in the winter, then slowly released through snowmelt into California’s river system during the hotter spring/summer months is critical to our economy and natural ecosystem. In a warming world, the snowpack will become even more volatile, melting faster with more precipitation falling as rain. River flows will increase during the winter, causing more flooding, and less during the spring/summer months.

If the current climate change projections are right, the increasing temperature will require additional reservoirs to capture the more volatile runoff. Sites Reservoir helps provide more flexibility to water supply and fishery agencies to mitigate these climate change impact. In addition, as climate temperatures increase, the effectiveness of the reservoir increase, both from a water supply and environmental flow perspective.

Operations and Coordination with Other Regional Reservoirs

The proposed Project is designed to divert water from the Sacramento River through existing state-of-the-art fish screens, only when actual flows on the Sacramento River exceed that needed by more senior water right holders, the Delta is in excess conditions, and based on stringent criteria to protect aquatic resources. Releases from the reservoir will be based on environmental needs, water user participant requests, and regulatory permit conditions.

The proposed Project’s unique location, south of Lake Shasta and Lake Oroville but north of the Delta, allows it to enhance the environmental, water quality, flood control, recreational, and water supply functions those existing reservoirs serve. Sites Reservoir allows the state and federal fishery agencies and water supply operators more flexibility to adapt to changing river, climate, Delta flow, and water quality conditions.

As an example, the proposed Project could be operated in coordination with Lake Shasta to preserve and enhance cold water for endangered salmon in the Sacramento River. The proposed Project could also contribute to the increased fresh-water flow into the Delta during drier periods to assist with salinity management of this critical estuary. The proposed Project would not compete for the water resources stored in these state and federal facilities but would increase the total amount of managed water in storage. With the uncertainty associated with California varying snowmelt runoff in the next century, having Sites Reservoir will enhance the conservation of our critical statewide water supplies.

Proposed Participant Budget and Metropolitan Cost Share

The proposed participant budget for the Amendment 3 Workplan is $142,863,000, which includes:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Revenue Source** | **2022** | **2023** | **2024** | **TOTAL** |
| State (Proposition 1) | $ 18,300,000 | -- | -- | $ 18,300,000 |
| Federal (WIIN Act) | $ 10,000,000 | $ 20,000,000 | $ 20,000,000 | $ 50,000,000 |
| Water User Participants | $ 16,762,000 | $ 23,467,000 | $ 26,819,000 | $ 67,048,000 |
| Sites Joint Powers Authority | $ 505,000 | $ 505,000 | $ 505,000 | $ 1,515,000 |
| Carryover Funds | $ 6,000,000 | -- | -- | $ 6,000,000 |
| **TOTAL** | **$ 51,567,000** | **$ 43,972,000** | **$ 47,324,000** | **$** **142,863,000** |
|  |  |  |  |  |
| **Metropolitan Share** | **$ 5,000,000** | **$ 7,000,000** | **$ 8,000,000** | **$ 20,000,000** |

For Metropolitan to continue its participation and reserve 311,700 AF of storage rights, which is equivalent to approximately 50,000 AF of average annual water supply reservoir releases, the cost share would total $20 million. This cost-share investment is payable over a three-year period, $5 million in 2022, $7 million in 2023, and $8 million in 2024. The obligation of the Project participants under the 2019 Reservoir Project Agreement and Third Amendment (**Attachment 3 and 4**) to make the second installment and third installment is conditioned upon the Sites Project Authority and the Sites Reservoir Committee members each annually reapproving the Amendment 3 Workplan by an affirmative vote of at least 75 percent.

The final amount of water supplies available to Metropolitan and other participants from the proposed Project, if it is implemented, and the unit costs will depend on state and federal participation levels, the total dollar amount that Metropolitan and others elect to contribute through future phases, and the final costs and yield for the proposed Project.

Estimated Overall Project Cost

In 2019, the Sites Project Authority and participating agencies conducted a value-planning effort to minimize potential Project costs and impacts. That effort resulted in an improved Project that reduced costs from $5.2 billion to approximately $3.9 billion (in 2021 dollars). Cost savings came primarily from the removal of the proposed 13.5-mile Delevan Diversion pipelines and intake facility on the Sacramento River. The annual costs for operations, maintenance, and power are estimated at $83 million to $100 million annually. The estimated average cost per AF of yield ranges from $700 to $900 per AF at the reservoir. For Metropolitan, it is estimated that an additional $300 to 400 per AF would be added to the yield cost to take care of conveyance losses in the Delta, SWP pumping costs, and Metropolitan water treatment costs. Efforts are underway by the Sites Project Authority to continue refining the proposed Project cost estimates as potential additional state and federal funding becomes available.

State and Federal Investment Funding

In 2017, the Sites Project Authority applied for state Proposition 1 grant funding to the California Water Commission. Proposition 1 included $2.7 billion for new storage projects. In 2018, the California Water Commission approved $816 million in state investment to advance the proposed Project, the largest grant award given to any project requesting Proposition 1 support. The State’s Proposition 1 investment was increased in 2020 to $836 million. To date, the state has released approximately $40 million to the proposed Project for completion of the environmental documentation and permit process. This state investment will pay for a portion of the reservoir cost, and in return, the state will receive flood control and recreation benefits as well as a portion of the water and storage produced by the proposed Project to be dedicated to environmental benefits in the watershed and Delta.

On the federal side, the proposed Project has been awarded $104 million in WIIN Act grants by the US Environmental Protection Agency. In addition, the proposed Project was awarded a $449 million US Department of Agriculture loan that can be used to build the intertie between the Glen-Colusa Irrigation District and Tehama-Colusa Irrigation District canals to assist in water operations for the Project and its partners. The proposed Project has submitted a letter of interest for a Water Infrastructure Finance and Innovation Act loan of up to $600 million and is awaiting the results of EPA’s review process.

Schedule

The proposed key milestones to be completed over the next three years include:

* Mar 2022 – Section 7 Biological Assessment for the US Fish & Wildlife Service (USFWS)   
   and National Marine Fisheries Service (NMFS)
* Oct 2022 – Final Revised EIR and Supplemental EIS issued
* Mar 2022 – CDFW Incidental Take Permit issued for Operations and Construction
* Oct 2022 – Section 106 – National Historic Preservation Act Final Programmatic Agreement
* Dec 2022 – Federal ESA – Receive Biological Opinions from USFWS & NMFS
* Dec 2022 – Execute State (DWR) and Federal (USBR) Coordinated Operations Agreements
* Apr 2023 – Section 408 US Army Corps of Engineers Levee & Flood Permit   
   and Central Valley Flood Protection Board Encroachment Permit issues
* Jun 2023 – Section 401 and 404 US EPA Clean Water Act Permit issued
* Jun 2023 – Section 1602 CDFW Streambed Alteration Agreement issued
* Oct 2023 – State Water Resources Control Board Water Right Permit issued
* Dec 2023 – 30 percent engineering design completed
* Nov 2023 – Proposition 1 Water Storage Investment Program final award from   
   California Water Commission

Final engineering design for the project is scheduled to be completed by 2026 with reservoir construction completed by 2030 (**Attachment 6**).

Previous Metropolitan Board Authorizations

In April 2017, the Metropolitan Board authorized appropriation of $1.5 million and participation in the Phase 1 Sites Reservoir Project Agreement. The $35 million budget for the 2017/18 Workplan includes funding from the state of California, USBR, and public water agencies.

On February 12, 2019, the Metropolitan Board authorized appropriation of $4,212,500, and participation in the 2019 Reservoir Project Agreement (**Attachment 3**) through December 31, 2019. The budget for the 2019 agreement was approximately $15 million.

On October 12, 2020 the Metropolitan Board authorized appropriation of $5 million and participation in the Phase 2 Workplan and the Second Amendment to the 2019 Reservoir Project Agreement. The budget for the Phase 2 Workplan was $31.75 million, and included funding from the state of California, USBR, and public water agencies.

# Policy

By Minute Item 45753, dated May 11, 2004, the Board adopted refined Bay-Delta finance and cost allocation policy principles for communication with the California Bay-Delta Authority and interested parties, as set forth in the letter signed by the Chief Executive Officer on April 20, 2004.

By Minute Item 46637, dated April 11, 2006, the Board adopted the policy principles regarding long-term actions for the Sacramento-San Joaquin River Delta as described in the revised letter signed by the General Manager on April 4, 2006.

By Minute Item 47135, dated June 12, 2007, the Board supported, in principle, the proposed Delta Action Plan, as set forth in the letter signed by the General Manager on May 25, 2007.

# Fiscal Impact

Funding for Metropolitan’s cost-share amount of the Amendment 3 Workplan is payable over a three-year period, $5 million in CY 2022, $7 million in CY 2023, and $8 million in CY 2024.  Payments due in CY 2023 and CY 2024 ($7 million and $8 million, respectively) was included in Metropolitan’s proposed fiscal year 2022/23 and 2023/24 budget.  Funding for CY 2022 ($5 million) is proposed to be funded out of Metropolitan’s existing fiscal year 2021-22 budget. Staff is scheduled to bring this item for Board consideration in April 2022.

|  |  |
| --- | --- |
| Stephen N. Arakawa  Manager, Bay-Delta Initiatives | Date |

|  |  |
| --- | --- |
| Adel Hagekhalil  General Manager | Date |

Attachment 1 – Sites Reservoir Location Map

Attachment 2 – Sites Reservoir Facilities Map

Attachment 3 – 2019 Reservoir Project Agreement

Attachment 4 – Third Amendment to the 2019 Reservoir Project Agreement

Attachment 5 – Sites Reservoir Project Participants

Attachment 6 – Sites Reservoir Schedule

Attachment 7 – Sites Reservoir RDEIR-SDEIR Common Questions & Responses

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