



Meeting: **Reservoir Committee & Authority Board**
Agenda Item 3.4

September 19, 2025

Subject: **Supplemental Review of Construction & Operations Considerations
for the Lower Colusa Basin Drain (CBD) System**

Requested Action:

Receive an update on construction and operations considerations for the Lower Colusa Basin Drain System.

Detailed Description/Background:

The Sites Reservoir Project (Project) plans to utilize existing conveyance systems as part of the operations of the Project, including the lower portion of the Colusa Basin Drain (CBD) and associated facilities ("Lower Colusa Basin Drain System" or "Lower CBD System"; see Attachment A). In September 2023, the Sites Authority Board Resolution #2023-01 adopted the Principles of Use (Attachment B), which establish guidelines for the Project's planning activities related to the use of the Lower CBD System.

In accordance with the Principles, the Sites Authority formed the Lower CBD Working Group in 2023 to work in collaboration with agencies and the local community, including landowners and their representatives, to address opportunities and concerns with Project operations in the Lower CBD System. A Cooperative Agreement between Sites Authority and Reclamation District No. 108 (RD 108) was also executed in August 2023 to support planning efforts on the Lower CBD System.

In January 2024, Staff received input from the Reservoir Committee (RC) and Authority Board (AB) on the key Lower CBD System topics requiring more certainty prior to investor commitment. These topics have been advanced as follows:

- Real property considerations for flowing Sites Water through the Lower CBD System and for siting the Dunnigan Pipeline discharge facility. Staff, with input from the Authority's Real Estate Counsel, has determined that the land rights needed to accomplish the Project's objectives in the Lower CBD System fits within the Authority's statutory authorities and all lands can be acquired by the Authority within the Project's schedule requirements.
- Terms of an agreement for usage of the Knights Landing Outfall Gates (KLOG) and Wallace Weir between DWR (the owner/operator) and Sites.
 - Wallace Weir - Initially, it was thought that terms would be needed for the operation of Wallace Weir solely for the release of the State's Sites Water for environmental purposes into the Yolo Bypass. The California Department of Fish and Wildlife has since determined that flowing Sites water through the Yolo Bypass would not serve an ecosystem public benefit as initially conceived.

Therefore, all Sites water releases to the Sacramento River will occur through the KLOG.

- KLOG – A term sheet has been executed with DWR (approved by the RC/AB in March 2025 (Attachment C)). The executed term sheet represents a firm commitment by Sites Project Authority and Department of Water Resources to work collaboratively through remaining issues as framed in the terms and principles of the term sheet. There will need to be a final agreement reached prior to start of operations.

Recently, Participants have expressed an interest in better understanding the Project's use of the Lower CBD System. A draft of some frequently asked questions (Attachment D) from Participants has been developed and will be updated in the coming months. Staff will bring a review of several construction and operations considerations to the Operations and Engineering Workgroup and the RC/AB prior to the start of investor commitment and to be incorporated into the Program Baseline report, including:

- Review of new and existing facilities and right-of-way processes.
- Review of agency jurisdictions.
- A more refined hydraulic analysis to more closely evaluate the capacity of the Lower CBD System to convey Sites Water and how water surface elevations and adjacent properties might be affected.
- Confirmation that cost of CBD/KLOG improvements and Operations, Maintenance & Replacement responsibilities are sufficiently represented in the Total Project Cost Estimate.

Prior Action:

January 2024: Reviewed and commented on the Lower Colusa Basin Drain System's list of potential long-term agreements and related near-term actions to support the Benefits and Obligations Contract development process.

Fiscal Impact/Funding Source:

There are sufficient funds in the Amendment 3 work plan to pay the costs related to this effort. It is expected that the expenditure of funds will run through the end of the Amendment 3 Work Plan, currently December 31, 2025.

Staff Contact: JP Robinette

Primary Service Provider: Brown & Caldwell/HDR

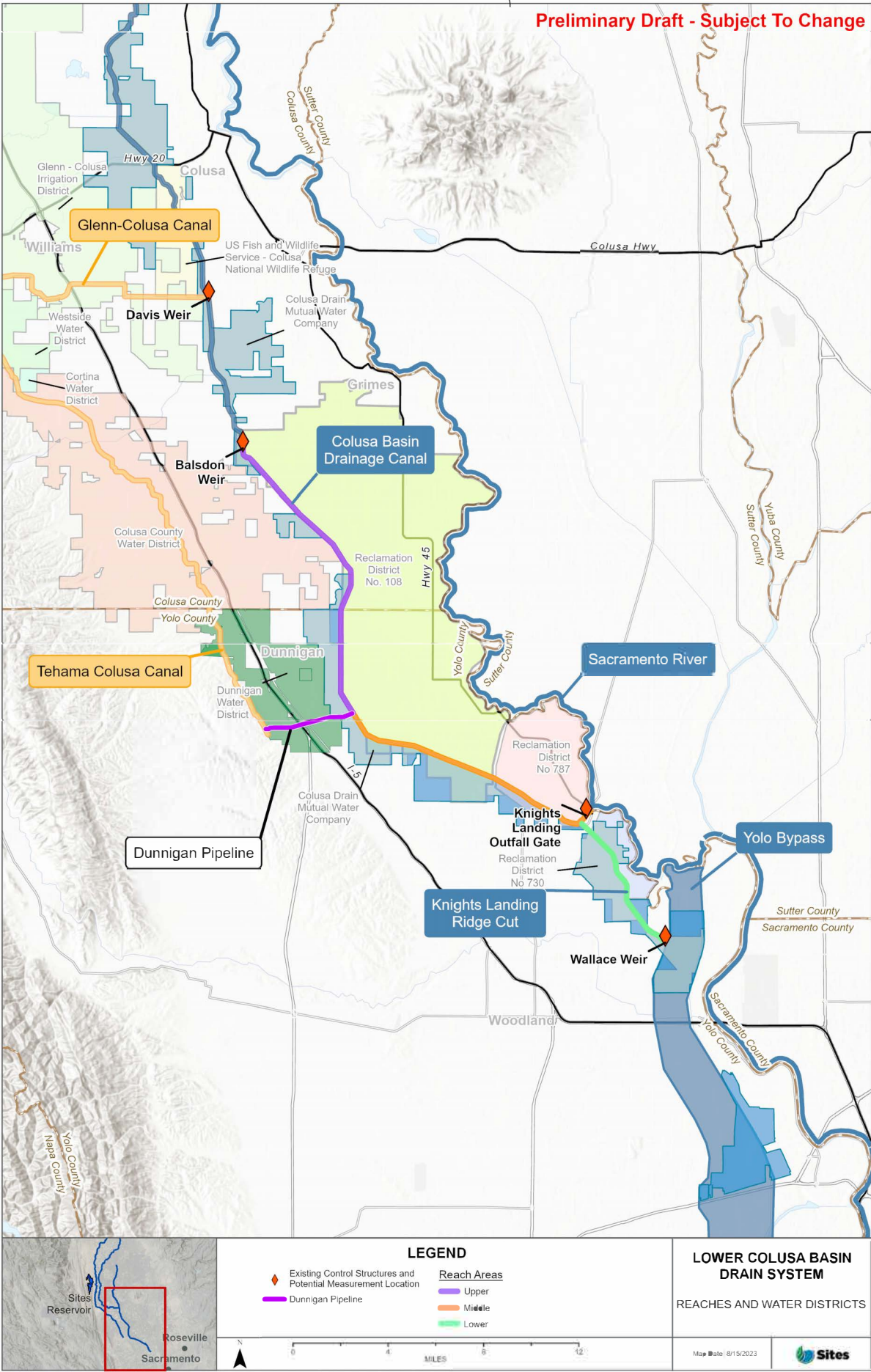
Attachment:

Attachment A: Map of Lower Colusa Basin Drain System

Attachment B: Resolution 2023-01 Principles of Use of the Lower Colusa Basin Drain System

Attachment C: KLOG term sheet

Attachment D: DRAFT Frequently Asked Questions – Downstream Facility Considerations





**BEFORE THE BOARD OF DIRECTORS AND RESERVOIR COMMITTEE OF THE
SITES PROJECT AUTHORITY**

Resolution No. 2023-01

IN THE MATTER OF:

**RESOLUTION ADOPTING PRINCIPLES ESTABLISHING GUIDELINES FOR THE SITES PROJECT'S USE OF THE
LOWER COLUSA BASIN DRAIN (CBD) SYSTEM.**

WHEREAS, this Board has reviewed and determined that the principles, as outlined below, are aligned with the Authority's core values.

- **Existing operation and uses of the Lower CBD System:**
 - The Sites Authority will limit its operations to confine any and all potential effects to be within the geographical and operational extent defined as the Lower CBD System.
 - The Sites Authority acknowledges the priority of the existing operations and uses of the CBD and will avoid impacts to such existing users, unless mutually agreed to otherwise by affected parties and the Sites Authority. These commitments will be memorialized in future agreements.
- **Partnership with local partners:**
 - The Sites Authority will closely coordinate its Project engineering analysis and development with the local agencies with jurisdiction over the Lower CBD System. The Sites Authority values the knowledge, experience, and expertise of the local agencies with jurisdiction to inform Project planning and decisions.
 - The Sites Authority wishes to work cooperatively with the local agencies with jurisdiction to leverage the Project's investments in the Lower CBD System to the benefit of existing users of the Lower CBD System where feasible and cost-effective to the Project to do so. The Project operates under the beneficiary pays principle.
 - If desired by the local agencies with jurisdiction, the Sites Authority commits to providing a leadership role in the organizing and capacity building that would lead to betterment of the Lower CBD System in the long term.
- **Water rights and water accounting:**
 - The Sites Authority commits to, at all times, respect senior water rights in the watersheds affected by Project operations.
 - The Sites Authority will develop a Measurement and Monitoring Plan for Sites Reservoir Project water diversions and releases. Such Project-related data collection will be transparent and accessible to local agencies with jurisdiction.

Should there be any monitoring or reporting required by outside agencies on the Project for information not within the control of the Sites Authority, the local agency with jurisdiction will be consulted.

- **Maintenance and capital improvements:**

- The Sites Authority will contribute its fair and reasonable cost share in the future maintenance and improvement of infrastructure within the Lower CBD System proportional to the benefits received by Project.

NOW THEREFORE BE IT RESOLVED, by the Board of Directors of the Sites Project Authority as follows:

1. The Board has reviewed the Principles Establishing Guidelines for the Sites Project's Use of the Lower Colusa Basin Drain System, and approves of the same.
2. Authority staff and consultants are directed to adhere to the guidelines outlined in the Principles during engagement with other entities and landowners within the Lower Colusa Basin Drain System and in the forming of agreements with other parties as needed.

PASSED, APPROVED, AND ADOPTED by the Board of Directors of the Sites Project Authority this **22 of September 2023** by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

I, Fritz Durst, Chair of the Authority Board of the Sites Project Authority, do hereby certify that the resolution set forth above is a true and accurate copy of the resolution of the Sites Project Authority at a duly called meeting of the Board on the **22nd of September 2023** and that said resolution has not been rescinded, amended, or modified and is in full force and effect as of the date hereof.

In witness whereof, I have executed this certificate this 22nd of September 2023.



Fritz Durst, Authority Board Chair

ATTESTED



Valerie Pryor, Reservoir Committee Chair



Terri Boland, Board Clerk

Term Sheet for the Knights Landing Outfall Gates Operations Agreement

(version March 19, 2025)

Preamble

The purpose of this document is to establish a Term Sheet as a step towards the development of an Operations Agreement for the Knights Landing Outfall Gates (KLOG) between the Sites Project Authority Joint Powers Authority (Sites Authority) and the California Department of Water Resources (DWR) ("Operations Agreement"). The Sites Authority and DWR are herein collectively referred to as "Parties". The use of the Lower Colusa Basin Drain (CBD) System by the Sites Reservoir Project (Project) to convey Sites Reservoir releases to the Sacramento River will affect operations of KLOG by DWR. Along with Wallace Weir, the KLOG, which is located approximately one-quarter mile upstream from the CBD's confluence with the Sacramento River, regulates the water surface elevation in the Lower CBD System and the distribution of flows directly to the Sacramento River from the CBD and flows to Knights Landing Ridge Cut (KLRC). KLOG and Wallace Weir have coordinated operations. The Operations Agreement referenced herein will set forth terms for the Project's use of the KLOG. An Operations Agreement may similarly be developed for the Project's use of Wallace Weir, if needed.

There are several issues that still need to be discussed and resolved to develop a full and complete Operations Agreement; however, the Parties agree that this document represents their mutual understanding of the terms and principles to guide those continuing discussions. The Parties agree to work cooperatively and in good faith to incorporate and adjust the terms and principles outlined herein in the negotiation, execution, and implementation of an Operations Agreement on terms mutually acceptable to the Parties.

Terms and Principles for the Development of the KLOG Operations Agreement

Delivering the benefits of the Project requires the use of the Lower CBD System and coordinated Sites Authority and DWR operations of the KLOG. The terms and principles for the development of the Operations Agreement for such coordinated operations are presented below. These terms and principles are consistent with the Sites Authority's Resolution No. 2023-01, *Resolution Adopting Principles Establishing Guidelines for the Sites Project's Use of the Lower Colusa Basin Drain (CBD) System*, adopted on September 22, 2023.

1. Operation of the Project and use of KLOG will not negatively impact DWR's flood protection operations and ability to meet existing legal and regulatory obligations.
2. The Parties will work cooperatively to allow DWR to continue to meet the terms of the Hershey Agreement between the Hershey Family¹ and Sacramento and San Joaquin Drainage District dated July 17, 1937 ("Hershey Agreement"), which requires DWR to maintain local landowners' access to irrigation water from the KLRC. If needed to accommodate the Project's use of KLOG, the Parties will work cooperatively with the local landowners and DWR to reach agreement on amendment/s to the Hershey Agreement.


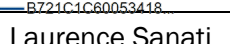
¹Identified as Cornelia A. Hersey, Davidella Hershey, Grace H. Hershey, D.N.Hershey, and Florence F. Hershey in the Hershey Agreement.

3. The Parties will agree on needed engineering analysis and other studies to inform DWR's evaluation of the impacts of the Project's use of KLOG. The Sites Authority will be responsible for the costs of such reasonable engineering analysis and studies, unless mutually agreed upon otherwise by the Parties.
4. The Sites Authority will work cooperatively with DWR, local agencies with jurisdiction, and landowners adjacent to the Lower CBD System to leverage the Project's use of the Lower CBD System to the benefit of existing users of the Lower CBD System where feasible and cost-effective for the Project to do so. The Project operates under the "Beneficiary Pays Principle," the principle for allocating all costs associated with delivering certain Project benefits, including public and non-public benefits, to the party receiving such benefits.
5. The Parties will work towards the development of coordinated and optimized operations of DWR's flood operations, local landowners' irrigation and drainage activities, and conveyance of Sites Reservoir releases. The Parties and Lower CBD System users will coordinate annually on the Project's releases to the Lower CBD System and KLOG, planned maintenance windows, and KLOG downtime, in accordance with the Sites Operations Plan.
6. The Parties will work cooperatively to evaluate DWR's ability to delegate operation of KLOG to the Sites Authority outside of the flood season, when the Project is conveying water for water supply and/or environmental benefits. This evaluation will consider the allocation of roles and responsibilities between DWR and the Sites Authority if DWR delegates operations to the Sites Authority.
7. The Sites Authority will develop a plan for Sites Reservoir Project water diversions and releases in accordance with the Sites Operations Plan, which will support proper accounting of Sites Reservoir releases to the CBD. Such Project-related data collection will be transparent and reasonably accessible to DWR and local agencies with jurisdiction.
8. At this time, only stage or water level is measured on the CBD at Knights Landing and on the Sacramento River at Knights Landing. The Parties will develop a method of flow measurement to measure and verify the flow rate and volume of Sites Releases conveyed to the Sacramento River.
9. The Sites Authority and DWR will work collaboratively to ensure compliance with the relevant regulatory processes, to avoid impacting KLOG's existing authorized use, and to garner support from all parties responsible for operating or maintaining KLOG facilities.

SITES PROJECT JOINT POWERS AUTHORITY

Signed by:  3/21/2025
 By: 
 Name: Jerry Brown
 Title: Executive Director

STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES

DocuSigned by:  3/21/2025
 By: 
 Name: Laurence Sanati
 Title: Manager, Division of Flood Operations

DRAFT Frequently Asked Questions – Downstream Facility Considerations
(As of September 11, 2025)

Q1: What is the estimated capital cost of the downstream facilities?

A1: Capital costs are estimated at \$291.4 million in 2024 dollars, plus mitigation costs, of about \$90 million (in 2024 dollars), equal to approximately 10% of total mitigation costs. These costs are included in the updated total project cost estimates (\$6.2-6.8 billion) shared with the Authority in June, 2025.

Q2: What are the estimated operation and maintenance costs of the downstream facilities?

A2: Fixed O&M for downstream facilities is estimated at \$12,000 per year and will escalate over time. Wheeling costs are estimated at approximately \$5-15 per acre-foot for the use of the Tehama-Colusa Canal downstream of the Project, representing a combination of fixed and variable O&M costs of the Tehama-Colusa Canal Authority.. This estimate does not include rep costs, which are not anticipated for approximately 30 years. The Tehama-Colusa Canal was oversized by Reclamation to serve counties to the south of the existing terminus. Reclamation has proposed in their Public Draft Partnership Agreement they be credited for making this capacity available as an “Authorized Deferred Use”. This appears to be a “buy-in” component and is not included in any of the Authority’s estimates. OM&R costs for the Lower Colusa Basin Drain System (e.g. reaches of the Colusa Basin Drain, KLOG) will need to be evaluated as existing and future OM&R responsibilities and needs are assessed with the help of RD108 through the Cooperative Agreement.

Q3: What is the proposed allocation of the conveyance capacity in the downstream facilities?

A3: In the current financial model, capital and fixed O&M costs are allocated only to those agencies that require downstream capacity, in proportion to their base capacity share. Mathematically, the lowest downstream capacity to which a downstream Participant would receive priority usage rights would be equal to their base Capacity Interest. The current draft Operations Plan describes downstream capacity holders receiving first priority to use this capacity and allows for those without downstream capacity to pay to use the facilities on a second priority basis. This topic is still under discussion among Participants as one of the open items to resolve in the final draft of the Benefits and Obligations Contract.

Q4: What is the estimated conveyance capacity of the outlet facilities to Funks Reservoir?

A4: The conveyance capacity of the outlet facilities from the Sites Reservoir to Funks Reservoir is 2,100 cfs.

Q5: What is the estimated conveyance capacity for Sites Water in the TC canal?



A5: The estimated conveyance capacity for Sites Water in the Tehama Colusa Canal is 2,200 cfs upstream of Funks Reservoir and 1,000 cfs downstream of Funks Reservoir.

Q6: What is the estimated conveyance capacity of the Dunnigan pipeline?

A6: Currently, 1,000 cfs is capable under gravity pressure. Additional capacity may be available with pumping, but pumping capacity is not part of the current design.

Q7: What is the estimated conveyance capacity for Sites Water in the Colusa Basin Drain?

A7: The estimated conveyance capacity for Sites Water in the Colusa Basin Drain (CBD) is 1,000 cfs from April through December with potential limitations in August, September, and November. Limitations are associated with existing usage and capacity, localized to a few segments, where the CBD west embankment height is inadequate to retain the combination of drainage/tailwater conditions (dependent on month and water year type) and 1,000 cfs of Sites Water within the channel.

Q8: Is there an opportunity to increase the conveyance capacity of the Downstream Facilities, if project participants were interested? If so, by how much? At what estimated cost?

A8: Discussion of additional capacity would occur in the value planning process and has not occurred to date. The 2020 Value Planning Report assumed 1,000 cfs for all alternatives that include the Lower Tehama-Colusa Canal and the Lower CBD System. Increasing capacity would involve an evaluation of the Lower Tehama-Colusa Canal capacity available during release months, the Dunnigan Pipeline, and the Lower CBD System. The Authority has previously described an option extending the Dunnigan Pipeline from the Colusa Basin Drain to the Sacramento River at a cost of around \$150-200M, but it was sized at 1,000 cfs and therefore did not increase the release capacity.

Q9: Any proposed upgrades to KLOG? When will DWR (or the Sites Authority) complete their evaluation of the KLOG facility?

A9: No upgrades have been proposed at this time, though it has been acknowledged that the infrastructure may need to be modified in the future. No costs have been included in the current estimate, but such upgrades could be considered part of a future contingency cost.