From: Arsenijevic, Jelica [jelica.arsenijevic@hdrinc.com]
Sent: 8/2/2023 2:44:10 PM
To: Luu, Henry [henry.luu@hdrinc.com]; Alicia Forsythe [aforsythe@sitesproject.org]; Kevin Spesert [kspesert@sitesproject.org]; Joe Trapasso [jtrapasso@sitesproject.org]; JP Robinette [jrobinette@sitesproject.org]; Spranza, John [john.spranza@hdrinc.com]; Laurie Warner Herson [laurie.warner.herson@phenixenv.com]; conner [conner@cmdwest.com]; Jeff Kivett [JKivett@BrwnCald.com]; Risse, Danielle [danielle.risse@hdrinc.com]
CC: Marcia Kivett [MKivett@sitesproject.org]; Boling, Robert M. [robert.boling@hdrinc.com]; Westcot, Cathy [Cathy.Westcot@hdrinc.com]; Tannourji, Danielle [Danielle.Tannourji@hdrinc.com]; Edwards, Dawn [Dawn.Edwards@hdrinc.com]
Subject: RE: Sites: Agent/Integration 2024/2025 Prioritization Coordination

Henry and team
Can you please describe what you mean by southern access road? This was not discussed during Mondays call nor reflected in the excel table we are all providing input for. As discussed Monday, we are not considering Dirks Road, etc. Our assumption is that the footprints are consistent with the EIR/EIS.

Jelica Arsenijevic
Environmental Project Manager

HDR
2379 Gateway Oaks Drive, Suite 200
Sacramento, CA 95833
D 916-679-8854
M 209-329-6897

Jelica.Arsenijevic@hdrinc.com

hdrinc.com/follow-us

From: Luu, Henry <Henry.Luu@hdrinc.com>
Sent: Wednesday, August 2, 2023 12:23 PM
To: Alicia Forsythe <aforsythe@sitesproject.org>; Arsenijevic, Jelica <jelica.arsenijevic@hdrinc.com>; Kevin Spesert <kspesert@sitesproject.org>; Joe Trapasso <jtrapasso@sitesproject.org>; JP Robinette <jrobinette@sitesproject.org>; Spranza, John <John.Spranza@hdrinc.com>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; conner <conner@cmdwest.com>; Jeff Kivett <JKivett@BrwnCald.com>; Risse, Danielle <danielle.risse@hdrinc.com>
Cc: Marcia Kivett <MKivett@sitesproject.org>; Boling, Robert M. <robert.boling@hdrinc.com>; Westcot, Cathy <Cathy.Westcot@hdrinc.com>; Tannourji, Danielle <Danielle.Tannourji@hdrinc.com>; Edwards, Dawn <Dawn.Edwards@hdrinc.com>
Subject: RE: Sites: Agent/Integration 2024/2025 Prioritization Coordination

Hi Ali,

I spoke with John, Laurie, Jelica, and we believe the disturbance footprints can be disseminated from data available on the Sites Hub. The areas of focus for 2024/2025 are:

- Golden Gate Dam
- Sites Dam (including the diversion structure around the northern abutment)
- A segment of Sites Lodoga Rd Realignment
  - From its southern connection at Maxwell Sites Road up to the shoofly/construction detour alignment
- Shoofly/construction detour
- Southern Construction Access Road

In addition to the above, a real estate need within this timeframe is demonstration of site exclusivity (CAISO requirement) for Funks (USBR) and TRR (Holthouse) project features:

5.4.3.1. General (What is Site Exclusivity?)

Site Exclusivity is defined in CAISO Tariff Appendix A as documentation reasonably demonstrating:

- For private sites;
  - Ownership of, a leasehold interest in, or a right to develop property upon which the Generating Facility will be located consisting of a minimum of 50% of the acreage reasonably necessary to accommodate the Generating Facility; or
  - An option to purchase or acquire a leasehold interest in property upon which the Generating Facility will be located consisting of a minimum of 50% of the acreage reasonably necessary to accommodate the Generating Facility.
- For public sites, including that controlled or managed by any federal, state or local agency, a permit, license, other right, or pending application prescribed by the relevant authority, to use the property for the purpose of generating electric power and in acreage reasonably necessary to accommodate the Generating Facility..

I'm happy to jump on a call to help clarify any of the above.
Thanks,

Henry H. Luu, PE
D 916.679.8857 M 916.754.7566

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From: Alicia Forsythe <aforsythe@sitesproject.org>
Sent: Tuesday, August 1, 2023 10:48 AM
To: Luu, Henry <Henry.Luu@hdrinc.com>; Arsenijevic, Jelica <jelica.arsenijevic@hdrinc.com>; Kevin Spesert <kspesert@sitesproject.org>; Joe Trapasso <jtrapasso@sitesproject.org>; JP Robinette <jrobinette@sitesproject.org>; Spranza, John <john.spranza@hdrinc.com>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; conner <conner@cmdwest.com>; Jeff Kivett <JKivett@BrwnCald.com>; Risse, Danielle <danielle.risse@hdrinc.com>
Cc: Marcia Kivett <MKivett@sitesproject.org>; Boling, Robert M. <robert.boling@hdrinc.com>; Westcot, Cathy <Cathy.Westcot@hdrinc.com>; Tannourji, Danielle <Danielle.Tannourji@hdrinc.com>; Edwards, Dawn <Dawn.Edwards@hdrinc.com>
Subject: RE: Sites: Agent/Integration 2024/2025 Prioritization Coordination

Henry – to calculate some of this, we need disturbance footprints. Do we have these to use?

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Luu, Henry <Henry.Luu@hdrinc.com>
Sent: Monday, July 31, 2023 1:50 PM
To: Arsenijevic, Jelica <jelica.arsenijevic@hdrinc.com>; Kevin Spesert <kspesert@sitesproject.org>; Joe Trapasso <jtrapasso@sitesproject.org>; Alicia Forsythe <aforsythe@sitesproject.org>; JP Robinette <jrobinette@sitesproject.org>; Spranza, John <john.spranza@hdrinc.com>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; conner <conner@cmdwest.com>; Jeff Kivett <JKivett@BrwnCald.com>; Risse, Danielle <danielle.risse@hdrinc.com>
Cc: Marcia Kivett <MKivett@sitesproject.org>; Boling, Robert M. <robert.boling@hdrinc.com>; Westcot, Cathy <Cathy.Westcot@hdrinc.com>; Tannourji, Danielle <Danielle.Tannourji@hdrinc.com>; Edwards, Dawn <Dawn.Edwards@hdrinc.com>
Subject: RE: Sites: Agent/Integration 2024/2025 Prioritization Coordination

Hi everyone,

The template for identifying must-have activities within A3 to accomplish priorities for meeting the Optimize (2031) Schedule is on SharePoint at FY23 Required Activities to Accomplish Optimized 2031 Schedule.xlsx; it is pre-populated with examples – feel free to edit. Please provide input by this Friday (8/4).

Thank you,
Henry H. Luu, PE
D 916.679.8857 M 916.754.7566

hdrinc.com/follow-us

-----Original Appointment-----
From: Arsenijevic, Jelica <Jelica.Arsenijevic@hdrinc.com>
Sent: Thursday, July 6, 2023 10:58 AM
To: Arsenijevic, Jelica; Kevin Spesert; Joe Trapasso; Alicia Forsythe; JP Robinette; Spranza, John; Laurie Warner Herson; conner; Luu, Henry; Jeff Kivett; Risse, Danielle
Cc: Marcia Kivett; Boling, Robert M.; Westcot, Cathy; Tannourji, Danielle; Edwards, Dawn
Subject: Sites: Agent/Integration 2024/2025 Prioritization Coordination
When: Monday, July 31, 2023 10:00 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting; or Stone Corral Creek Conference RoOom

7/31 Update- for those at Gateway, we'll meet in the Stone Corral Conf. Room

Hey folks
As mentioned to a few of you, this meeting is intended for the agents and integration leads to sit down together (virtually) and talk through the agent identified priorities for 2024 and 2025. I think it'll be beneficial for all of us to have a common/collective understanding. Having everyone on the same page will make it easier to communicate to the service area providers, and in turn help all of us understand the schedule better. I am not sure if 2 hours is needed but scheduled it...just in case we do need the time.

Thanks for carving out time in you r busy schedules. Extra thanks to Marcia for checking calendars.

If I've missed anyone on this invite, please feel free to forward.

Microsoft Teams meeting

Join on your computer, mobile app or room device
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(833) 255-2803,,951682664# United States (Toll-free)
Phone Conference ID: 951 682 664#
Find a local number | Reset PIN

Learn More | Meeting options

Meeting:	**Sites Reservoir Committee's Environmental Planning and Permitting Workgroup**
Locations:	Maxwell Project Office, 122 Old Highway 99W, Maxwell, CA 95955 See below for alternate meeting locations.

Call in: **1-916-538-7066** Code: **209 737 511#** Click here to join the meeting

Workgroup Chair: Heather Dyer (SBVMWD)

Staff Lead: Ali Forsythe, Environmental Planning and Permitting Manager

AGENDA

Wednesday, August 9, 2023; 10:00 – 11:00 am

NO ACTION or DECISION WILL BE TAKEN

ROLL CALL & CALL TO ORDER:

- Introductions
- Period for Public Comment

Any person may speak about any subject of concern, provided it is within the Reservoir Committee's and Authority Board's jurisdiction, before speaking, you must submit a public comment card either electronically or on paper. The time allotted for receiving such public communication shall be 3 minutes per person. Note: No action shall be taken on comments made during this period.

1. Discussion and Information Items:

1.1 Review and comment on the public roll out process and Admin Record development for the Final EIR/EIS.

1.2 Review and comment on the approach for further developing the contracting strategy for terrestrial biological mitigation.

2. Environmental Planning and Permitting Manager's Report:

- Key Planning and Permitting Activities Report

3. Upcoming Meetings:

Engineering and Operation Workgroup
Wednesday, August 9, 2023 – 1:30 to 3:30 pm

Joint Reservoir Committee and Authority Board
Friday, August 18, 2023 - 9:00 am to noon

Environmental Planning and Permitting Workgroup
Wednesday, October 11, 2023 - 10:00 to 11:00 am

Engineering and Operation Workgroup
Wednesday, October 11, 2023 – 1:30 to 3:30 pm

Virtual Information will be provided before all meetings at Sitesproject.org.

ADJOURN

ADA COMPLIANCE: Upon request, agendas will be made available in alternative formats to accommodate persons with disabilities. In addition, any person with a disability who requires a modification or accommodation to participate or attend this meeting may request necessary accommodation. Please make your request to the Board Clerk, specifying your disability, the format in which you would like to receive this Agenda and any other accommodation required no later than 24 hours before the start of the meeting.

Alternate Meeting Locations:

Glenn-Colusa Irrigation District, 344 East Laurel St, Willows, CA 95988

San Bernardino Valley Municipal WD, 380 E. Vanderbilt Way, San Bernardino, CA 92408

Coachella Valley Water District, 51501 Tyler Street, Coachella CA 92236

Reclamation District 108, 975 Wilson Bend Rd., Grimes, CA 95950

Wheeler Ridge-Maricopa Water Storage District, 12109 Hwy 166, Bakersfield, CA 93313

Sites Reservoir Project - 3 Month Look Ahead

Primary	Assigned To	Governing Body
August 2023		
Consent Items		Joint Authority Board & Reservoir Committee
Minutes		Joint Authority Board & Reservoir Committee
Treasurer's Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Payment of Claims	Joe Trapasso	Joint Authority Board & Reservoir Committee
2nd Quarter 2023 Financial Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Amend Contract with BGT Consulting to increase contract authority	Jerry Brown	Joint Authority Board & Reservoir Committee
Approve supplemental Fire Prevention Services for summer/fall Geotech activities per TROE Requirements	Joe Trapasso, Kevin Spesert	Joint Authority Board & Reservoir Committee
Action Items		Joint Authority Board & Reservoir Committee
Facility Partner Cooperative Agreement with RD 108	JP Robinette	Joint Authority Board & Reservoir Committee
Discussion and Informational Items		Joint Authority Board & Reservoir Committee
Final EIR/EIS - Public Roll Out Process and Admin Record	Ali Forsythe, Laurie Warner Herson	Joint Authority Board & Reservoir Committee
Biological Mitigation - Approach for Contracting	aforsythe@sitesproject.org	Joint Authority Board & Reservoir Committee
B&O - Overview of JPA/Bylaws	Jerry Brown	Joint Authority Board & Reservoir Committee
Conditions Precedent Reporting	Ali Forsythe, JP Robinette	Joint Authority Board & Reservoir Committee
Monthly Reporting (Monthly Status Report, Work Plan, Action Items)	All	Joint Authority Board & Reservoir Committee
Closed Session		Joint Authority Board & Reservoir Committee
Committees/Workgroups		
Comms Team Update	Kevin Spesert	Legislative & Outreach Committee
Federal/State Legislative Update	Kevin Spesert	Legislative & Outreach Committee
Final EIR/EIS - Public Roll Out Process and Admin Record	Ali Forsythe, Laurie Warner Herson	Legislative & Outreach Committee
Approve supplemental Fire Prevention Services for summer/fall Geotech activities per TROE Requirements	Joe Trapasso	Land Management Committee
WIFIA Ad Hoc Subcommittee discussion of comments on Draft 1 of Benefits & Obligations Contract	JP Robinette	WIFIA Ad Hoc Subcommittee
Payment of Claims	Joe Trapasso	Budget & Finance Committee
2nd Quarter 2023 Financial Report	Joe Trapasso	Budget & Finance Committee
Amend Contract with BGT Consulting to increase contract authority	Jerry Brown	Budget & Finance Committee
Procurement Strategy, principles of how the Sites Authority will manage design, construction, and operations	Cheyanne Harris, Jeffrey Kivett, JP Robinette	Reservoir Operations & Engineering Workgroup
Update on TRR sizing and considerations	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Landowner Meetings - Maxwell & Dunnigan	Kevin Spesert	
Final EIR/EIS - Public Roll Out Process and Admin Record	Ali Forsythe, Laurie Warner Herson	Environmental Planning & Permitting Workgroup
Biological Mitigation - Approach for Contracting	aforsythe@sitesproject.org	Environmental Planning & Permitting Workgroup
September 2023		
Consent Items		Joint Authority Board & Reservoir Committee
Minutes		Joint Authority Board & Reservoir Committee
Treasurer's Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Payment of Claims	Joe Trapasso	Joint Authority Board & Reservoir Committee
Action Items		Joint Authority Board & Reservoir Committee
Adopt commitments of the Sites Authority with regards to the Sites Project's use of Lower Colusa Basin Drain and Knights Landing Ridge Cut (Lower CBD System) including map of geographical/jurisdiction extents of Lower CBD System	JP Robinette	Joint Authority Board & Reservoir Committee
Discussion and Informational Items		Joint Authority Board & Reservoir Committee
Final EIR/EIS - Final Process and Prep for October Adoption	Ali Forsythe, Laurie Warner Herson	Joint Authority Board & Reservoir Committee

Primary	Assigned To	Governing Body
Placeholder: Discuss approach to manage Phases 3/4/5 to coordinate with Procurement Strategy	Cheyanne Harris, Jeffrey Kivett, Joe Trapasso, JP Robinette	Joint Authority Board & Reservoir Committee
Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserve	Joe Trapasso, Marcus Maltby	Joint Authority Board & Reservoir Committee
Placeholder - Draft 2 of Benefits & Obligations Contract including updated JPA and Bylaws	JP Robinette	Joint Authority Board & Reservoir Committee
Monthly Reporting (Monthly Status Report, Work Plan, Action Items)	All	Joint Authority Board & Reservoir Committee
Closed Session		Joint Authority Board & Reservoir Committee
Committees/Workgroups		
Follow-up on Land owner meeting	Kevin Spesert	Land Management Committee
Conveyance Ad Hoc Subcommittee	JP Robinette	Conveyance Ad Hoc Subcommittee
Payment of Claims	Joe Trapasso	Budget & Finance Committee
Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserve	Joe Trapasso, Marcus Maltby	Budget & Finance Committee
Placeholder: Investment Procedure	Brian Thomas	Budget & Finance Committee
Placeholder: Communicate overall project schedule	Henry Luu, Jeffrey Kivett, JP Robinette	Reservoir Operations & Engineering Workgroup
No EPP Workgroup This Month		
Local Community Working Group (Bi-Monthly)	Kevin Spesert	
October 2023		
Consent Items		Joint Authority Board & Reservoir Committee
Minutes		Joint Authority Board & Reservoir Committee
Treasurer's Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Payment of Claims	Joe Trapasso	Joint Authority Board & Reservoir Committee
Action Items		Joint Authority Board & Reservoir Committee
Placeholder: Contract for Owner's Advisor, Controller	Brian Thomas, Joe Trapasso	Joint Authority Board & Reservoir Committee
Final EIR/EIS - Approval of Project	Ali Forsythe, Laurie Warner Herson	Joint Authority Board & Reservoir Committee
Placeholder: Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserve	Joe Trapasso, Marcus Maltby	Joint Authority Board & Reservoir Committee
Approve 2024 Authority Board and Reservoir Committee Meeting Calendar	Jerry Brown	Joint Authority Board & Reservoir Committee
Discussion and Informational Items		Joint Authority Board & Reservoir Committee
Placeholder - Lower Colusa Basin Drain System Initial Assessment	JP Robinette	Joint Authority Board & Reservoir Committee
Clean Water Act 404 and 401 Permit Applications	Ali Forsythe, Jelica Arsenijevic	Joint Authority Board & Reservoir Committee
Section 106 - Cultural Resources Status Update	Ali Forsythe	Joint Authority Board & Reservoir Committee
Monthly Reporting (Monthly Status Report, Work Plan, Action Items)	All	Joint Authority Board & Reservoir Committee
Closed Session		Joint Authority Board & Reservoir Committee
ED Performance Evaluation	Jerry Brown	Joint Authority Board & Reservoir Committee
Committees/Workgroups		
Governance Ad Hoc Committee Meeting October 4	Jerry Brown	Governance Ad Hoc Committee
Placeholder: WIFIA Ad Hoc Subcommittee discussion of comments on Draft 2 of Benefits & Obligations Contract	JP Robinette	WIFIA Ad Hoc Subcommittee
Informational Report out from WIFIA Ad Hoc Subcommittee meeting	JP Robinette	Budget & Finance Committee
Payment of Claims	Joe Trapasso	Budget & Finance Committee
Placeholder: Contract for Owner's Advisor, Controller	Brian Thomas, Joe Trapasso	Budget & Finance Committee
Placeholder: Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserv	Joe Trapasso, Marcus Maltby	Budget & Finance Committee
Consider re-prioritization of Amendment 3 Engineering activities	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Review Dunnigan Pipeline design and CBD considerations	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Review Southern Construction Access Road considerations	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Placeholder: Consider alternative Reservoir Emergency Drawdown flow allocation	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Final EIR/EIS - Approval of Project	Ali Forsythe, Laurie Warner Herson	Environmental Planning & Permitting Workgroup

Primary	Assigned To	Governing Body
Clean Water Act 404 and 401 Permit Applications	Ali Forsythe, Jelica Arsenijevic	Environmental Planning & Permitting Workgroup
Section 106 - Cultural Resources Status Update	Ali Forsythe	Environmental Planning & Permitting Workgroup
Governance Adhoc	Jerry Brown	Joint Authority Board & Reservoir Committee
Local Community Working Group (Bi-Monthly)	Kevin Spesert	

Meeting: **Sites Reservoir Committee Operations & Engineering Workgroup**

Locations: Maxwell Project Office, 122 Old Highway 99W, Maxwell, CA 95955
See below for alternate meeting locations.

Call in: **1-213-379-5743** Code: **223 227 280#** Click here to join the meeting

Workgroup Chair: Robert Kunde (Wheeler Ridge Maricopa WSD)

Workgroup Vice Chair: Mike Azevedo (Colusa County)

Staff Lead: JP Robinette (Engineering & Construction Manager)

AGENDA

Wednesday, August 9, 2023, 1:30 – 3:30 pm

NO ACTION or DECISION WILL BE TAKEN

ROLL CALL & CALL TO ORDER:

- Introductions
- Period for Public Comment

Any person may speak about any subject of concern, provided it is within the Reservoir Committee's and Authority Board's jurisdiction, before speaking, you must submit a public comment card either electronically or on paper. The time allotted for receiving such public communication shall be 3 minutes per person. Note: No action shall be taken on comments made during this period.

1. Discussion and Information Items:

1.1 Review Procurement Strategy Principles regarding the management of design, construction, and operations. Review approach to procurement and contracting with the Reservoir Package Construction Manager at Risk.

1.2 Review update on the Terminal Regulating Reservoir (TRR) sizing and considerations.

2. Engineering and Construction Manager's Report:

- Suggestions for future agenda items.
- Possible September 2023 special meeting on Project Schedule.
- Cal ISO application status.
- DSOD engagement.

3. Upcoming Meetings:

Joint Reservoir Committee and Authority Board
Friday, August 18, 2023 - 9:00 am to noon

Environmental Planning and Permitting Workgroup
Wednesday, October 11, 2023 - 10:00 to 11:00 am

Operations & Engineering Workgroup
Wednesday, October 11, 2023 – 1:30 to 3:30 pm

Virtual Information will be provided before all meetings at Sitesproject.org.

ADJOURN

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Alternate Meeting Locations:

Coachella Valley Water District, 51501 Tyler Street, Coachella, CA 92236

Glenn-Colusa Irrigation District, 344 East Laurel Street, Willows, CA 95988

Metropolitan Water District, 700 North Alameda Street, Los Angeles, CA 90012

Reclamation District 108/Dunnigan WD, 975 Wilson Bend Road, Grimes, CA 95950

San Bernardino Valley Municipal WD, 380 E. Vanderbuilt Way, San Bernardino, CA 92408

Wheeler Ridge-Maricopa Water Storage District, 12109 Hwy 166, Bakersfield, CA 93313

Westside Water District, 5005 State Hwy 20, Williams, CA 95987

Santa Clarita Valley Water Agency, 27235 Bouquet Canyon Road, Santa Clarita, CA 91551
Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, CA 94551

Sites Reservoir Project
Colusa-Glenn Landowner Meeting
8.16.22

Questions & Comments

- Can you point out old town of Sites?
- I presume you'll pay back the federal loans by water usage?
- What kind of price will you put on the water? ($720/AF)
- Can the individual property owners (participants) retain water rights? (this will be something subject to negotiation)
- Governor Newsom is talking about a pipeline under Delta? Won't that affect this project? Isn't it the same water? You're going to be fighting for the same water. (Delta tunnel relying on existing water rights; Sites would be a new water right based upon all other requirements/water rights being met; Sites is independent of what's happening with tunnel)
- But you're only going to dam up 1.5 AF? (size of reservoir not actually a function of how much water we can produce; divert up to 300K AF; will take 5 years to fill it)
- Does anyone get any compensation for storm runoff that doesn't go into reservoir? (Yes, the county and Sites have entered into MOU and water will remain within the counties)
- How big is this going to be compared to Oroville and Shasta? (7th largest in state))
- The first thing you need to do is put fences up around where you're going to be working. (concerns with interaction with cattle; won't be starting that until late 2024); can't just leave gates open (all of this work will be coordinated with landowners; develop a work plan to avoid your operations as much as possible)
- If you go in and tear up things for the dams and you quit, will you go back in and restore it? (getting ahead to construction; authority would restore areas impacted by construction)
- You guys will replace fences? Have you decided if 100 foot is still the setback? (assumption in EIR, but will be determined on a property by property basis and we're flexible; Oroville is on-stream, so the setback requirements are different)
- Is there going to be recreation, like paid boating? Revenue from recreation? (preliminary plans include two boat ramps, but still a lot of planning to be done)
- Will East Park Reservoir be a part of this? (no, it's separate)
- Construction starts in 2024, but it won't be up and running for six years? (correct)
- All these kids come down from Ladoga. If you start construction on dams before you build a bridge, that's a problem. (One of the first activities is the roadwork; make sure we maintain that connectivity, and it's sequenced first in our schedule)
- Does it make any sense…take $600M to build the bridge? Maybe you need to go south and build it in a narrower spot? (site picked is most cost effective and safest; looked at the South Road, but it was more expensive than that without mitigation; will use as much dirt and topography as we can)
- Regarding land acquisition process, when do you expect to start discussions/negotiations with landowners? Would this be an adverse condemnation so we can take advantage of tax benefits of 1034 exchange (gives you three years to find alternate property, instead of 90 days with 1031)? (starting some conversations about option agreements with some critical properties; working with willing sellers; if you have an interest in being a willing seller, please let Kevin Spesert know that; Kevin willing to meet with landowners one-on-one to talk specifics about each property)

- Regarding the terminal reservoir, I'm assuming you'll have a pump station there with pipeline? Easement or fee parcel? (property owner would prefer easement so they can farm over the top of it; Board recently adopted TR West as preferred alternative)
- What is the size of the terminal reservoir? (40 acres)
- Pertaining to water rights holders downstream? How would those permits be filled during years Sites pulls water? (Sites can't take water until all other rights are first met)
- Assuming construction starts in 2024, you'll do all the land acquisition before then? (We could; that will be desirable, but not an absolute requirement because the project will be phased; roads, dams, the perimeter, fencing, etc)
- When are landowners going to have to sell? (these are the things we'll discuss with individual property owners as we move forward; acquisition will be 2-3 steps ahead of construction. Will need to identify long-lead parcels, like those requiring relocation; Authority would maintain property during construction; if we buy in 2024, but not constructing until 2029, there may be creative solutions that allow property owner or adjacent property owner use; safety is paramount, but flexibility is possible; would like to be done by 2025)
- Do you know where you're going to start in terms of property acquisition? (Bridge, roadwork)
- As far as size of reservoir, scale of S/M/L, where does this fit into that scale? (Medium size reservoir)
- Dams: are they regulated by state, or is it federal? (State will permit; Authority Board will be the owner/operator; offstream means we control ingress and egress of water and the only way we'll use the emergency spillway is if we forget to turn off the pumps)
- Will farmers get first dibs on water? (needs of Sac Valley watershed get met first; very expensive, and not everyone in CV can afford it, so we're rounding out with investors from elsewhere in the state)
- How is security of water ensured? How in 20 years from now can we guarantee that state won't take the water for health and safety? (absent Gov emergency powers, it will be completely under local control)
- Is percentage of water based on percentage of ownership? (each investor gets storage space and how they use the water in that space is up to them; this is a private reservoir, which is different than Oroville; state is project participant in Sites, so they get share of storage and pipeline, but state doesn't have authority to come in and reallocate shares)
- If we're in a drought year and you're releasing water, you'll be releasing through TC. How will anyone north of the canal get that water? (water transfers; release Sites water allowing hold on Shasta water; there are no participants upstream as of now)
- How much of this is going to LA? How much does MWD own? (22%) Are they the biggest participant? (Yes, but there are others; state is a large investor; we sought local participants first, but there was some sticker shock; without statewide participants we couldn't build this reservoir)
- What do you call this water, officially? Private, project, federal? (Sites water; independent of any other water. New, stand alone water right)
- Why is it called Golden Gate dam? (it's where all the sheep came out and went into the Valley in the 1800s)
- What's your mechanical ability to add water per day? (8K AF/day)

From: Alicia Forsythe [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A6CDF06A7E904B65BAA21702A82AD329-AFORSYTHE]
Sent: 8/7/2023 11:47:09 AM
To: Tom Stokely [tgstoked@gmail.com]; Seemann, Hank [HSeemann@co.humboldt.ca.us]
Subject: Sites Project - Catch Up

Tom and Hank – Thanks for the great catch up today. Below is the revised language that I shared on screen. I will circulate back after our Board meeting next Friday. If you think of any concerns or changes between now and then, please don't hesitate to reach out.

The Sites Project's diversions to storage under this Permit shall not include the diversion or rediversion of Trinity River water (water diverted by the Bureau of Reclamation from the Trinity River watershed into the Sacramento River watershed pursuant to its water rights) ~~unless the Trinity River water is abandoned in the Sacramento River and all other diversion criteria in this Permit are met~~.

Furthermore, the Sites Project's diversions to storage under this Permit shall not negatively impact current and future Trinity River obligations of the Bureau of Reclamation, including but not limited to those obligations specified in the 1959 Contract between the United States and Humboldt County, the Trinity River Mainstem Fishery Restoration Record of Decision, and the Long-Term Plan to Protect Adult Salmon in the Lower Klamath River, and related obligations in the Bureau of Reclamation's water right permits 11966, 11967, 11968, 11969, 11970, 11971, 11972, and 11973.

Hope you both have a great week!

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

Colusa Basin Drain Modeling Update

Meeting with Henry Luu & JP Robinette

August 4, 2023

Draft – Predecisional Working Document – For Discussion Purposes Only

Sites

Status Report

Pete Rude, Kyle Winslow and Jessie Hekl

Conveyance Engineering

Draft – Predecisional Working Document – For Discussion Purposes Only

Sites

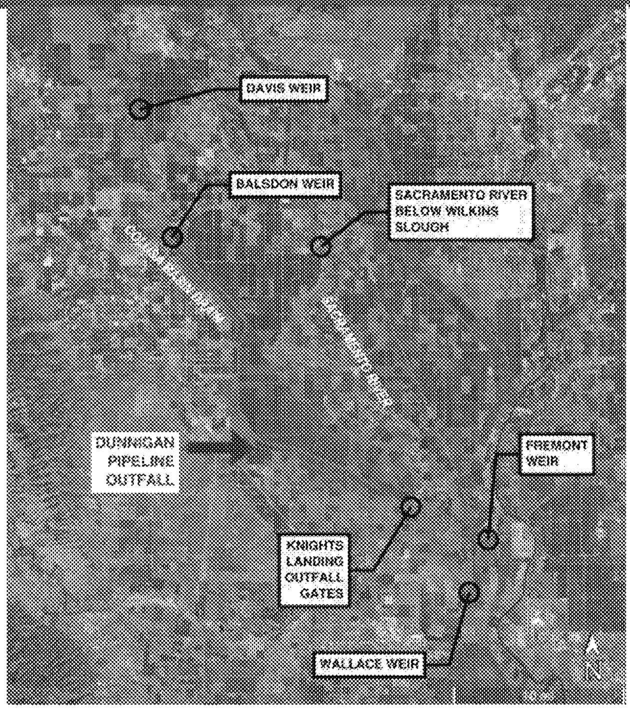
Agenda

1) CBD Modeling Objectives and Project Map
2) 2023 Modeling Update Summary
3) Preliminary Results of Historical vs. Project flows
4) Summary Slide for Public
5) Review of 2013 dry year and 2017 wet year results and seasonality
6) Next Steps

Sites

CBD Modeling Objectives

- Evaluate the effects on water surface elevations (WSE) in CBD caused by Sites release of up to 1,000 cfs using project operation estimates from the Daily Alt3 Simulation
- Understand potential release constraints, timing (seasonal) and operational effects on Sites releases
- Quantify increase in water level at increased flows to understand mitigation needs at critical points along the CBD

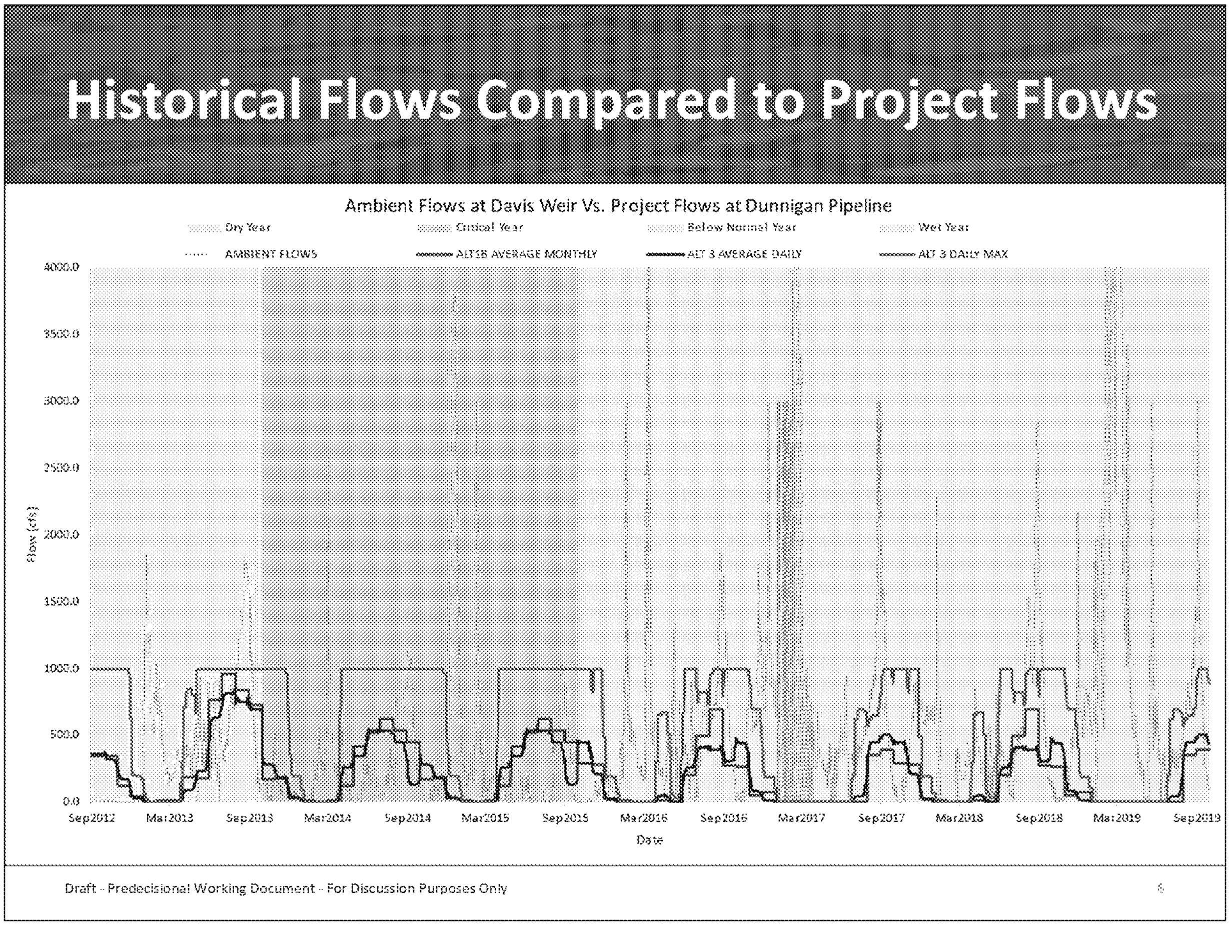


Updated JH – add mi posts

2023 CBD Modeling Update Summary

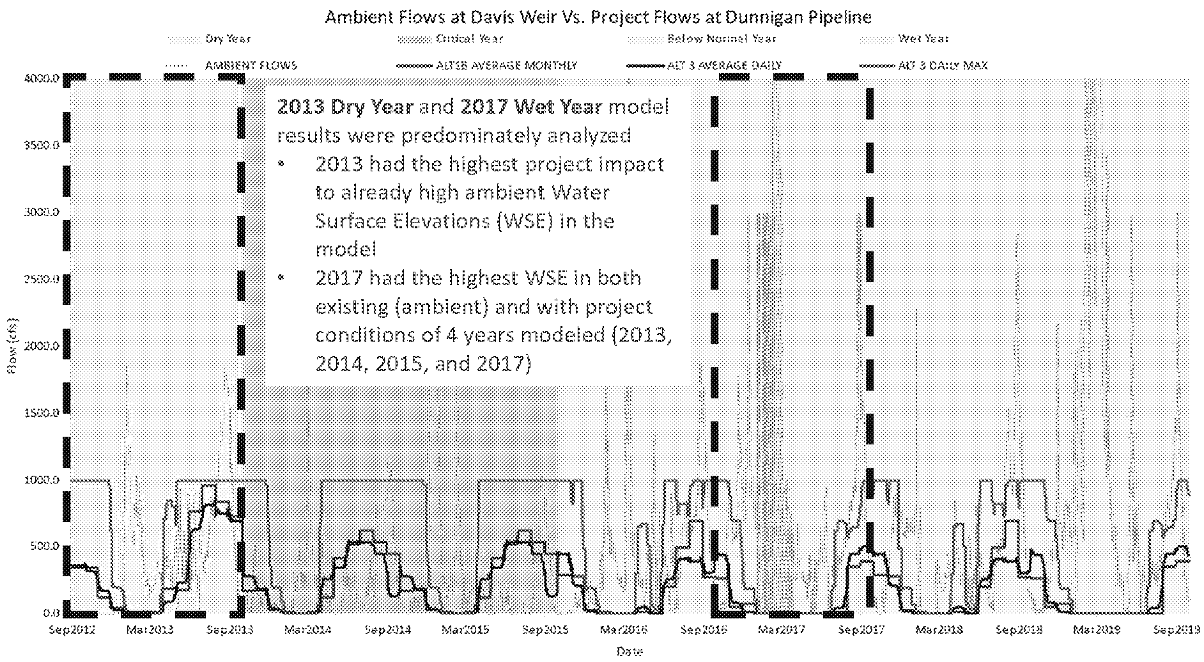
- Evaluated frequency of 1,000 cfs flow in Alt 3 (Final EIR/EIS June 2022) daily flows using Reservoir Daily Release Model
- Ran 2013, 2014, 2015, and 2017 simulations with Alt 3 daily average and max flows with bank mitigation from 2021 effort
- Focused analysis on project impact results for 2013 (Dry Year) and 2017 (Wet Year)
- Investigated low point locations of concern along west bank based on imagery and the terrain south of Balsdon Weir to KLOG

Updated JH – add mi posts



We are using flow from Davis Weir because that is where we have historical flow data from GCID. There may be other flow coming in between Davis Weir and Dunnigan that is not accounted for.

Historical Flows Compared to Project Flows



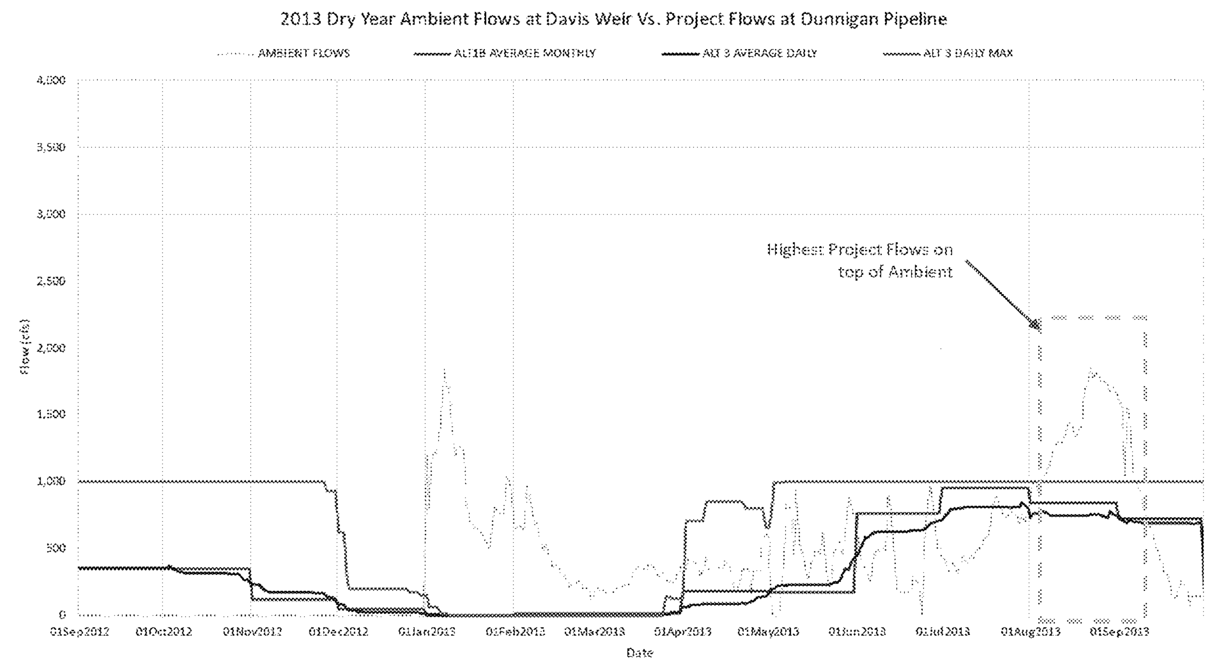
2013 Dry Year and **2017 Wet Year** model results were predominately analyzed

- 2013 had the highest project impact to already high ambient Water Surface Elevations (WSE) in the model
- 2017 had the highest WSE in both existing (ambient) and with project conditions of 4 years modeled (2013, 2014, 2015, and 2017)

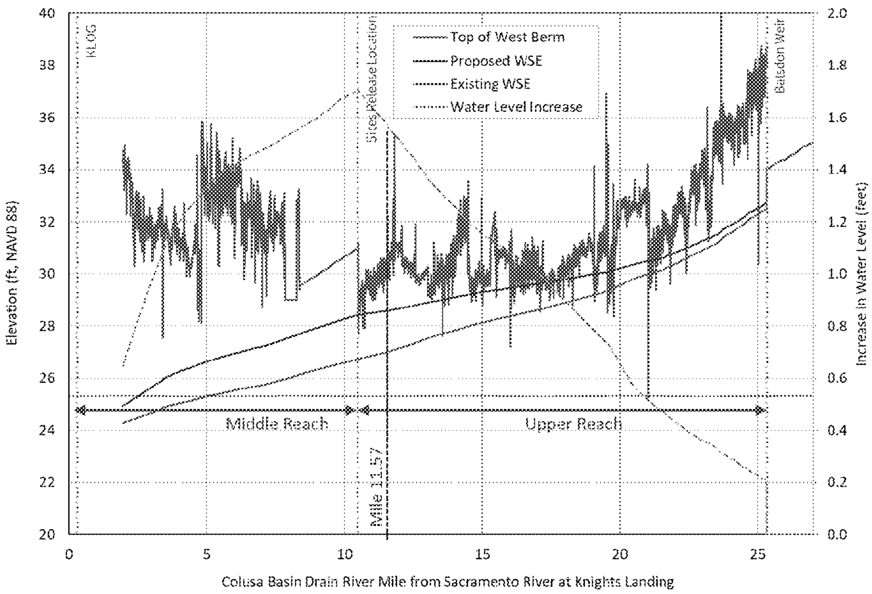
Summary Slide of Historical vs. Project Flows

1) Historically flows in the CBD peak in August-October when rice fields are draining, and during the winter months (Nov-April) when winter storms cause local flooding.
2) Project flows will generally vary from 100-1,000 cfs in April-December
3) If CBD is currently near or at flood stage, project flows will not occur.
4) Project flows will be controlled remotely and locally and can be stopped quickly from exiting the Dunnigan pipeline.

2013 (Dry Year)
Historical Flows Compared to Project Flows

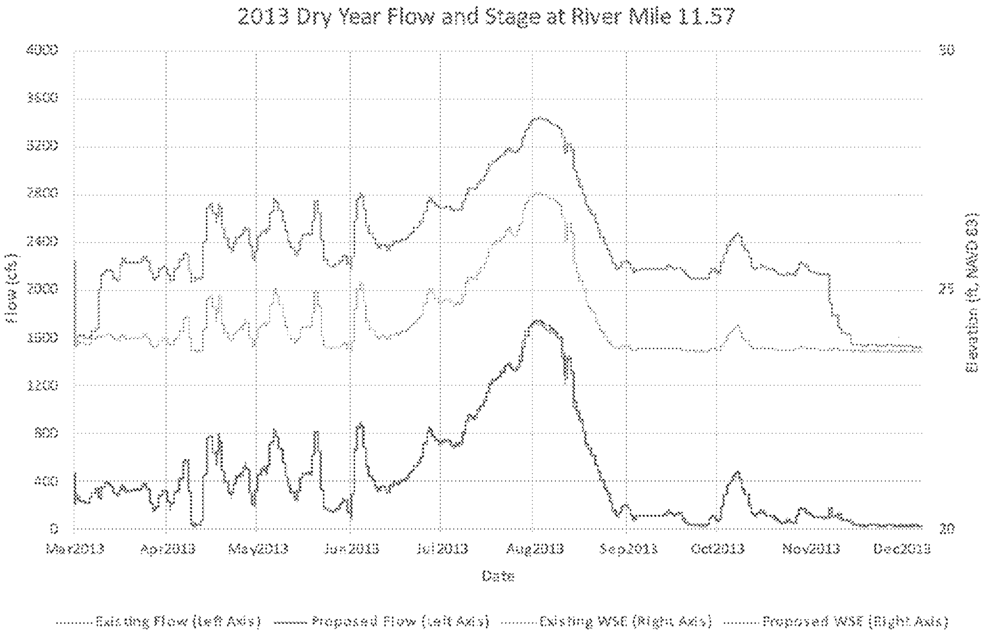


2013 (Dry Year)
Peak Water Surface Elevations on August 26 Compared to West Bank Crest Elevation

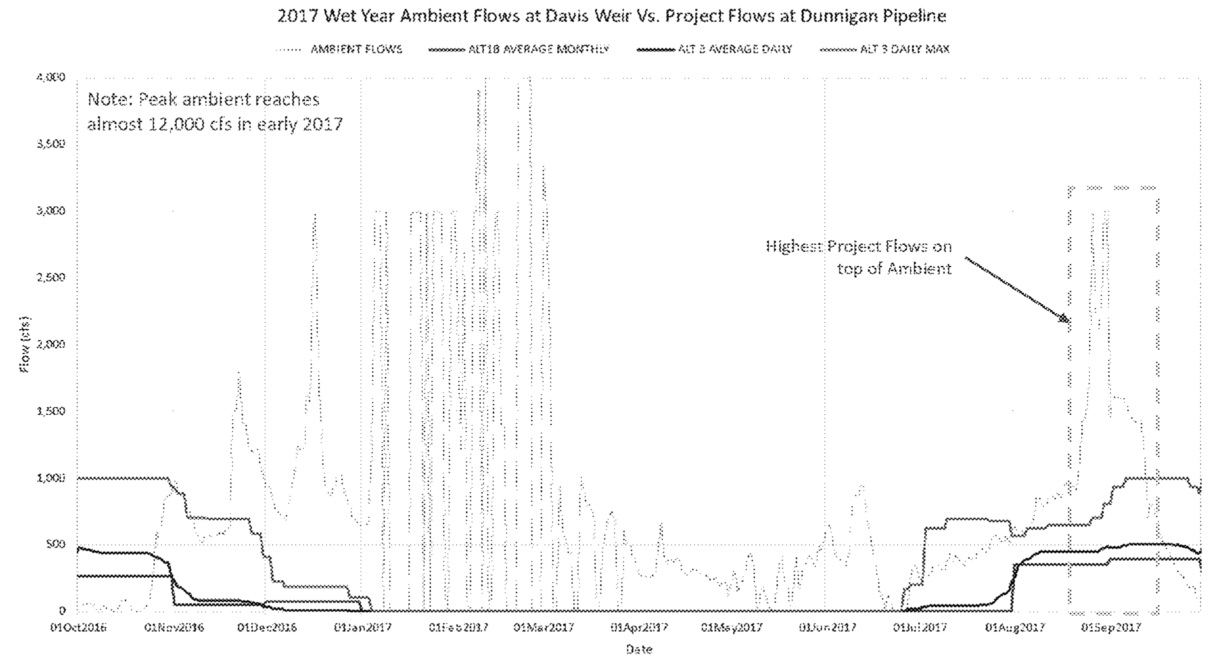


Draft - Predecisional Working Document - For Discussion Purposes Only

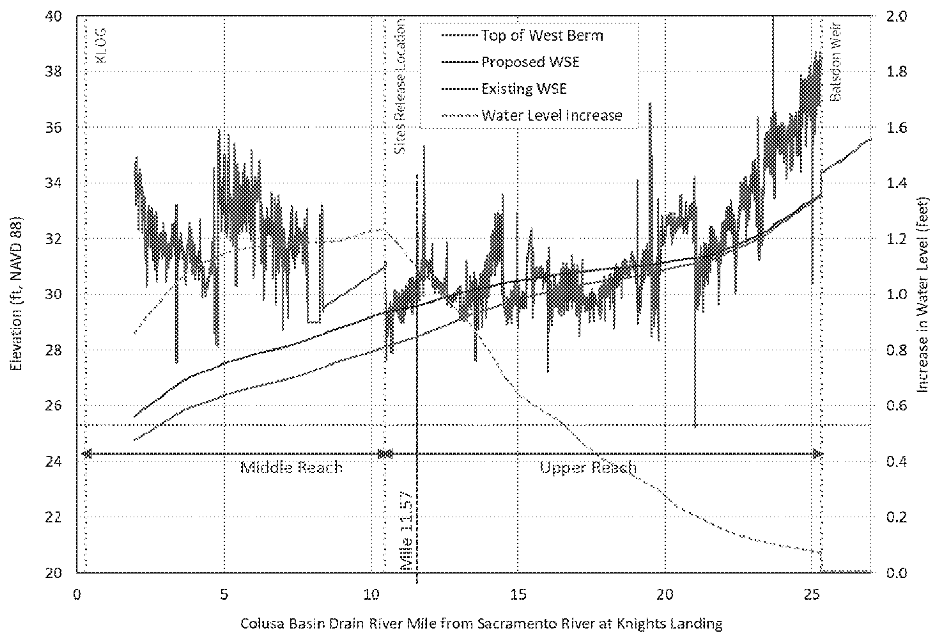
2013 (Dry Year)
Flow and Stage Time Series at River Mile 11.57



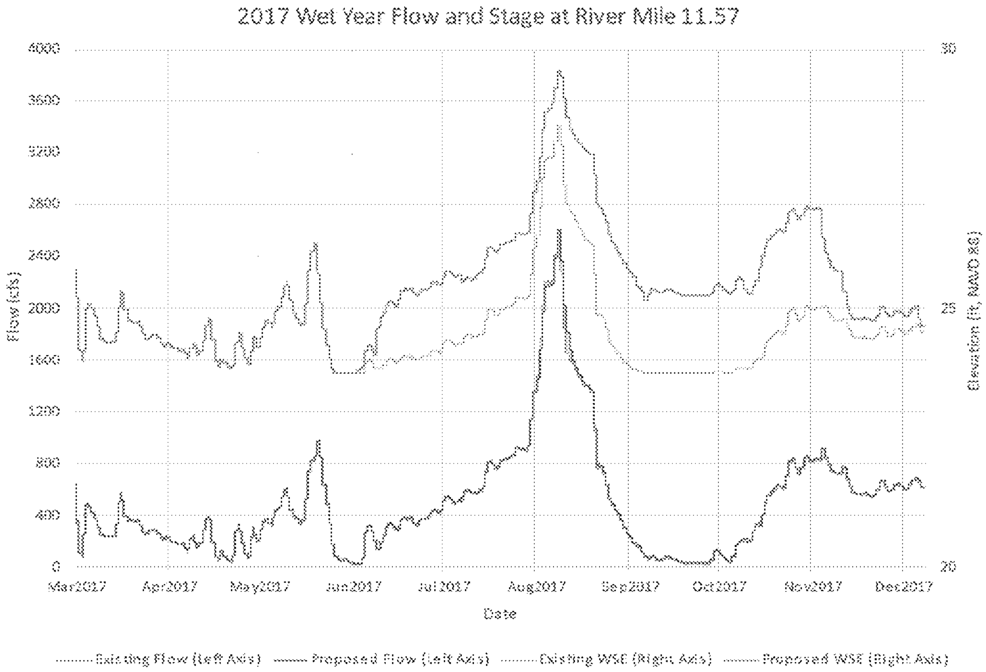
2017 (Wet Year)
Historical Flows Compared to Project Flows



2017 (Wet Year)
Peak Water Surface Elevations on September 2 Compared to West Bank Crest Elevation



2017 (Wet Year)
Flow and Stage Time Series at River Mile 11.57



Summary of Seasonality for Upper and Middle Reaches of CBD

Summary of Seasonal WSE changes within the CBD

		Upper Reach	Middle Reach
2013 (Dry Year)	WSE Existing (ft)	26.7-32.5	24.3-26.7
	WSE w/Project (ft)	28.4-32.7	24.9-28.4
	Max WSE Difference (Occurs at Dunnigan Pipeline Outfall Late August) (ft)	1.7	1.7
	Min WSE Difference (ft)	0.2	0.6
2017 (Wet Year)	WSE Existing (ft)	28.1-33.5	24.8-28.1
	WSE w/Project (ft)	29.4-33.6	25.6-29.4
	Max WSE Difference (Occurs at Dunnigan Pipeline Outfall Early September) (ft)	1.2	1.2
	Min WSE Difference (ft)	0.1	0.9

Max occurs at Dunnigan, Min occurs at KLOG (Middle Reach) and Balsdon Weir (Upper Reach)

Next Steps

1. Develop rating curves at low point(s) and percentiles of available capacity to carry fully project flow
2. Present preliminary mitigation measures upstream of Dunnigan pipeline
3. Further investigate subsidence and how it affects the modeling results and mitigation
4. Boots on ground survey to validate locations of concern, assuming ungated connections between fields and CBD
5. Potential for 2D modeling to refine inundation area estimates
6. More comprehensive LiDAR/mapping upstream of the Dunnigan Pipeline outfall to Balsdon Weir at the extent of inundated area west of CBD. Mapping cost $131K.

Updated 07/10/23

Questions?

Sites

Sites Reservoir Project - 3 Month Look Ahead

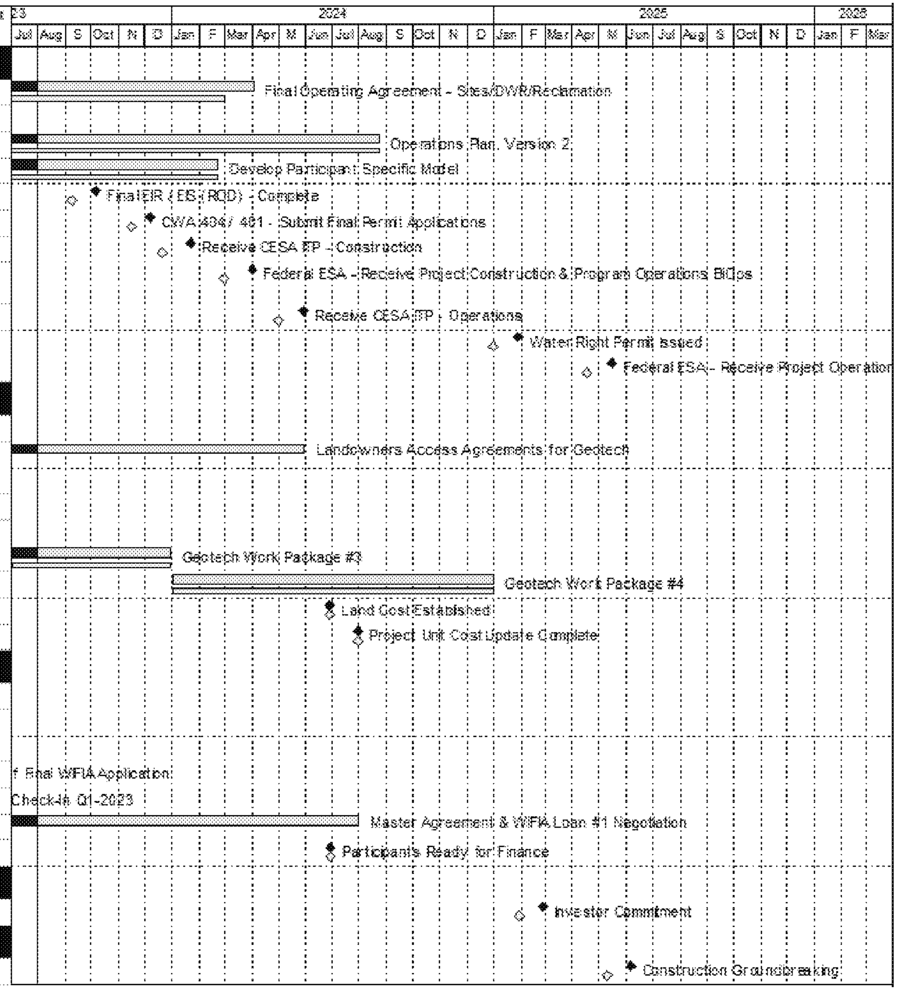
Primary	Assigned To	Governing Body
August 2023		
Consent Items		Joint Authority Board & Reservoir Committee
Minutes		Joint Authority Board & Reservoir Committee
Treasurer's Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Payment of Claims	Joe Trapasso	Joint Authority Board & Reservoir Committee
2nd Quarter 2023 Financial Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Amend Contract with BGT Consulting to increase contract authority	Jerry Brown	Joint Authority Board & Reservoir Committee
Approve supplemental Fire Prevention Services for summer/fall Geotech activities per TROE Requirements	Joe Trapasso, Kevin Spesert	Joint Authority Board & Reservoir Committee
Action Items		Joint Authority Board & Reservoir Committee
Facility Partner Cooperative Agreement with RD 108	JP Robinette	Joint Authority Board & Reservoir Committee
Discussion and Informational Items		Joint Authority Board & Reservoir Committee
Final EIR/EIS - Public Roll Out Process and Admin Record	Ali Forsythe, Laurie Warner Herson	Joint Authority Board & Reservoir Committee
Biological Mitigation - Approach for Contracting	aforsythe@sitesproject.org	Joint Authority Board & Reservoir Committee
B&O - Overview of JPA/Bylaws	Jerry Brown	Joint Authority Board & Reservoir Committee
Conditions Precedent Reporting	Ali Forsythe, JP Robinette	Joint Authority Board & Reservoir Committee
Monthly Reporting (Monthly Status Report, Work Plan, Action Items)	All	Joint Authority Board & Reservoir Committee
Closed Session		Joint Authority Board & Reservoir Committee
Committees/Workgroups		
Comms Team Update	Kevin Spesert	Legislative & Outreach Committee
Federal/State Legislative Update	Kevin Spesert	Legislative & Outreach Committee
Final EIR/EIS - Public Roll Out Process and Admin Record	Ali Forsythe, Laurie Warner Herson	Legislative & Outreach Committee
Approve supplemental Fire Prevention Services for summer/fall Geotech activities per TROE Requirements	Joe Trapasso	Land Management Committee
WIFIA Ad Hoc Subcommittee discussion of comments on Draft 1 of Benefits & Obligations Contract	JP Robinette	WIFIA Ad Hoc Subcommittee
Payment of Claims	Joe Trapasso	Budget & Finance Committee
2nd Quarter 2023 Financial Report	Joe Trapasso	Budget & Finance Committee
Amend Contract with BGT Consulting to increase contract authority	Jerry Brown	Budget & Finance Committee
Procurement Strategy, principles of how the Sites Authority will manage design, construction, and operations	Cheyanne Harris, Jeffrey Kivett, JP Robinette	Reservoir Operations & Engineering Workgroup
Update on TRR sizing and considerations	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Landowner Meetings - Maxwell & Dunnigan	Kevin Spesert	
Final EIR/EIS - Public Roll Out Process and Admin Record	Ali Forsythe, Laurie Warner Herson	Environmental Planning & Permitting Workgroup
Biological Mitigation - Approach for Contracting	aforsythe@sitesproject.org	Environmental Planning & Permitting Workgroup
September 2023		
Consent Items		Joint Authority Board & Reservoir Committee
Minutes		Joint Authority Board & Reservoir Committee
Treasurer's Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Payment of Claims	Joe Trapasso	Joint Authority Board & Reservoir Committee
Action Items		Joint Authority Board & Reservoir Committee
Adopt commitments of the Sites Authority with regards to the Sites Project's use of Lower Colusa Basin Drain and Knights Landing Ridge Cut (Lower CBD System) including map of geographical/jurisdiction extents of Lower CBD System	JP Robinette	Joint Authority Board & Reservoir Committee
Discussion and Informational Items		Joint Authority Board & Reservoir Committee
Final EIR/EIS - Final Process and Prep for October Adoption	Ali Forsythe, Laurie Warner Herson	Joint Authority Board & Reservoir Committee

Primary	Assigned To	Governing Body
Placeholder: Discuss approach to manage Phases 3/4/5 to coordinate with Procurement Strategy	Cheyanne Harris, Jeffrey Kivett, Joe Trapasso, JP Robinette	Joint Authority Board & Reservoir Committee
Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserve	Joe Trapasso, Marcus Maltby	Joint Authority Board & Reservoir Committee
Placeholder - Draft 2 of Benefits & Obligations Contract including updated JPA and Bylaws	JP Robinette	Joint Authority Board & Reservoir Committee
Monthly Reporting (Monthly Status Report, Work Plan, Action Items)	All	Joint Authority Board & Reservoir Committee
Closed Session		Joint Authority Board & Reservoir Committee
Committees/Workgroups		
Follow-up on Land owner meeting	Kevin Spesert	Land Management Committee
Conveyance Ad Hoc Subcommittee	JP Robinette	Conveyance Ad Hoc Subcommittee
Payment of Claims	Joe Trapasso	Budget & Finance Committee
Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserve	Joe Trapasso, Marcus Maltby	Budget & Finance Committee
Placeholder: Investment Procedure	Brian Thomas	Budget & Finance Committee
Placeholder: Communicate overall project schedule	Henry Luu, Jeffrey Kivett, JP Robinette	Reservoir Operations & Engineering Workgroup
No EPP Workgroup This Month		
Local Community Working Group (Bi-Monthly)	Kevin Spesert	
October 2023		
Consent Items		Joint Authority Board & Reservoir Committee
Minutes		Joint Authority Board & Reservoir Committee
Treasurer's Report	Joe Trapasso	Joint Authority Board & Reservoir Committee
Payment of Claims	Joe Trapasso	Joint Authority Board & Reservoir Committee
Action Items		Joint Authority Board & Reservoir Committee
Placeholder: Contract for Owner's Advisor, Controller	Brian Thomas, Joe Trapasso	Joint Authority Board & Reservoir Committee
Final EIR/EIS - Approval of Project	Ali Forsythe, Laurie Warner Herson	Joint Authority Board & Reservoir Committee
Placeholder: Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserve	Joe Trapasso, Marcus Maltby	Joint Authority Board & Reservoir Committee
Approve 2024 Authority Board and Reservoir Committee Meeting Calendar	Jerry Brown	Joint Authority Board & Reservoir Committee
Discussion and Informational Items		Joint Authority Board & Reservoir Committee
Placeholder - Lower Colusa Basin Drain System Initial Assessment	JP Robinette	Joint Authority Board & Reservoir Committee
Clean Water Act 404 and 401 Permit Applications	Ali Forsythe, Jelica Arsenijevic	Joint Authority Board & Reservoir Committee
Section 106 - Cultural Resources Status Update	Ali Forsythe	Joint Authority Board & Reservoir Committee
Monthly Reporting (Monthly Status Report, Work Plan, Action Items)	All	Joint Authority Board & Reservoir Committee
Closed Session		Joint Authority Board & Reservoir Committee
Committees/Workgroups		
Governance Ad Hoc Committee Meeting October 4	Jerry Brown	Governance Ad Hoc Committee
Placeholder: WIFIA Ad Hoc Subcommittee discussion of comments on Draft 2 of Benefits & Obligations Contract	JP Robinette	WIFIA Ad Hoc Subcommittee
Informational Report out from WIFIA Ad Hoc Subcommittee meeting	JP Robinette	Budget & Finance Committee
Payment of Claims	Joe Trapasso	Budget & Finance Committee
Placeholder: Contract for Owner's Advisor, Controller	Brian Thomas, Joe Trapasso	Budget & Finance Committee
Placeholder: Workplan Status Update - Draft 2024 Expense/Revenue Budget, Cash Flow/Call, Unrestricted Reserv	Joe Trapasso, Marcus Maltby	Budget & Finance Committee
Consider re-prioritization of Amendment 3 Engineering activities	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Review Dunnigan Pipeline design and CBD considerations	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Review Southern Construction Access Road considerations	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Placeholder: Consider alternative Reservoir Emergency Drawdown flow allocation	Henry Luu, JP Robinette	Reservoir Operations & Engineering Workgroup
Final EIR/EIS - Approval of Project	Ali Forsythe, Laurie Warner Herson	Environmental Planning & Permitting Workgroup
Clean Water Act 404 and 401 Permit Applications	Ali Forsythe, Jelica Arsenijevic	Environmental Planning & Permitting Workgroup

Primary	Assigned To	Governing Body
Section 106 - Cultural Resources Status Update	Ali Forsythe	Environmental Planning & Permitting Workgroup
Governance Adhoc	Jerry Brown	Joint Authority Board & Reservoir Committee
Local Community Working Group (Bi-Monthly)	Kevin Spesert	

August 2023 Sites Reservoir Project Schedule – Comparison to July 2023: What has Moved and Why

#	Activity ID	Activity Name	Start	Finish	Last Month Finish	Variance Last Month Finish
1	**What do we get?**		19-Apr-22 A	14-May-25	16-Apr-25	-20
2	OP-1005	Final Operating Agreement - Sites/DWR/Reclamation	19-Apr-22 A	02-Apr-24	29-Feb-24	-23
3	MS-1050	Submit Water Right Permit Application		11-May-22 A	11-May-22	0
4	KD-1510	Operations Plan, Version 2	02-Jun-23 A	23-Aug-24	23-Aug-24	0
5	OS-1150	Develop Participant Specific Model	05-Jun-23 A	21-Feb-24	21-Feb-24	0
6	MS-1200	Final EIR / EIS (ROD) - Complete		06-Oct-23	08-Sep-23	-20
7	KD-1390	CWA 404 / 401 - Submit Final Permit Applications		05-Dec-23	15-Nov-23	-13
8	2081-220	Receive CESA ITP - Construction		22-Jan-24	20-Dec-23	-20
9	KD-1340	Federal ESA - Receive Project Construction & Program Operations BOps		01-Apr-24	28-Feb-24	-23
10	2081-120	Receive CESA ITP - Operations		28-May-24	30-Apr-24	-19
11	MS-1400	Water Right Permit Issued		28-Jan-25*	31-Dec-24	-19
12	KD-1345	Federal ESA - Receive Project Operations BOps		14-May-25	16-Apr-25	-20
13	**What does it cost?**		03-Jan-22 A	31-Dec-24	31-Dec-24	0
14	EA-195	Geotech EA/IS	03-Jan-22 A	28-Jul-22 A	28-Jul-22	0
15	A1250	Landowners Access Agreements for Geotech	22-Mar-22 A	30-May-24	30-May-24	0
16	GWP-1100	Geotech Work Package #1	05-Sep-22 A	30-Dec-22 A	30-Dec-22	0
17	GWP-1200	Geotech Work Package #2	02-Jan-23 A	30-Jun-23 A	30-Jun-23	0
18	CE-1570	Mitigation Cost Estimate Update	25-Apr-23 A	26-Jun-23 A	26-Jun-23	0
19	GWP-1300	Geotech Work Package #3	03-Jul-23 A	29-Dec-23	29-Dec-23	0
20	GWP-1400	Geotech Work Package #4	02-Jan-24	31-Dec-24	31-Dec-24	0
21	RE-1050	Land Cost Established		27-Jun-24	27-Jun-24	0
22	MS-1450	Project Unit Cost Update Complete		30-Jul-24	30-Jul-24	0
23	**How do we pay?**		01-Jul-22 A	31-Jul-24	31-Jul-24	0
24	FC-1250	Financing Check-In Q2-2022		01-Jul-22 A	01-Jul-22	0
25	WFIA-300	WIFIA Loan Application	05-Jul-22 A	30-Mar-23 A	30-Mar-23	0
26	FC-1260	Financing Check-In Q3-2022		07-Oct-22 A	07-Oct-22	0
27	WFIA-140	Submittal of Final WIFIA Application		30-Mar-23 A	30-Mar-23	0
28	FC-1280	Financing Check-In Q1-2023		03-Apr-23 A	03-Apr-23	0
29	WFIA-240	Master Agreement & WIFIA Loan #1 Negotiation	04-Apr-23 A	31-Jul-24	31-Jul-24	0
30	FC-1290	Participants Ready for Finance		28-Jun-24	28-Jun-24	0
31	**Investor Commitment**		25-Feb-25	25-Feb-25	29-Jan-25	-19
32	MS-1500	Investor Commitment		25-Feb-25	29-Jan-25	-19
33	**Construction**		06-Jun-25	06-Jun-25	09-May-25	-19
34	MS-3000	Construction Groundbreaking	06-Jun-25			-19



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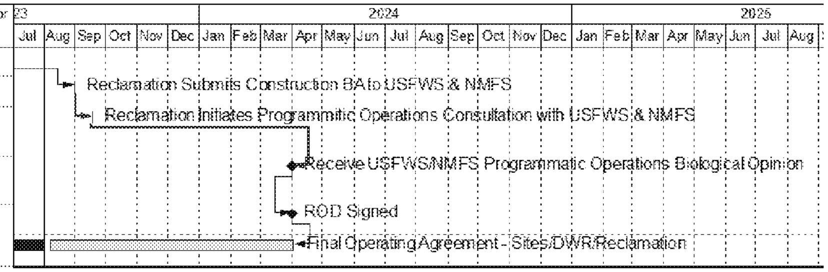
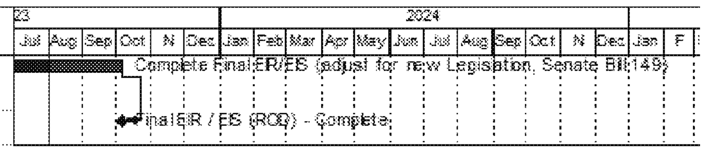
OP-1005: Final Operating Agreement – Sites/DWR/Reclamation - Finish date pushed out 23 days (~5 weeks). Logic shown below. Completing the Final Operating Agreement was linked to ROD Signed last month. ROD Signed has slipped out as we wait for Reclamation to Submit Construction BA to USFWS and NMFS. This was expected to take place at the end of July 2023, but has now been pushed out to end of August 2023.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	BA-200	Prepare Draft BA	0	11-Jan-21 A	10-Mar-23 A	10-Mar-23	0
2	BA-210	Reclamation Submits Construction BA to USFWS & NMFS	1	31-Aug-23	31-Aug-23	31-Jul-23	-23
3	BA-215	Reclamation Initiates Programmitic Operations Consultation with USFWS & NMFS	1	18-Sep-23	18-Sep-23	15-Aug-23	-23
4	BA-220	Receive USFWS/NMFS Programmatic Operations Biological Opinion	0		01-Apr-24	28-Feb-24	-23
5	EIR-450	ROD Signed	0		01-Apr-24	28-Feb-24	-23
6	OP-1005	Final Operating Agreement - Sites/DWR/Reclamation	166	19-Apr-22 A	02-Apr-24	29-Feb-24	-23



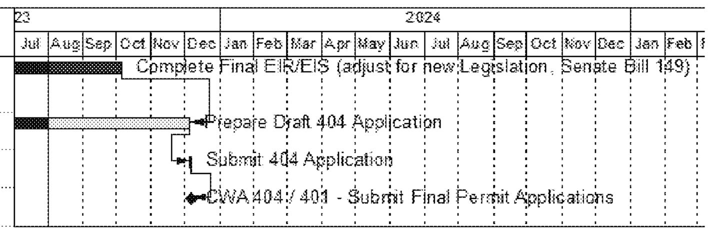
MS-1200: Final EIR / EIS (ROD) - Complete – Date pushed out 20 days (4 weeks). Logic shown below. Complete Final EIR/EIS was pushed out from 08-Sep-2023 to 06-Oct-2023, being adjusted for new Legislation, Senate Bill 149.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	EIR-250	Complete Final EIR/EIS (adjust for new Legislation, Senate Bill 149)	48	01-Feb-23 A	06-Oct-23	08-Sep-23	-20
2	MS-1200	Final EIR / EIS (ROD) - Complete	0		06-Oct-23	08-Sep-23	-20



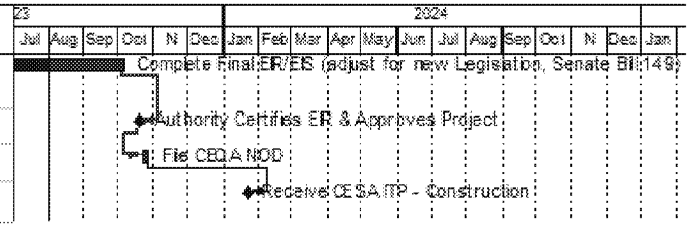
KD-1390: CWA 404 / 401 – Submit Final Permit Applications – Completion date pushed out 13 days (~3 weeks). Logic shown below. Prepare Draft 404 Permit Application is linked to Complete Final EIR/EIS and with that being adjusted (pushed out) for the new Legislation, this is now being pushed out as a result.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	EIR-250	Complete Final EIR/EIS (adjust for new Legislation, Senate Bill 149)	48	01-Feb-23 A	06-Oct-23	08-Sep-23	-20
2	404-050	Prepare Draft 404 Application	88	04-Feb-21 A	05-Dec-23	14-Nov-23	-13
3	404-120	Submit 404 Application	1	06-Dec-23	06-Dec-23	15-Nov-23	-13
4	KD-1390	CWA 404 / 401 - Submit Final Permit Applications	0		06-Dec-23	15-Nov-23	-13



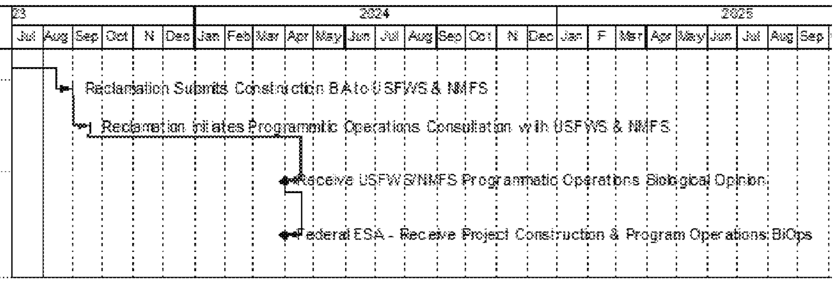
2081-220: Receive CESA ITP - Construction – Completion date pushed out 20 days (4 weeks). Logic shown below. This is linked to File CEQA NOD and the logic traces back through Authority Certifies EIR & Approves Project which has also been pushed out 4 weeks for Completing the Final EIR/EIS which has been adjusted for new Legislation, Senate Bill 149 as mentioned above.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	EIR-250	Complete Final EIR/EIS (adjust for new Legislation, Senate Bill 149)	48	01-Feb-23 A	06-Oct-23	08-Sep-23	-20
2	EIR-370	Authority Certifies EIR & Approves Project	0		20-Oct-23	22-Sep-23	-20
3	EIR-380	File CEQA NOD	5	23-Oct-23	27-Oct-23	29-Sep-23	-20
4	2081-220	Receive CESA ITP - Construction	0		22-Jan-24	20-Dec-23	-20



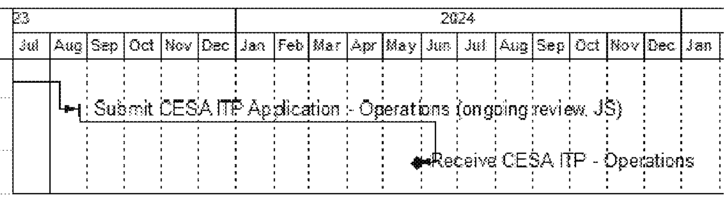
KD-1340: Federal ESA - Receive Project Construction & Program Operations BiOps – Completion date pushed out 23 days (~5 weeks). Logic shown below. This is linked back to Reclamation Submits Construction BA to USFWS & NMFS and as noted above was moved out from end July 2023 to end August 2023 as we wait for the Submittal by Reclamation.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	BA-200	Prepare Draft BA	0	11-Jan-21 A	10-Mar-23 A	10-Mar-23	0
2	BA-210	Reclamation Submits Construction BA to USFWS & NMFS	1	31-Aug-23	31-Aug-23	31-Jul-23	-23
3	BA-215	Reclamation Initiates Programmitic Operations Consultation with USFWS & NMFS	1	18-Sep-23	18-Sep-23	15-Aug-23	-23
4	BA-220	Receive USFWS/NMFS Programmatic Operations Biological Opinion	0		01-Apr-24	28-Feb-24	-23
5	KD-1340	Federal ESA - Receive Project Construction & Program Operations BiOps	0		01-Apr-24	28-Feb-24	-23



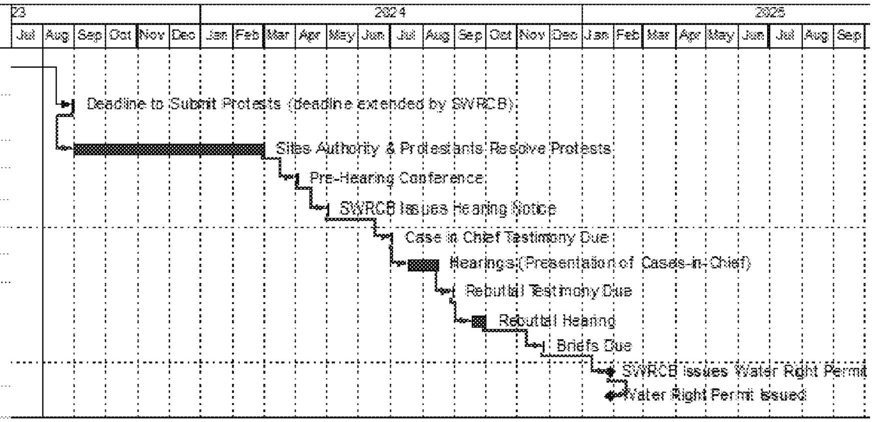
2081-120: Receive CESA ITP – Operations – Completion date pushed out 19 days (4 weeks). Logic shown below. This is linked to Submit CESA ITP Application – Operations whilr review of the Application continues and is now forecast to complete 25-Aug-2023, pushed out 4 weeks this month.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	2081-100	Prepare CESA ITP Application - Operations - john	0	11-Jan-21 A	30-Jan-23 A	30-Jan-23	0
2	2081-110	Submit CESA ITP Application - Operations (ongoing review, JS)	1	25-Aug-23	25-Aug-23	31-Jul-23	-19
3	2081-120	Receive CESA ITP - Operations	0		28-May-24	30-Apr-24	-19



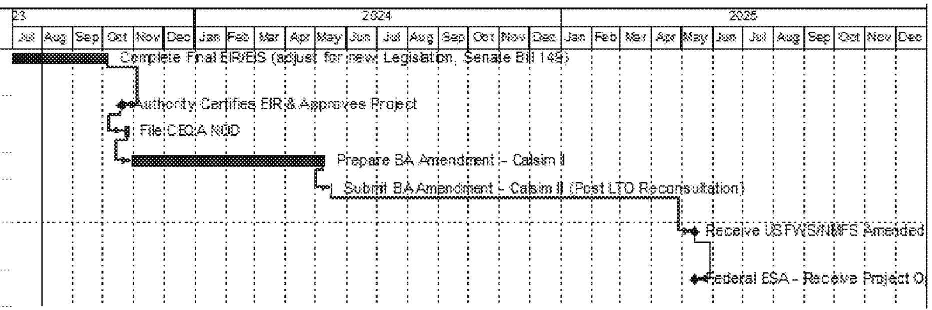
MS-1400: Water Right Permit Issued – Completion date pushed out 19 days (4 weeks). Logic shown below. This traces back to the Deadline to Submit Protests which has been extended by the SWRCB getting pushed out to 31-Aug-2023.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	WRP-115b	SWRCB issues Notice of Application & Petitions for Assignment & Releases from Priority	0	02-Jun-23 A	02-Jun-23 A	02-Jun-23	0
2	WRP-115c	Deadline to Submit Protests (deadline extended by SWRCB)	1	31-Aug-23	31-Aug-23	04-Aug-23	-19
3	WRP-116	Sites Authority & Protestants Resolve Protests	122	01-Sep-23	01-Mar-24	02-Feb-24	-19
4	WRP-117a	Pre-Hearing Conference	1	02-Apr-24	02-Apr-24	08-Mar-24	-19
5	WRP-117b	SWRCB issues Hearing Notice	1	02-May-24	02-May-24	05-Apr-24	-19
6	WRP-117c	Case in Chief Testimony Due	1	03-Jul-24	03-Jul-24	06-Jun-24	-19
7	WRP-117d	Hearings (Presentation of Cases-in-Chief)	20	19-Jul-24	15-Aug-24	19-Jul-24	-19
8	WRP-117e	Rebuttal Testimony Due	1	30-Aug-24	30-Aug-24	05-Aug-24	-19
9	WRP-117f	Rebuttal Hearing	10	17-Sep-24	30-Sep-24	03-Sep-24	-19
10	WRP-117g	Briefs Due	1	26-Nov-24	26-Nov-24	30-Oct-24	-19
11	WRP-120	SWRCB issues Water Right Permit	0		28-Jan-25	31-Dec-24	-19
12	MS-1400	Water Right Permit issued	0		28-Jan-25*	31-Dec-24	-19



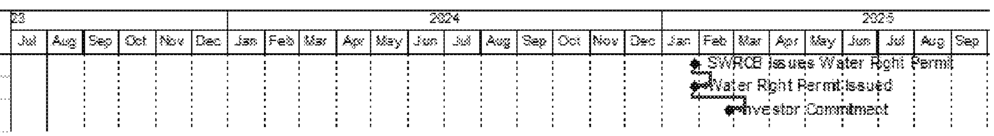
KD-1345: Federal ESA – Completion date pushed out 20 days (4 weeks). Logic shown below. This traces back to Complete Final EIR/EIS which has been adjusted for new Legislation, Senate Bill 149 which has also been pushed out 20 days as mentioned above.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	EIR-250	Complete Final EIR/EIS (adjust for new Legislation, Senate Bill 149)	48	01-Feb-23 A	06-Oct-23	08-Sep-23	-20
2	EIR-370	Authority Certifies EIR & Approves Project	0		20-Oct-23	22-Sep-23	-20
3	EIR-380	File CEQA NOD	5	23-Oct-23	27-Oct-23	29-Sep-23	-20
4	BA-230	Prepare BA Amendment - Calsim II	135	30-Oct-23	10-May-24	12-Apr-24	-20
5	BA-240	Submit BA Amendment - Calsim II (Post LTO Reconsultation)	1	17-May-24	17-May-24	19-Apr-24	-20
6	BA-250	Receive USFWS/NMFS Amended Biological Opinions (Incidental Take Operations)	0		14-May-25	16-Apr-25	-20
7	KD-1345	Federal ESA - Receive Project Operations BiOps	0		14-May-25	16-Apr-25	-20



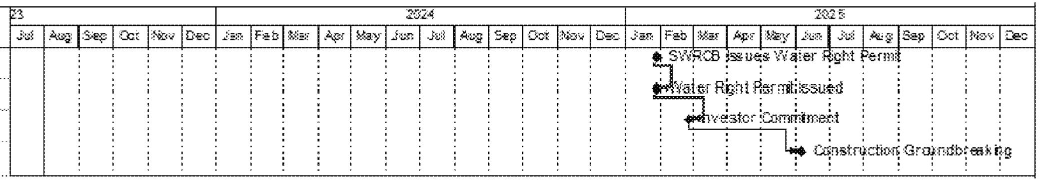
MS-1500: Investor Commitment – Completion date pushed out 19 days (4 weeks). Logic shown below. Directly linked to Water Right Permit Issued and moved day for day with the Water Right Permit getting pushed out as noted above.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	WRP-120	SWRCB issues Water Right Permit	0		28-Jan-25	31-Dec-24	-19
2	MS-1400	Water Right Permit issued	0		28-Jan-25*	31-Dec-24	-19
3	MS-1500	Investor Commitment	0		25-Feb-25	29-Jan-25	-19



MS-3000: Construction Groundbreaking – Completion date pushed out 19 days (4 weeks). Logic shown below. Directly linked to Investor Commitment which has been pushed out by Water Right Permit Issued, moving day for day with the Water Right Permit getting pushed out as noted above.

#	Activity ID	Activity Name	Duration	Start	Finish	Prior Finish	Variance - Prior Finish
1	WRP-120	SWRCB Issues Water Right Permit	0		28-Jan-25	31-Dec-24	-19
2	MS-1400	Water Right Permit Issued	0		28-Jan-25*	31-Dec-24	-19
3	MS-1500	Investor Commitment	0		25-Feb-25	29-Jan-25	-19
4	MS-3000	Construction Groundbreaking	0	08-Jun-25			-19



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Sent: 8/8/2023 2:21:38 PM
To: Rude, Pete [Pete.Rude@jacobs.com]; Luu, Henry [Henry.Luu@hdrinc.com]
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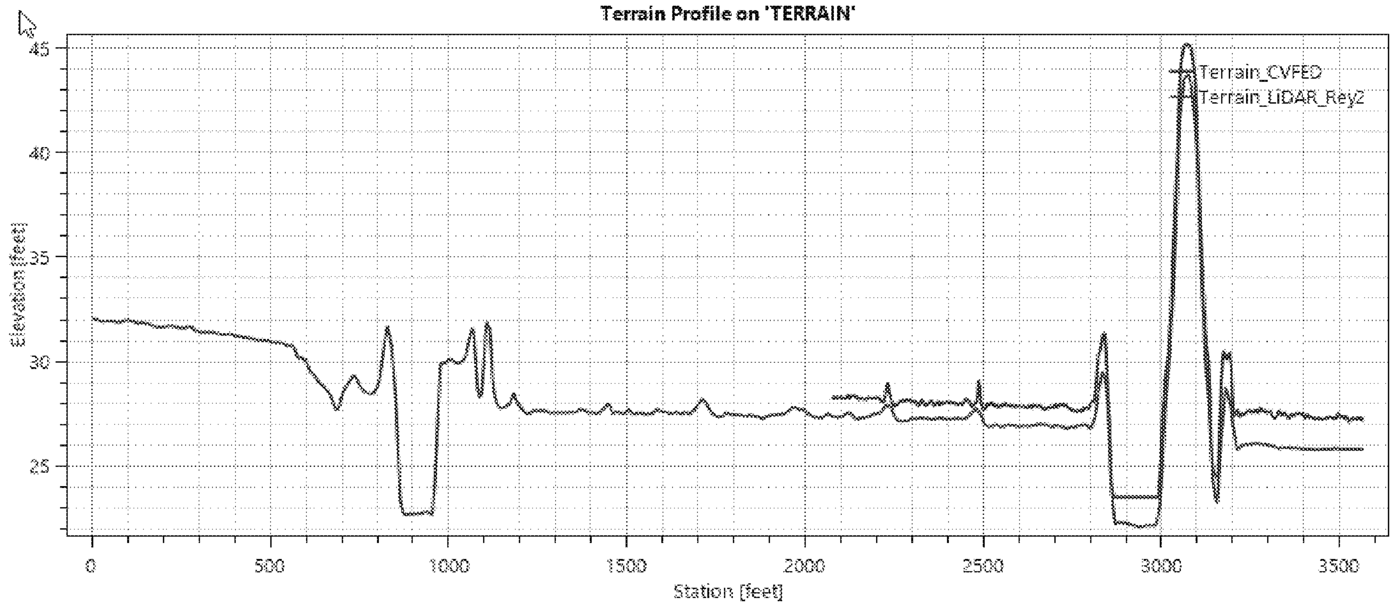

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Yep – will do.

Peter

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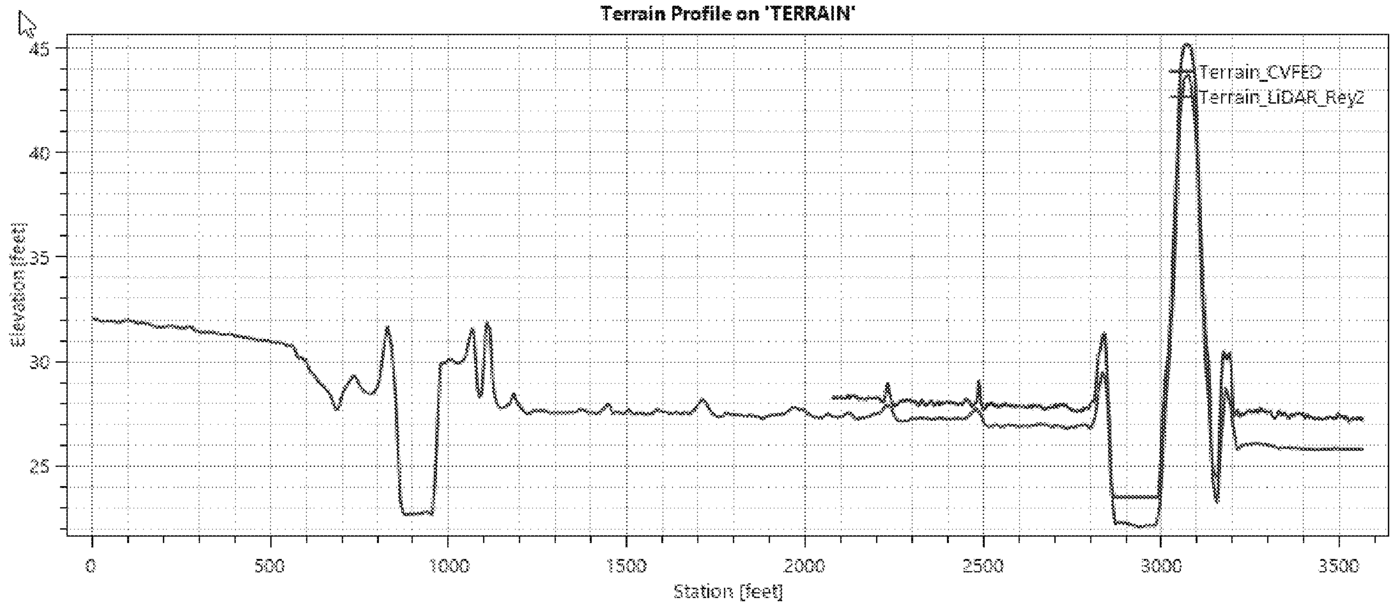

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Sent: 8/9/2023 7:33:53 AM
To: Newens, Richard [Richard.Newens@hdrinc.com]; Tiffany Tran [TTran1@BrwnCald.com]
CC: Cheyanne Harris [charris@brwncald.com]
Subject: Fw: Sites HC: Subsidence in Dunnigan Pipeline area and CBD
Attachments: Subsidence Comparisons on Dunnigan Primary Control.pdf; 2017 Sacramento Valley Subsidence Graphic.pdf

FYI, please add a line to the agenda with RD108 on this topic. Also, can you please share that agenda with me (for Aug 15 meeting)?

Note, we don't know how this might impact our hydraulics yet.

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Sent: Tuesday, August 8, 2023 11:04 AM
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Cc: Winslow, Kyle <Kyle.Winslow@jacobs.com>; Hekl, Jessie <Jessie.Hekl@jacobs.com>; Joe Feyder <jfeyder@reyengineers.com>; Wu, Dawning <Dawning.Wu@hdrinc.com>
Subject: Sites HC: Subsidence in Dunnigan Pipeline area and CBD

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1-530-229-3396 (office)/ 1-530-917-4164 (mobile)/ 2525 Airpark Drive, Redding, CA 96001
pete.rude@jacobs.com / www.jacobs.com

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From: Hekl, Jessie <Jessie.Hekl@jacobs.com>
Sent: Wednesday, August 2, 2023 1:50 PM
To: Joe Feyder <jfeyder@reyengineers.com>

Cc: Rude, Pete <Pete.Rude@jacobs.com>; Winslow, Kyle <Kyle.Winslow@jacobs.com>
Subject: RE: Sites HC: south CBD mapping from existing LiDAR

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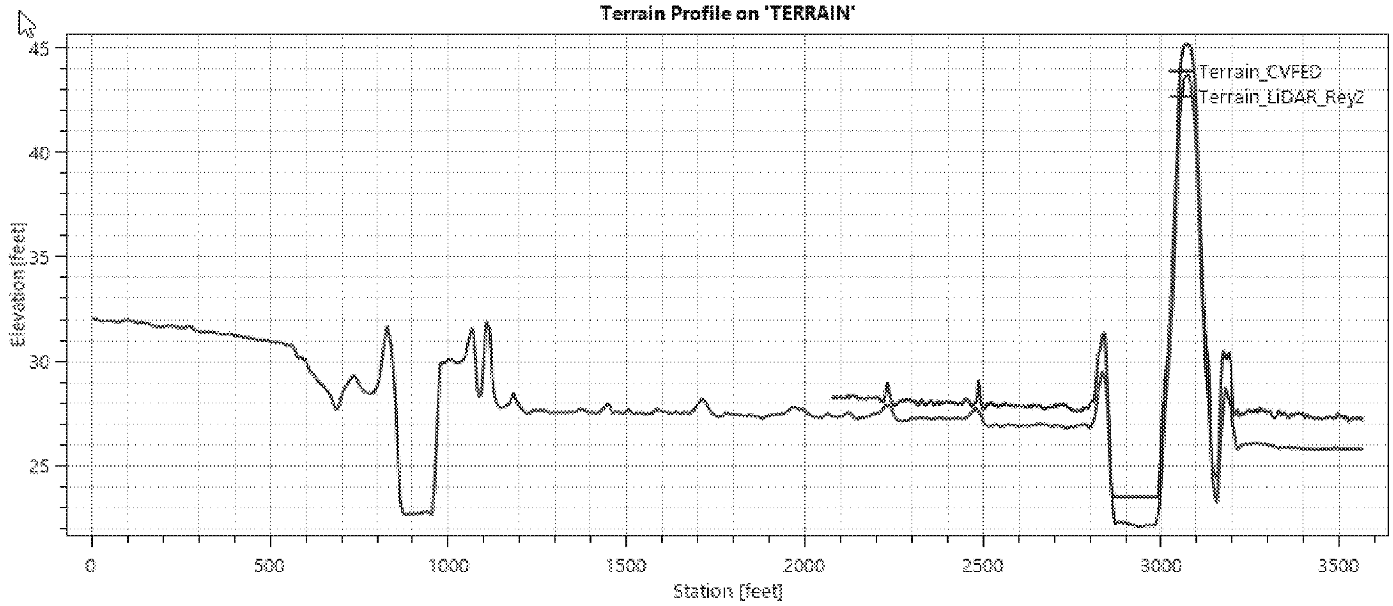


Thank you!

Jessie Hekl, P.E. (she/her) | Jacobs | Water Resources Engineer

M: 703.402.4718 | Jessie.Hekl@jacobs.com
2485 Natomas Park Drive Suite 600 | Sacramento, CA 95833 | USA

Sites Reservoir Project - Dunnigan Pipeline
Subsidence Observed at Dunnigan Pipeline Primary Geodetic Control

R.E.Y. ENGINEERS, INC.
CIVIL ENGINEERING | LAND SURVEYING | REMOTE SENSING

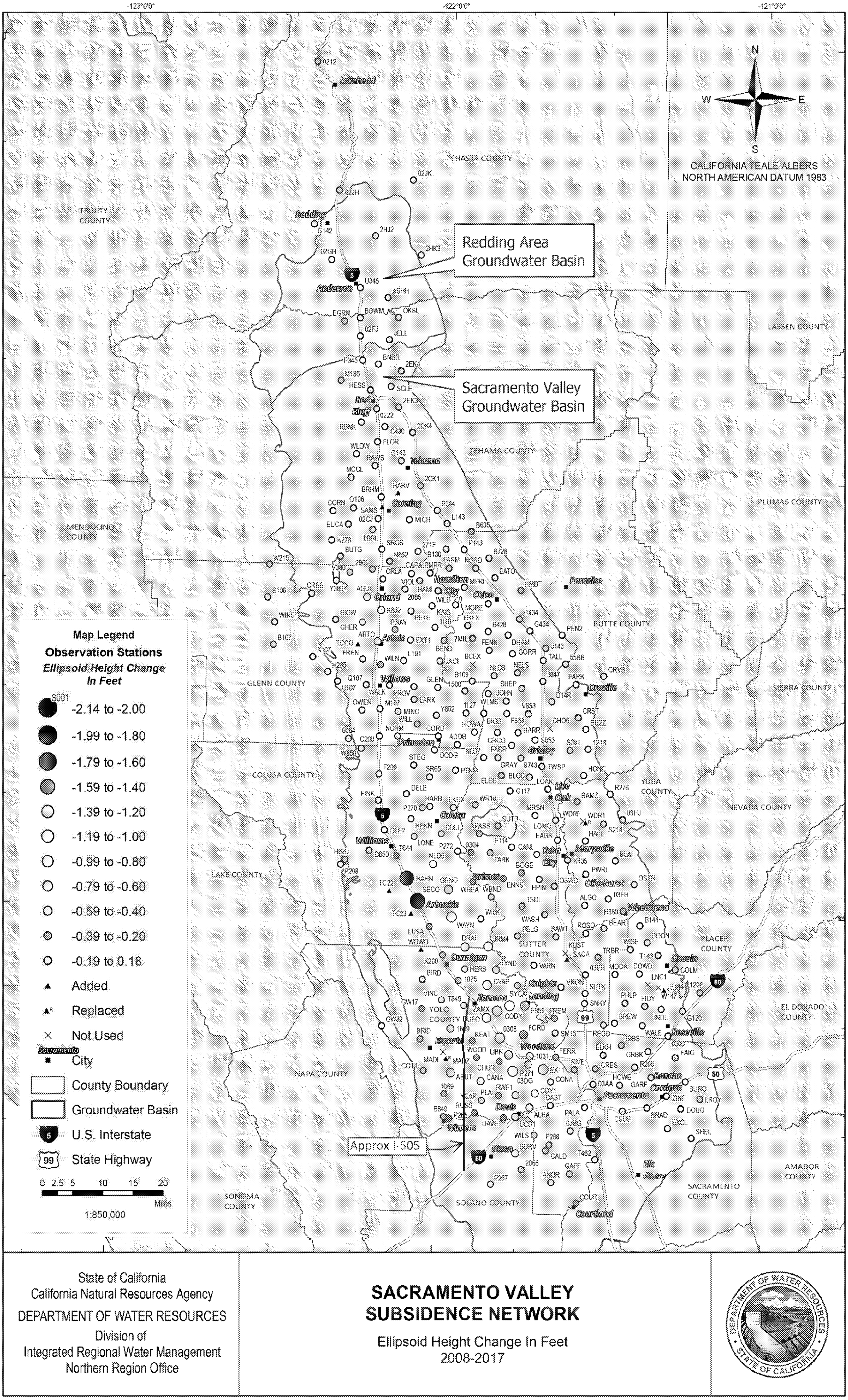
NGS Station Designation	Abbr.	2008 Ellipsoid Height Ft*	2008 Ortho. Height Ft	2017 Ellipsoid Height Ft**	2022 Ellipsoid Height Ft	2022 Ortho. Height Ft	08 > 17 Ellip. Compare	17 > 22 Ellip. Compare	08 > 22 Ellip. Compare	08 > 22 Ortho. Compare
CODY	CODY	-57.79	41.83	-58.84	-58.93	40.51	-1.05	-0.10	-1.14	-1.32
CVAP 02	CVAP	-73.04	26.28	-73.85	-74.15	25.05	-0.81	-0.31	-1.12	-1.23
F 859 RESET	F859	-52.86	46.62	-53.77	-53.99	45.27	-0.91	-0.22	-1.13	-1.35
FERRY	FERR	-60.93	39.80	-61.14	-61.13	39.36	-0.21	0.01	-0.20	-0.44
FORD RM 2	FORD	-42.77	57.51	-43.45	-43.53	56.55	-0.69	-0.08	-0.77	-0.96
HERSHEY	HERS	-53.44	45.83	-53.81	-53.99	45.18	-0.37	-0.19	-0.55	-0.66
P 1031	1031	-67.17	33.66	-67.58	-67.64	32.98	-0.41	-0.05	-0.47	-0.68
P 1075	1075	-50.84	48.79	-51.14	-51.18	48.36	-0.30	-0.04	-0.34	-0.43
SM NO 15	SM15	-76.20	24.05	-76.31	-76.33	23.59	-0.10	-0.02	-0.13	-0.46
SYCAMORE	SYCE	-73.82	25.13	-74.06	-74.14	24.64	-0.24	-0.08	-0.32	-0.50
T 849	T849	18.44	118.67	18.12	18.13	118.22	-0.32	0.01	-0.31	-0.45
TYNDALL	TYND	-68.96	29.79	-69.46	-69.79	28.83	-0.50	-0.33	-0.83	-0.96
VINCOR	VINC	58.20	158.40	58.00	57.98	158.09	-0.20	-0.02	-0.22	-0.31
X 200 RESET	X200	-1.26	98.03	-1.55	-1.60	97.61	-0.29	-0.05	-0.34	-0.42
ZAMX	ZAMX	-57.15	42.75	-58.23	-58.34	41.44	-1.08	-0.10	-1.18	-1.31

* Calculated from data in 2017 report
** 2017 survey did not report orthometric heights

Ellipsoid height comparisons may provide the best representation of actual subsidence, as they are not infuenced by GEOID models, as orthometric heights are.
Orthometric heights (elevations) are subject to the specific GEIOD model used for modelling an ellipsoid height to an orthometric height.
Since the 2008 survey, there has been five iterations of GEOID models (09, 12, 12A, 12B and 18)

2008 data from "*2008 DWR/USBR Sacramento Valley Subsidence Project* "
2017 data from "*2017 GPS Survey of the Sacramento Valley Subsidence Network* "
2022 data from "*Sites Reservoir - Sites HC Engineering Conveyance Project* "

Figure ES-1 **Height Change at Monuments between 2008 and 2017**



From: Newens, Richard [Richard.Newens@hdrinc.com]
Sent: 8/9/2023 8:39:14 AM
To: JP Robinette [jrobinette@sitesproject.org]; Tiffany Tran [TTran1@BrwnCald.com]
CC: Cheyanne Harris [charris@brwncald.com]
Subject: RE: Sites HC: Subsidence in Dunnigan Pipeline area and CBD

Yes, I'll also pull together and review more closely the available subsidence information provided by Barry O Regan (KSN) at the request of Lewis.

I've created a draft agenda here:
8.15.2023 Sites_RD108 Mtg

Richard Newens
D 916.679.8883 M 916.719.7800

hdrinc.com/follow-us

From: JP Robinette <jrobinette@sitesproject.org>
Sent: Wednesday, August 9, 2023 7:34 AM
To: Newens, Richard <Richard.Newens@hdrinc.com>; Tiffany Tran <TTran1@BrwnCald.com>
Cc: Cheyanne Harris <charris@brwncald.com>
Subject: Fw: Sites HC: Subsidence in Dunnigan Pipeline area and CBD

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

FYI, please add a line to the agenda with RD108 on this topic. Also, can you please share that agenda with me (for Aug 15 meeting)?

Note, we don't know how this might impact our hydraulics yet.

From: Rude, Pete <Pete.Rude@jacobs.com>
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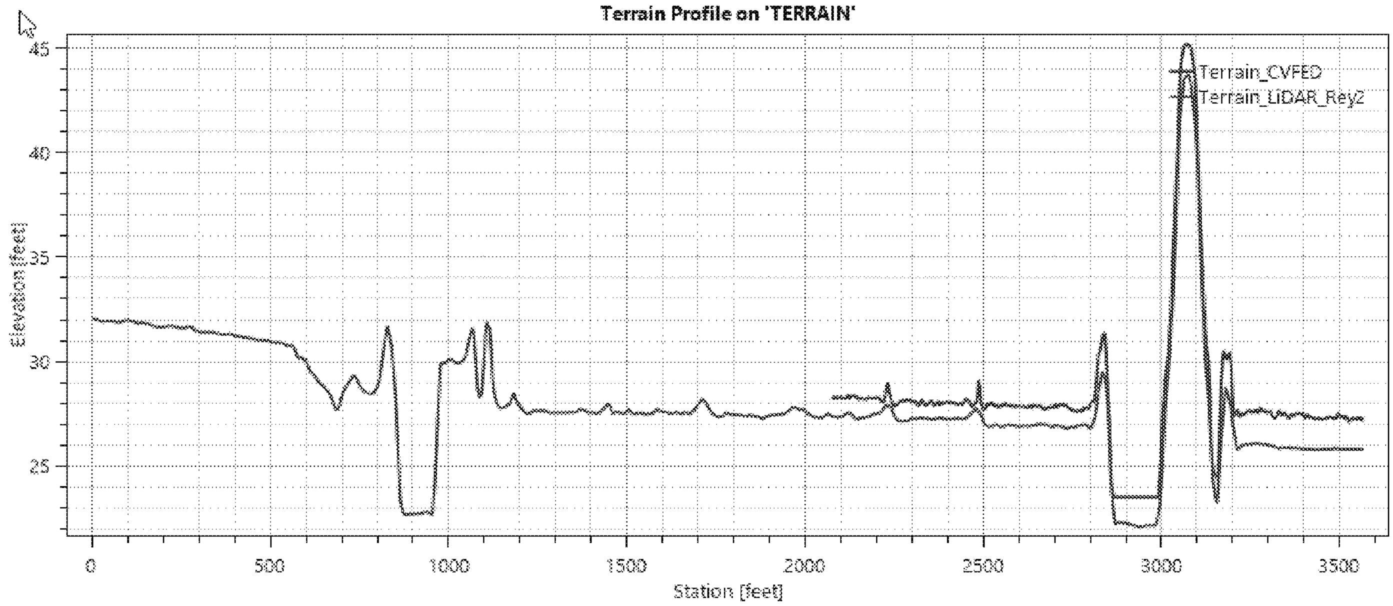

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2485 Natomas Park Drive Suite 600 | Sacramento, CA 95833 | USA

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To: Luu, Henry [Henry.Luu@hdrinc.com]; Derek Morley [dmorley@geosyntec.com]
CC: JP Robinette [jrobinette@sitesproject.org]; Ohlin, Wayne [Wayne.Ohlin@jacobs.com]; Smith, Michael (orange) [michael.g.smith@aecom.com]; Krivanec, Christopher [christopher.krivanec@hdrinc.com]; Brian Martinez [bmartinez@geosyntec.com]
Subject: RE: Sites presentation opportunity at ASDSO

HI Folks,

Jacobs and Geosyntec have met to discuss this opportunity. Per the schedule below, we think it would be good if we all met to discuss what we should and should not present in this public venue. I suggest we meet at 11 am this Monday Aug 14 – as we typically meet every other Monday as an Engr/Geotech coordination call – and next Monday is our Monday off. Since JP has been meeting with people around the state, he may already have a good introduction ppt that could cover the first 15-20 minutes portion of the session.

Henry – if this time slot works for folks can you schedule it – or I can. Let me know. Jacobs and Geosyntec are available.

Thanks

Peter H. Rude, PE (*CA, OR, HI, CO*) /Jacobs/ Civil Engineer & Principal Project Manager
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From: Luu, Henry <Henry.Luu@hdrinc.com>
Sent: Friday, July 21, 2023 9:46 AM
To: Derek Morley <dmorley@geosyntec.com>
Cc: JP Robinette <jrobinette@sitesproject.org>; Rude, Pete <Pete.Rude@jacobs.com>; Ohlin, Wayne <Wayne.Ohlin@jacobs.com>; Smith, Michael (orange) <michael.g.smith@aecom.com>; Krivanec, Christopher <christopher.krivanec@hdrinc.com>
Subject: [EXTERNAL] RE: Sites presentation opportunity

Hi Derek,

Both Mike and I are looking forward to supporting the Sites presentation at ASDSO. Since both you and Pete will be unavailable for a coordination meeting next week, I am including the below items for consideration as the team prepares draft presentations:

- The latest Sites PowerPoint presentation template can be found on SharePoint @INT-TEM-PowerPoint-202101.pptx
- The Authority's mission, vision, value, and goals can be referenced @https://sitesproject.org/about-sites/
- Please ensure messaging of project features is consistent with the environmental document project description (https://sitesproject.org/wp-content/uploads/2021/11/RDEIR-SDEIS-Ch02-Project-Description-1.pdf). The Final EIR/EIS will include updates that reflect the following
  - removal of the Feasibility Design Emergency Release Structures that were identified in vicinity of Saddle Dam 3 and 5
  - I/O Works revised to reflect sloping tower with a single tunnel

Thanks for all your legwork,

Henry H. Luu, PE
D 916.679.8857 M 916.754.7566

hdrinc.com/follow-us

From: Derek Morley <DMorley@Geosyntec.com>
Sent: Thursday, July 20, 2023 10:26 PM
To: Luu, Henry <Henry.Luu@hdrinc.com>; JP Robinette <jrobinette@sitesproject.org>
Cc: Rude, Pete/RDD <Pete.Rude@jacobs.com>
Subject: RE: Sites presentation opportunity

Henry,

Fyi, I will be on vacation next week, camping, totally offline. As I mentioned in my email Tuesday, some of us Sites consultants are already aware of and getting ready to start preparing presentations for ASDSO. I don't know if AECOM is plugged-in yet though, so just wanted to check in with you to see if you'll talk with them or if you'd like me to do so. Just thinking to get them dialed in so they have sufficient time to prepare something that represents the project well.

Derek S. Morley, PE
Senior Principal
Geosyntec Consultants

803 2nd Street, Suite D
Davis, California 95616
Mobile: 916.213.4622
www.geosyntec.com
(PE in California)

From: Derek Morley
Sent: Tuesday, July 18, 2023 9:16 AM
To: Luu, Henry <Henry.Luu@hdrinc.com>; JP Robinette <jrobinette@sitesproject.org>
Cc: Rude, Pete/RDD <Pete.Rude@jacobs.com>
Subject: FW: Sites presentation opportunity

Henry,

As you probably saw, Jerry Brown said we are a go for presenting about Sites at the upcoming ASDSO conference. I'm forwarding to you the email I'd sent to Jerry that had some conference info and the abstract attached. As a reminder, we aren't doing conference papers for this session on Sites, just presentations, each like 15 minutes, so not a heavy lift. Some additional info is included in the email below as a refresh on this effort.

Here is a proposed schedule for preparation and review of presentations:

Draft presentations	Jul 18 - Aug 18 (Fri)
Sites Authority review	Aug 21 - Aug 30 (Wed)
Revise presentations	Aug 31 - Sep 6 (Wed)
Sites Authority backcheck	Sep 7 - Sep 12 (Tue)
Finalize and submit	Sep 13 - Sep 14 (Thu)

The attached abstract has titles for each of the presentations. Those can be changed if needed. But the titles do give a sense of what I thought the talks might convey, and hint at some of the messaging we'll want to fold-in to the presentations (e.g., maximizing output of the project while using resources and lands frugally). These shouldn't come off as propaganda, but at the same time there is messaging to include that will benefit the project (aimed at funding partners, regulators, etc.). We'll each take a crack at that messaging in our draft presentations, and maybe Sites can provide us some snippets and facts to include (e.g., how much water Sites would have captured this past wet season).

We (Geosyntec and Jacobs) will get going on our respective presentations, and I assume you will coordinate the HDR presentation. I don't know if AECOM is yet aware of this. I do know AECOM will have a number of attendees at the conference, most likely including Mike Smith, as will GEI, including Nichole Tollefson, their right-hand to Dave Gutierrez for Sites, who I assume also will be there. Let me know how you'd like me to support you for next steps on this.

Derek S. Morley, PE
Senior Principal
Geosyntec Consultants

803 2nd Street, Suite D
Davis, California 95616
Mobile: 916.213.4622
www.geosyntec.com
(PE in California)

From: Derek Morley
Sent: Friday, June 16, 2023 3:14 PM
To: jbrown@sitesproject.org
Cc: Rude, Pete/RDD <Pete.Rude@jacobs.com>; Luu, Henry <Henry.Luu@hdrinc.com>; Krivanec, Christopher <Christopher.Krivanec@hdrinc.com>
Subject: Sites presentation opportunity

Jerry,

This email is regarding an opportunity to present about the Sites Project at an upcoming conference. We discussed this briefly back in February, when conference abstracts were to be submitted, with the intent to coordinate again if/when the abstract was accepted for the conference. The abstract now has been accepted. This email is to provide you more information, as well as to seek your concurrence – or nonconcurrence – for proceeding.

The conference is the annual national Association of State Dam Safety Officials (ASDSO) conference, one of the premier dam industry conferences. The conference is in a different state each year, and this year it will be in California, in Palm Springs, in September. The conference will be attended mostly by dam owners (e.g., water utilities, hydropower utilities), dam safety regulators (e.g., DSOD), engineering consultants, and dam construction contractors. Most of the conference is technical presentations, with presentations commonly about how some technical challenge was analyzed, or some dam was repaired, and so on. Technical presentations are grouped into sessions, organized by themes, with like 4 or 5 presentations in each session. Commonly each year, one session is set-aside for the biggest or most important project going on in the state, with all the presentations in that session to be about describing various aspects of that one project. My abstract proposed that such a special session be conducted for the Sites Project. This is the abstract I submitted, attached.

Recall when we spoke, I requested to submit the abstract proposing this session, with the understanding that I would circle back with you if/when the abstract was accepted for the conference. This was with the explicit understanding that if the abstract was accepted, it still could be withdrawn at that time if it was decided that proceeding is not in the best interest of the project.

So, a little more information for your consideration in either confirming that we may proceed or that I should withdraw the abstract:

- Attendance at the conference for the consultant team is a consultant overhead cost, not charged to Sites. Note that our firms regularly send a number of attendees to this conference each year (i.e., we'll be there already anyway). Each presentation will be prepared by the consultants listed in the abstract on their own time, not charged to Sites. Again, we all regularly prepare conference presentations on our dime.
- Each presentation will be prepared in advance of the conference and provided to Sites for review and editing as desired. This will be coordinated not only to ensure that nothing is presented that shouldn't be presented, but also to weave in themes that support Sites' messaging to current and prospective funding partners, to regulators, and to contractors. No papers will be written or submitted; will be only powerpoint presentations, presented orally.

- The Sites Authority has the opportunity, if you wish, to moderate the session (e.g., you or JP). The session was scheduled to be during the afternoon of Wednesday, September 20. The ASDSO 2023 conference runs Monday through Thursday of that week. Attendees can register for the whole conference or portions of the conference (e.g., register at reduced rate for a single day). Conference speakers may receive a slight discount over attendees who are just attending, but still need to pay their way to register.

I can provide other information if desired to support your consideration to either confirm proceeding or to withdraw. As I mentioned above, a number of the consultants on the Sites team regularly attend this conference and they also can provide you additional information and perspectives if you like.

Derek S. Morley, PE
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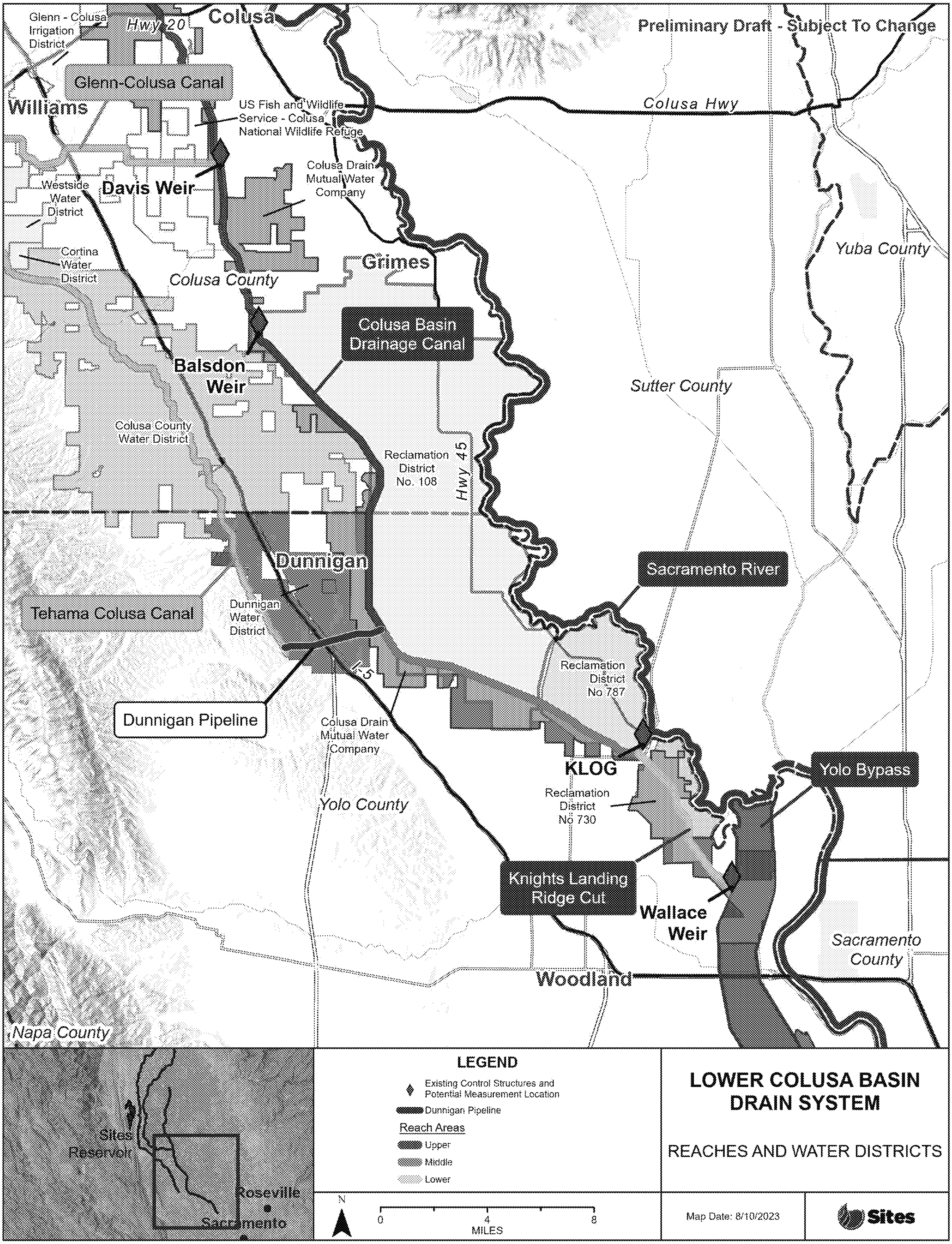

PATH: C:\USERS\MGALBRAITH\ONEDRIVE - HDR, INC\DOCUMENTS\ARCGIS\PROJECTS\SITES_TO_4_10333221\7.2_WIP\MAP_DOCS\SITES_TO_4_10333221.APRX - USER: MGALBRAITH - DATE: 8/10/2023

Sent: 8/11/2023 8:02:28 AM
To: Laurie Warner Herson [laurie.warner.herson@phenixenv.com]; Marcia Kivett [MKivett@sitesproject.org]
Subject: RE: 1v1 item

In addition to the items below – Laurie, is there anything more in the confidential appendix?

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Sent: Friday, August 11, 2023 7:49 AM
To: Marcia Kivett <MKivett@sitesproject.org>; Alicia Forsythe <aforsythe@sitesproject.org>
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- Treatment of all cultural items, including ceremonial items and archaeological items will reflect the religious beliefs, customs, and practices of the culturally affiliated Tribe. All cultural items, including ceremonial items and archaeological items, discovered during Project construction and operation will be turned

over to the Tribe for appropriate treatment, unless otherwise ordered by a court or agency of competent jurisdiction. The Authority will waive any and all claims to ownership of Tribal cultural items, including ceremonial items and archaeological items that may be found.

- Work of Tribal monitors and treatment of human remains will proceed in accordance with treatment plans developed in consultation with the most likely descendant of the culturally affiliated Tribe as identified by the NAHC.

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The Authority will develop a Cemetery Relocation Plan for relocating two known, dedicated cemeteries located in the inundation area. This will be part of Reclamation's Programmatic Historic Properties Management Plan that would be prepared in consultation with SHPO.

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Two dedicated cemeteries in the inundation area will be relocated to a site or sites approved for interment of human remains per requirements of the California Health and Safety Code (Sections 7500–7527). This procedure will be developed through consultation and coordination with descendants and other parties with demonstrated interest in the occupants of the cemeteries. The procedure will outline legal requirements, such as acquiring a written order from the local health department or county superior court before human remains may be moved, and other rules and regulations adopted by the board of health or health officer of the county.

Mitigation Measure CUL-3.2: Avoid, Protect, and Treat Human Remains

The Authority will avoid and protect any human remains encountered during pre-construction, construction, post-construction, operations, and maintenance. The Authority will follow appropriate state guidelines for halting Project activities at the discovery location, contacting the appropriate county coroner to report the discovery, and proceeding with implementation of Project policies regarding Native American consultation or implementation of a burial treatment plan. See Appendix 4A, *Regulatory Resources,* Sections 4A.18.1, *Federal Policies and Regulations,* and 4A.18.2, *State Policies and Regulations*.

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From: Marcia Kivett <MKivett@sitesproject.org>
Sent: Friday, August 11, 2023 7:30 AM
To: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; Alicia Forsythe <aforsythe@sitesproject.org>
Subject: Fw: 1v1 item

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From: Jerry Brown <jbrown@sitesproject.org>
Sent: Thursday, August 10, 2023 5:01 PM
To: Marcia Kivett <MKivett@sitesproject.org>
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Sent from my iPhone

From: Laurie Warner Herson [laurie.warner.herson@phenixenv.com]
Sent: 8/11/2023 9:38:22 AM
To: Risse, Danielle [Danielle.Risse@hdrinc.com]
CC: Marcia Kivett [MKivett@sitesproject.org]; Alicia Forsythe [aforsythe@sitesproject.org]
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Which is why we did not include the report as an appendix.

From: Risse, Danielle <Danielle.Risse@hdrinc.com>
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HI all,
No, there isn't anything further in the confidential appendix about treatment/mitigation/procedures. The confidential appendix is just the technical report documenting the known and potential cutlural resources in the Project area that could be affected by the Project.

Let me know if you need any additional information. Thanks, Danielle

Danielle Risse, M.A. (she/her)
Office 916-679-8796 **Mobile** 707-372-5007

hdrinc.com/follow-us

From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
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Danielle - please see email chain below and Ali's question regarding the confidential

Sent from my iPhone

On Aug 11, 2023, at 8:15 AM, Alicia Forsythe <aforsythe@sitesproject.org> wrote:

In addition to the items below – Laurie, is there anything more in the confidential appendix?

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

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Yes – thanks for that reminder Laurie😉. Its not an appendix. The technical report was updated/finalized July 2022, so it was not updated to reflect the latest efforts to be more sensitive in the language we are using to describe tribal history.

Danielle Risse, M.A. (she/her)
Office 916-679-8796 **Mobile** 707-372-5007

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CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

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To: Brenda Haynes [haynes034@att.net]
CC: Kevin Spesert [kspesert@sitesproject.org]; Alicia Forsythe [aforsythe@sitesproject.org]
Subject: Re: Elaine Norwood

Brenda – Thanks for your note. We welcome this information and look forward to future discussion with Ms. Norwood. We will keep you posted as this outreach continues.

Regarding your specific question about the plans of the Authority for relocating known cemetaries located in the inundation area, please find the attached excerpt of the summary description which is included in the Final EIR/EIS. As you can see, the Authority's plans align well with Ms. Norwood's wishes.

Please let me know if you hear further from Ms. Norwood or if you hear anything additional with regard to tribal interests in the project.

Thanks
Jerry

Mitigation Measure CUL-3.1: Cemetery Relocation Plan

The Authority will develop a Cemetery Relocation Plan for relocating two known, dedicated cemeteries located in the inundation area. This will be part of Reclamation's Programmatic Historic Properties Management Plan that would be prepared in consultation with SHPO.

Avoidance of the disturbance and/or inundation of two known cemeteries is not expected to be feasible except under the No Project Alternative. The Cemetery Relocation Plan will ensure that all remains in these two cemeteries are treated with respect and in accordance with the wishes of identifiable descendants. The Cemetery Relocation Plan will also ensure that state and county health and safety codes are followed for those interments that are relocated.

Two dedicated cemeteries in the inundation area will be relocated to a site or sites approved for interment of human remains per requirements of the California Health and Safety Code (Sections 7500–7527). This procedure will be developed through consultation and coordination with descendants and other parties with demonstrated interest in the occupants of the cemeteries. The procedure will outline legal requirements, such as acquiring a written order from the local health department or county superior court before human remains may be moved, and other rules and regulations adopted by the board of health or health officer of the county.

From: Brenda Haynes <haynes034@att.net>
Date: Friday, August 11, 2023 at 1:05 PM
To: Jerry Brown <jbrown@sitesproject.org>
Subject: Elaine Norwood

Hi Jerry,

As you and I briefly discussed yesterday, a Colusa constituent, Elaine Norwood, (916-765-7913 cell) reached out to Congressman LaMalfa
with a concern and subsequent request. I just spoke with her today and learned more. Elaine is a very pleasant lady, and I thoroughly enjoyed
our phone visit.

Elaine is a descendant of the Sites family. Her grandparents and great-grandparents are the Sites family who settled that area and along with several other ancestors are buried in a cemetery below the anticipated inundation water line of Sites Reservoir. Access to the cemetery is across private property, although she said access by Sites project related folks would be welcome. The cemetery is marked, but very very old. Seldom does anyone visit there anymore as its a rattlesnake infested place now days.

When I mentioned all the heavy rains we lost out to the ocean this past winter and how beneficial it would've been to have captured that water in Sites Reservoir, she enthusiastically agreed! She believes Sites Reservoir will be a great thing and needs to happen.

Elaine has a wealth of historical information and told me her great grandparents were sheep herders who "walked" their sheep from Sites to Shingletown each summer, then brought them back to Sites for winter grazing. She said the trek took about 3 weeks one way. Wow.

She has several cousins in the area. Phil & Betsy Sites live right next to the Sites Reservoir footprint.

There is no blood connection between any local tribe and the Sites descendants. Yesterday I mentioned to you that our office heard positive tribal opinions that their ancestors' remains would be better protected under a lake, so they welcomed the building of Sites Reservoir. Those comments apparently came from another source. I can track down that source if you like as it seems that would be good information to document.

Elaine's family request is that their ancestors' graves be exhumed and re-buried within the Sites valley but above the high water line. She would welcome an opportunity to meet Sites officials and discuss this further. Her cell number is above.

If there is anything I can do to help in this regard or anything else pertaining to Site Reservoir, please let me know!

Brenda Haynes

Sent: 8/14/2023 3:42:13 PM
To: Laurie Warner Herson [laurie.warner.herson@phenixenv.com]
CC: Spranza, John [john.spranza@hdrinc.com]; henry.luu@hdrinc.com
Subject: RE: Required input on Draft MWI Project Engineering Report

Thanks. I reviewed the text. I think it looks fine, but I don't really know if it meets the need.

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Sent: Monday, August 14, 2023 11:15 AM
To: Alicia Forsythe <aforsythe@sitesproject.org>
Cc: Spranza, John <john.spranza@hdrinc.com>; henry.luu@hdrinc.com
Subject: FW: Required input on Draft MWI Project Engineering Report

Hi Ali,

I did what I could on Friday afternoon to update the environmental sections of the PER. I think we could do a much better job at characterizing existing conditions if we overlay the new footprint with the resource layers in GIS. However, we would still need to keep impacts general until we have direction on how USDA wants to move forward with the NEPA analysis of the revised project.

Henry has indicated that Derek wants to send this to the USDA today but I think you need to review it before it goes. There is nothing in the PER that wasn't in the memo we sent previously; its just not as detailed as one would expect.

Let us know how you prefer to move ahead – the PER and the attachment (FONSI summary of impacts) are in this folder: https://sitesreservoirproject.sharepoint.com/:f:/r/Engineering%26Geotechnical/Preliminary%20Engineering/Technical%20Memorandums/Jacobs/Maxwell%20Water%20Intertie?csf=1&web=1&e=Edew6A

Thanks,

Laurie

From: Laurie Warner Herson
Sent: Friday, August 11, 2023 3:47 PM
To: Luu, Henry <henry.luu@hdrinc.com>; Wu, Dawning <Dawning.Wu@hdrinc.com>
Subject: RE: Required input on Draft MWI Project Engineering Report

Hi Henry and Dawning,

I've provided some quick edits to the engineers report and uploaded an appendix here: Appendix C. We have not yet analyzed the new MWI project so all of the added text is based on the 2018 EA. I've noted in the text that additional NEPA analysis will be required. Although we have covered the project footprint in our EIR/EIS for the Sites Reservoir

Project, we do not have MWI-specific impacts identified. If you need something more complete, we will need to talk budget and schedule.

Have a good weekend –

Laurie

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Subject: RE: Required input on Draft MWI Project Engineering Report

Thanks Laurie.

Yes – it is at the same link provided previously, here: Eng_Report_Maxwell_Water_Intertie_Project_Rev2 - For Environmental Input.docx

Dawning Wu
D 916.817.4886 M 916.461.3253

hdrinc.com/follow-us

From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Sent: Friday, August 11, 2023 1:04 PM
To: Wu, Dawning <Dawning.Wu@hdrinc.com>
Cc: Luu, Henry <henry.luu@hdrinc.com>
Subject: RE: Required input on Draft MWI Project Engineering Report

Hi Dawning,

Yes, I can look at it today. Before it goes to USDA, Ali will need to review it as well.

I assume its at the same link provided previously?

Laurie

From: Wu, Dawning <Dawning.Wu@hdrinc.com>
Sent: Friday, August 11, 2023 12:57 PM
To: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Cc: Luu, Henry <henry.luu@hdrinc.com>
Subject: RE: Required input on Draft MWI Project Engineering Report

Hi Laurie,

I hope your operation went well and that you are recovering well.

Following up on our conversation earlier this week, Henry and I took a look at the comments/edits from John and the other sections requiring environmental input. I did try taking a stab at taking in information from the environmental memo that you provided, but stopped short of making many changes, since there seemed to be a judgment call to make

– e.g., how detailed the descriptions should be/should it match exactly with the environmental memo. Will you get a chance to take a look today and either make the edits or let us know how we can support adjusting the document?

Thank you for your help,
Dawning

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D 916.817.4886 M 916.461.3253

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From: Luu, Henry <Henry.Luu@hdrinc.com>
Sent: Monday, August 7, 2023 2:03 PM
To: Alicia Forsythe <aforsythe@sitesproject.org>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; Spranza, John <John.Spranza@hdrinc.com>
Cc: Wu, Dawning <Dawning.Wu@hdrinc.com>
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Thank you,

Henry H. Luu, PE
D 916.679.8857 M 916.754.7566

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From: Alicia Forsythe [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A6CDF06A7E904B65BAA21702A82AD329-AFORSYTHE]
Sent: 8/14/2023 3:42:52 PM
To: Laurie Warner Herson [laurie.warner.herson@phenixenv.com]; Spranza, John [john.spranza@hdrinc.com]; henry.luu@hdrinc.com
Subject: RE: Required input on Draft MWI Project Engineering Report

Thanks. I reviewed the text. I think it looks fine, but I don't really know if it meets the need.

Henry – is this what you were looking for? Do you think this meets the need?

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

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To: Alicia Forsythe <aforsythe@sitesproject.org>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; Spranza, John <John.Spranza@hdrinc.com>
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To: Yuan Liu [yliu@ccwater.com]; Lucinda Shih [lshih@ccwater.com]; Lu Han [lhan@ccwater.com]; steve.micko@jacobs.com; Wesley Walker [walker@mbkengineers.com]; Deanna Sereno [dsereno@ccwater.com]
Subject: RE: Sites - Water Quality Discussion
Attachments: 20230815_CCDW Proposed Terms for Sites Project.docx

CCWD Team – Thanks for the good discussion yesterday. We've coordinated extensively within our team and feel that our position remains the same. Attached is our proposal for addressing CCWD's concerns.

I just want to remind the group that Sites is only diverting in excess conditions, when the Sacramento River at Wilkins Slough is above 10,700 cfs and remains above that amount, and after we implement our 7-day pulse protection. These criteria drives Sites to only diverting in high flow conditions. We are also releasing and moving a substantial amount of water through the Delta in dry and critically dry years, as through it is transfer water, in the transfer window.

We look forward to the discussion this afternoon.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

-----Original Appointment-----
From: Alicia Forsythe
Sent: Monday, August 14, 2023 10:09 AM
To: Alicia Forsythe; Yuan Liu; Lucinda Shih; Lu Han; steve.micko@jacobs.com; Wesley Walker; Deanna Sereno
Subject: Sites - Water Quality Discussion
When: Tuesday, August 15, 2023 4:00 PM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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From:	Alicia Forsythe [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A6CDF06A7E904B65BAA21702A82AD329-AFORSYTHE]
Sent:	8/15/2023 10:57:54 AM
To:	Yuan Liu [yliu@ccwater.com]; Lucinda Shih [lshih@ccwater.com]; Lu Han [lhan@ccwater.com]; steve.micko@jacobs.com; Wesley Walker [walker@mbkengineers.com]; Deanna Sereno [dsereno@ccwater.com]
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We look forward to the discussion this afternoon.

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Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

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Sent: Monday, August 14, 2023 10:09 AM
To: Alicia Forsythe; Yuan Liu; Lucinda Shih; Lu Han; steve.micko@jacobs.com; Wesley Walker; Deanna Sereno
Subject: Sites - Water Quality Discussion
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To: Deanna Sereno [dsereno@ccwater.com]; Yuan Liu [yliu@ccwater.com]; Lucinda Shih [lshih@ccwater.com]; Lu Han [lhan@ccwater.com]; steve.micko@jacobs.com; Wesley Walker [walker@mbkengineers.com]
Subject: RE: Sites - Water Quality Discussion

You are correct. The only operations condition that appears directly in our permit is the excess condition through the CVP/SWP Term.

However, the other conditions are foundational to the Project – meaning, changing them changes the Project, which would trigger CEQA compliance and a change to our Operations ITP. In that CEQA compliance, the Authority would have to evaluate how changes to the Project result in different impacts in all resource areas – including water supply, water quality, Delta conditions. We are open to a MOU or letter agreement that the Authority would notify CCWD if the Authority proposed to change these operational criteria, and would meet and confer on these changes. CCWD would, of course, have all rights and abilities through the CEQA process to participate in the evaluation of any potential future changes in operational criteria.

I have focused here on the CEQA process as, frankly, its more stringent than NEPA – but with our connection with Reclamation and the need for coverage under Federal ESA for operations, changes to the Project's operational criteria would also trigger changes to our Federal ESA BiOps and NEPA.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

---

From: Deanna Sereno <dsereno@ccwater.com>
Sent: Tuesday, August 15, 2023 11:17 AM
To: Alicia Forsythe <aforsythe@sitesproject.org>; Yuan Liu <yliu@ccwater.com>; Lucinda Shih <lshih@ccwater.com>; Lu Han <lhan@ccwater.com>; steve.micko@jacobs.com; Wesley Walker <walker@mbkengineers.com>
Subject: RE: Sites - Water Quality Discussion

Thanks Ali – One clarifying question …

I was under the impression that the Authority was asking that the operational criteria not be written in to the water rights permit. The operational criteria may be a condition of the ITP (and BiOps?), which could change over time for the purpose of fishery protection. Is this incorrect?

From: Alicia Forsythe <aforsythe@sitesproject.org>
Sent: Tuesday, August 15, 2023 10:58 AM
To: Yuan Liu <yliu@ccwater.com>; Lucinda Shih <lshih@ccwater.com>; Lu Han <lhan@ccwater.com>; steve.micko@jacobs.com; Wesley Walker <walker@mbkengineers.com>; Deanna Sereno <dsereno@ccwater.com>
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Sent: 8/16/2023 12:03:30 PM
To: Jerry Brown [jbrown@sitesproject.org]; Calfee, Christopher@CNRA [Christopher.Calfee@resources.ca.gov]; Leslie, Heather@CNRA [Heather.Leslie@resources.ca.gov]
Subject: RE: SB149 Materials
Attachments: 20230816_Attachment to Gov Letter_Revised.docx

Hi Chris – We have been working on a few items and have made some changes to the application. Attached is a revised application. Changes have been focused in Section 2.2 and Section 2.7.

We also plan to include the entire GHG mitigation measure from the upcoming Final EIR/EIS as an attachment. I've attached this new Attachment C to this email. I need to run some final pieces of this mitigation measure through Reclamation and am doing that now. I will keep you in the loop if it changes.

We are working on the crosswalk to our water right application and MBK is taking one last look today. I expect to get this to you tomorrow. Apologies for the delay on this one.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Alicia Forsythe
Sent: Friday, July 28, 2023 7:40 AM
To: Jerry Brown <jbrown@sitesproject.org>; Calfee, Christopher@CNRA <Christopher.Calfee@resources.ca.gov>; Vogel, Nancy@CNRA <Nancy.Vogel@resources.ca.gov>
Cc: Leslie, Heather@CNRA <Heather.Leslie@resources.ca.gov>
Subject: RE: SB149 Materials

Attached is the revised draft application.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

-----Original Appointment-----
From: Jerry Brown <jbrown@sitesproject.org>
Sent: Thursday, July 27, 2023 5:19 PM

To: Jerry Brown; Alicia Forsythe; Calfee, Christopher@CNRA; Vogel, Nancy@CNRA
Cc: Leslie, Heather@CNRA
Subject: SB149 Materials
When: Friday, July 28, 2023 12:00 PM-12:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Hope this time works for everyone. If not Ali and I could start @3p as an alternative.

Also please forward to anyone else you would like to attend.

Ali is doing a final pass of the app and will send to you both by 8a tomorrow.

Look forward to our discussion and moving forward.

Jerry

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Infrastructure Project Application

Sites Reservoir Project

August 16, 2023

Revised Draft

Page Intentionally Blank

Contents

Tables

Figures

AF1

Attachments

Page 3 Comments

AF1 Adding in Figure 3 and 4 at final. They show preferred project facilities.
Alicia Forsythe, 7/24/2023 01:14 AM

1.0 Project Background and Status

The Sites Project Authority (Authority) submits this application in accordance with California Public Resources Code (PRC) Division 13, Chapter 7, commencing with Section 21189.80. Specifically, this application is to support the Governor of California (Governor) in certifying the Sites Reservoir Project (Sites Reservoir or Project) as an infrastructure project under PRC Section 21189.82(a)(4)(A), and specifically as a "water-related project" under PRC Section 21189.80(h)(1)(B)(i).

The Project provides an unprecedented opportunity to expand the toolbox of measures to help the State maintain a resilient water supply in the face of climate change, weather extremes, and water scarcity. The Project will also help reduce the secondary effects of our weather extremes that impact every sector of our state from food availability, to employment, to physical and mental health of our citizens. Sites Reservoir is a unique multi-benefit water storage project that provides a resilient and reliable supply of water for California's environment, communities, and farms during dry periods. The Project would capture and store water from the Sacramento River during high flows—after all other water rights and regulatory requirements are met— and make that water available to California's environment, communities, and farms when it's most needed – especially during times of drought. With a potential capacity of approximately 1.5 million acre-feet, Sites can store the excess stormwater without the need to dam any major river or block fish migration. California can and must utilize all tools in our collective and vast toolbox of measures to adjust and continue to prosper as people, for our businesses and especially for our rich and diverse ecosystems.

An overview of the Authority, the Project and its schedule are provided below. Chapter 2 provides an overview of PRC section requirement applicable to the Project followed by a description of how the Project complies with the requirement.

1.1 Sites Project Authority

The Authority, previously known as the Sites Joint Powers Authority, was formed as a California joint powers authority pursuant to state law on August 26, 2010. The mission of the Authority is to build and operate a climate-resilient, twenty-first-century water storage system to responsibly manage and deliver water, provide environmental benefits, and provide flood control and recreation benefits. The Authority would be responsible for all aspects of ownership and operations of the Project and Project facilities that are not currently owned by another entity (such as the Bureau of Reclamation [Reclamation] or the Glenn-Colusa Irrigation District [GCID]).

The Authority currently is composed of the following public entities located and operating in the Sacramento Valley—City of Sacramento/Sacramento County Water Agency (share a seat), Colusa County Water District, County of Colusa, County of Glenn, GCID, Placer County Water Agency/City of Roseville (share a seat), Reclamation District 108, Tehama-Colusa Canal Authority (TCCA), and Westside Water District. Reclamation and the California Department of Water Resources (DWR) are ex-officio, nonvoting members. Western Canal Water District and TC 4 Districts (Cortina, LaGrande, Davis and Dunnigan) are associate, nonvoting members.

Twenty-two public water agencies currently comprise the Authority's Reservoir Committee. Reservoir Committee members, also referred to as Storage Partners, would provide funding for the Project's construction and operations and would receive water supply benefits from the Project. Reclamation is a nonvoting member of the Reservoir Committee and is planning to provide funding for the Project and receive water supply benefits dedicated to specific purposes such as environmental enhancement and wildlife refuges. DWR, which manages the State Water Project (SWP) on behalf of the State of California, is also a nonvoting member of the Reservoir Committee.

The State of California would provide Water Storage Investment Program (WSIP) funding through the California Water Commission (CWC) for the Project and receive ecosystem, recreation, and flood control benefits from the Project. It is anticipated that DWR would administer the benefit agreements on flood reduction and recreation and that the California Department of Fish and Wildlife (CDFW) would administer the benefit agreement for ecosystem improvements.

The Authority has worked extensively to address stakeholders' concerns about the Project. Substantial adjustments have been made to the Project facilities to utilize existing facilities to the greatest extent possible and eliminate the most environmentally damaging and least cost-effective facilities. The Authority has made substantial adjustments to the criteria under which the Project would divert water from the Sacramento River to make these criteria much more stringent, protective of aquatic resources, and based on recent and best available science. These adjustments were reflected in our 2021 Revised Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) with additional adjustments included in our upcoming Final EIR/EIS (expected in October 2023). The Authority believes that the Project, as will be considered for approval by the Authority's Board in October, best balances the concerns of stakeholders while retaining the Project's economic feasibility.

1.2 Project Description

The Project would involve the construction, operation, and maintenance of an offstream surface water reservoir to provide direct and real benefits to instream flows, the Sacramento-San Joaquin Delta (Delta) ecosystem, and water supply reliability. The reservoir inundation area would be in rural, unincorporated areas of Glenn and Colusa Counties, and Project components would be located in Tehama, Glenn, Colusa, and Yolo counties. Figure 1 show the reservoir footprint, towns, and smaller creeks in the Project Area. A summary of the Project is provided below and a detailed description of the Project from the upcoming Final EIR/EIS is provided as Attachment A.

The Project would use existing infrastructure to divert unregulated and unappropriated flow from the Sacramento River at Red Bluff and Hamilton City and convey the water to a new offstream reservoir west of the community of Maxwell, California. New and existing facilities would move water into and out of the reservoir. Releases from Sites Reservoir would be used locally, be conveyed to the Yolo Bypass for ecosystem benefits, or ultimately return to the Sacramento River system via existing canals and a new pipeline located near Dunnigan. Water released from the reservoir would be used to benefit local, state, and federal water use needs, including public water agencies, anadromous fish species in the Sacramento River watershed, wildlife refuges and habitats, and the Yolo Bypass to help supply food for delta smelt (*Hypomesus transpacificus*). The Authority would own and operate all newly constructed Project facilities that are not already owned by another entity. There are currently 22 Storage Partners representing local and regional water delivery agencies that serve over 24.5 million people and over 500,000 acres of farmland that are paying for the Project and would receive the resulting water supply benefits. Figure 2 shows the service areas of Storage Partners in the Project. In addition, the State of California and Reclamation are also participating in the Project as Storage Partners.

Construction of the Sites Reservoir would necessitate construction of a bridge or bypass road to connect Maxwell with the community of Lodoga. Additional components would include development of new recreation facilities at the reservoir.

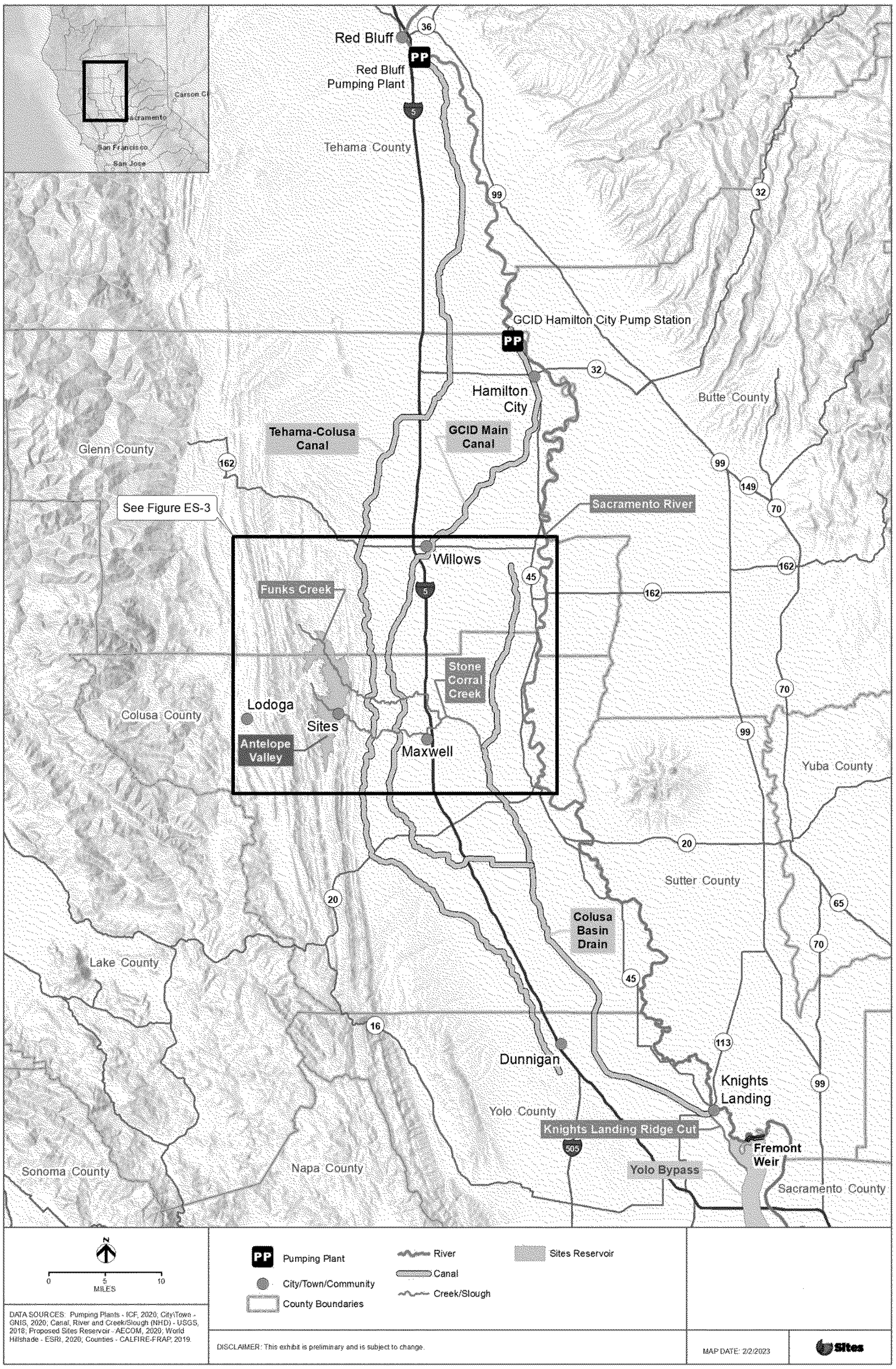

Figure 1. Project Vicinity Map

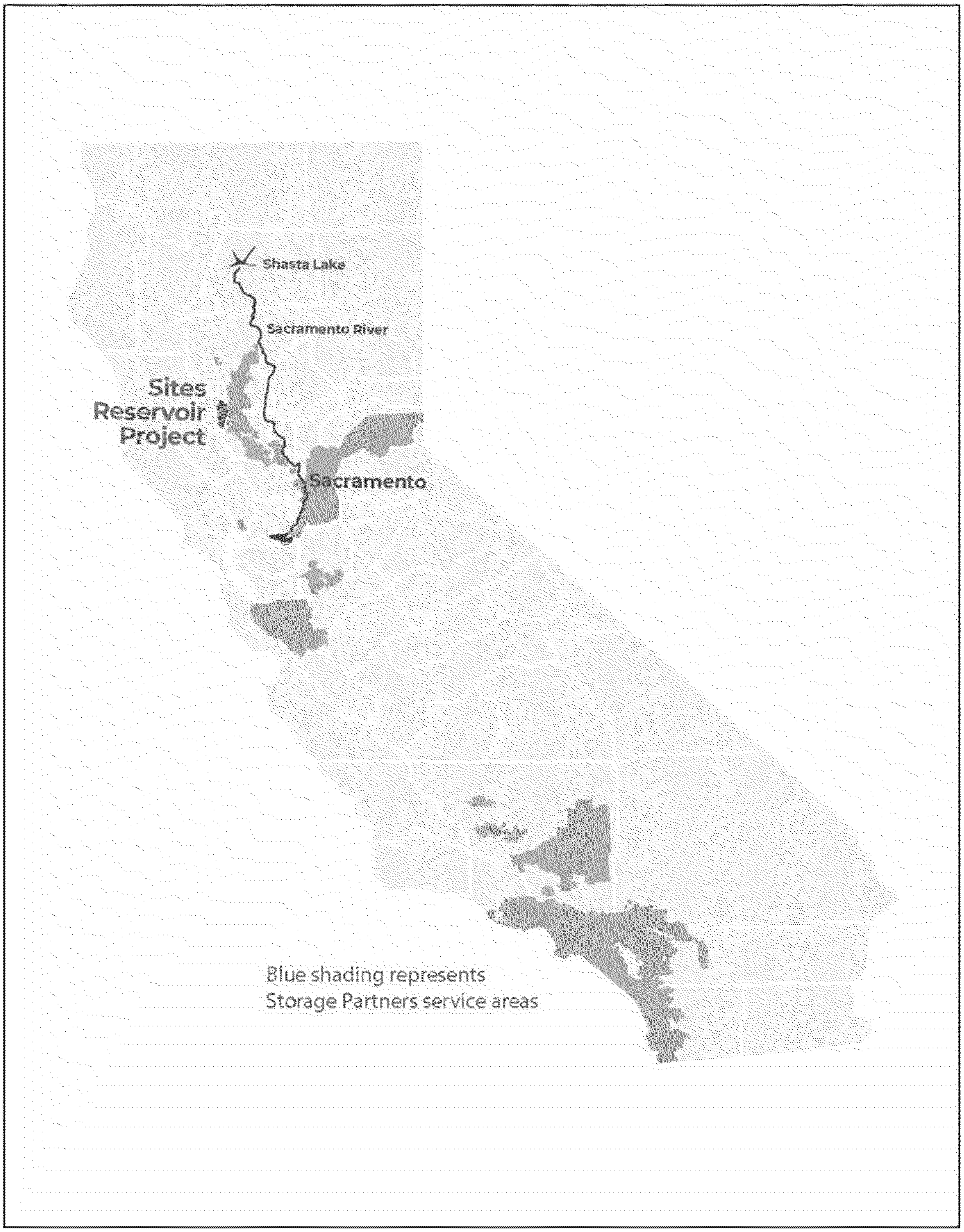

Figure 2. Sites Project Storage Partners Service Areas

Three action alternatives were analyzed in the 2021 RDEIR/SDEIS. These three alternatives have many common elements, including the use of existing infrastructure to divert unappropriated flow from the Sacramento River, the release of Sites Reservoir water back to the Sacramento River when needed, and the construction of two new recreation areas and a boat ramp. Table 1 provides an overview of the three action alternatives. Due to both the additional anadromous fish benefits of the Project and the increased availability of federal funding for infrastructure projects, Alternative 3 is the Authority's preferred alternative and is the proposed project under CEQA.

Table 1. Defining Characteristics of the Sites Reservoir Project Alternatives Considered in the 2021 RDEIR/SDEIS and Upcoming Final EIR/EIS

Project Element	Alternative 1	Alternative 2	Alternative 3 Authority Preferred Alternative
Sites Reservoir Size	1.5 MAF	1.3 MAF	Same as Alternative 1
Inundation Area	13,200 acres	12,600 acres	Same as Alternative 1
Dams (scaled to the size of the reservoir)	Golden Gate and Sites Dams; 7 saddle dams; 2 saddle dikes	Golden Gate and Sites Dams; 4 saddle dams; 3 saddle dikes	Same as Alternative 1
Route Connecting East and West Sides of Reservoir	Permanent bridge crossing the reservoir	Paved roadway along south side of reservoir	Same as Alternative 1
Regulating Reservoirs	Funks Reservoir TRR East	Funks Reservoir TRR West	Same as Alternative 1
Conveyance Releases	Releases 1,000 cfs into new Dunnigan Pipeline discharging into the CBD	Releases of up to 1,000 cfs into new Dunnigan Pipeline discharging into the Sacramento River with partial discharge into the CBD	Same as Alternative 1
Releases into Funks Creek and Stone Corral Creek	Specific flow criteria to maintain flows to protect downstream water right holders and ecological function	Same as Alternative 1	Same as Alternative 1
Reclamation Involvement	Two options: • Operational exchanges[1] only (Alternative 1A); or • Funding partner (up to 7% investment) with operational exchanges[1] (Alternative 1B)	Operational exchanges[1] only	Funding partner (up to 25% investment) with operational exchanges[1]
DWR Involvement	Operational Exchanges with Oroville and use of SWP facilities South-of-Delta	Same as Alternative 1 (volumes may vary, however)	Similar to Alternative 1 (volumes may vary, however)

Notes: CBD = Colusa Basin Drain; cfs = cubic feet per second; MAF = million acre-feet; SWP = State Water Project; TRR = Terminal Regulating Reservoir

[1] Operational exchanges could include within-year exchanges and real-time exchanges and assist in providing anadromous fish benefits in the upper Sacramento River.

Key Project facilities are shown in Figure 3 and 4 and include:

- Improvements to and use of the existing Red Bluff Pumping Plant (RBPP), existing Tehama-Colusa (TC) Canal, existing Hamilton City Pump Station, and existing GCID Main Canal for the diversion and conveyance of water from the Sacramento River.
- Construction of facilities to control the conveyance of water between Sites Reservoir, TC Canal, and GCID Main Canal. These facilities would include regulating reservoirs, pipelines, pumping generating plants, electrical substations, and maintenance buildings.
- Construction of two main dams, the Golden Gate Dam on Funks Creek and the Sites Dam on Stone Corral Creek. A series of saddle dams and saddle dikes along the northern and eastern rims of the reservoir to close off topographic saddles in the surrounding ridges.
- Construction of a new pipeline (the Dunnigan Pipeline) to convey water from the new reservoir to the Colusa Basin Drain and the Yolo Bypass or Sacramento River.
- Development of two primary recreation areas and a day-use boat ramp. The recreation areas would also require a network of new roads and upgrades to existing roads for maintenance and local access. These areas would provide multiple recreational amenities, including campsites, boat access, horse trails, hiking trails, and vista points.
- Construction of new paved and unpaved roads to provide construction and maintenance access to the new facilities, as well as public access to the recreation areas. Construction of a new bridge across the reservoir to provide local and regional access from Maxwell to/from Lodoga and locations to the west.

Key Project operations and maintenance elements include:

- **Water Operations** – The Project would provide water supply and water supply-related environmental benefits to the Storage Partners. Water would be diverted from the Sacramento River at the existing RBPP through the TC Canal into the existing Funks Reservoir and at the GCID Hamilton City Pump Station through the GCID Main Canal into a new Terminal Regulating Reservoir (TRR). From the existing Funks Reservoir and a new TRR, the water would be pumped into the new Sites Reservoir. Diversions could occur between September 1 and June 14, which corresponds with the period that the Sacramento River is not fully appropriated. Diversions would occur only when the diversion criteria are met. Water would be held in storage in the reservoir until requested for release by a Storage Partner. Water releases would generally be made from May to November but could occur at any time of the year depending on the Storage Partner's need and system conveyance capacity. Water would be released from Sites Reservoir back into a TRR or back into Funks Reservoir. Water released could be used along the GCID Main Canal, along the TC Canal, or conveyed to the new Dunnigan Pipeline and discharged to the Colusa Basin Drain and conveyed via the Sacramento River or the Yolo Bypass to a variety of locations in the Delta and south of the Delta. Operations would be coordinated with Reclamation and DWR to prevent conflicts with the Central Valley Project (CVP) and SWP. Exchanges of water may occur with the CVP to provide anadromous fish benefits in the upper Sacramento River through maintenance of the cold-water pool in Shasta Reservoir longer into the summer and fall, enhancement of spring pulse releases from Shasta Reservoir, and stability of flows in Sacramento River in the fall. Exchanges may also occur with the SWP.

Insert Figure 3

Insert Figure 4

- **Energy Generation and Energy Use** – The Project would need power to run facilities and pump water but would also generate incidental power when water is released from Sites Reservoir. The power needs for the Project beyond what could be generated by its operations would be purchased from market sources. The goal would be to purchase at least 60% from renewable, carbon-free sources from the start of operations to 2045, and to purchase 100% from renewable, carbon-free sources starting in 2045, if not sooner.

- **Facility Operations and Maintenance** – Operations and maintenance activities for all facilities, including recreation areas, would include debris removal, vegetation control, rodent control, erosion control and protection, routine inspections, painting, cleaning, repairs, and other routine tasks to maintain the facilities in accordance with design standards after construction and commissioning.

- **Best Management Practices, Management Plans, and Technical Studies** – Best management practices, management plans, and technical studies would be implemented as part of Project design, construction, and operation/maintenance.

1.3 Project Status and Schedule

The Authority continues to make progress in the planning, permitting, engineering, land acquisition, construction, and financing components of the Project. A summary of the Project schedule is provided in Figure 5. Key progress on Project activities is summarized below.

- **Environmental Planning** – Environmental planning efforts are well underway. The Authority as the California Environmental Quality Act (CEQA) lead agency, working closely with Reclamation as the National Environmental Policy Act (NEPA) lead agency, released a joint Revised Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) in November 2021. The comment period closed in January 2022. Since that time, the Authority and Reclamation have worked on addressing comments, preparing revised modeling with more stringent water diversion criteria, and reflecting updates and revisions in the Final EIR/EIS. The Authority and Reclamation anticipate releasing the Final EIR/EIS in October 2023. The Authority Board is currently expected to consider certification of the Final EIR/EIS and whether to adopt the Project at its October 20, 2023 meeting.

- **Permitting and Water Rights** – The Authority continues to make progress on all Project permits and the Project's water right application. The Authority recently submitted its Revised Construction Incidental Take Permit application to CDFW and anticipates submitting its Operations Incidental Take Permit application to CDFW in August 2023. The Authority submitted its water right application to the State Water Resources Control Board (State Water Board) in May 2022 along with supplemental materials in January 2023. The State Water Board recently noticed the Authority's application and the protest period closes on August 31, 2023. Reclamation is the lead agency for the Project's Federal Endangered Species Act compliance and expects to initiate consultation later this calendar year. The Authority is also preparing its Clean Water Act Section 404 and 401 permit applications and expects to submit those to the U.S. Army Corps of Engineers and the State Water Board, respectively, later this calendar year. Overall key permitting activities are underway with most key permits expected to be received in calendar year 2024. Federal Endangered Species Act compliance is expected to be completed in two steps, with the first completed in early 2024 and the second step completed in early 2025.

- **Engineering** – The Authority has completed feasibility level Project design activities. Geotechnical activities are underway to collect additional information to inform more detailed designs, with activities prioritized to those facilities on the Project schedule critical path. The current focus is generally on the construction access roads, dams, and associated material borrow areas. Roadway realignments and the bridge over the reservoir to ensure continued transportation route from the community of Maxwell to the community of Lodoga and areas to the west are also a high priority. Thirty percent level of design of Project facilities is underway and is being informed by on-going geotechnical field investigations.

- **Land Acquisition** – The Authority has entered into several Temporary Rights of Entry with private and public landowners for access to Project locations for the geotechnical activities. At this juncture no fee title acquisitions have been executed. These would be initiated upon the Storage Partners providing their final funding commitment sometime in 2025. Some early acquisitions may occur if available from a willing seller and dependent on providing an overall schedule benefit. There are about 30 individual landowners that retain fee title to the properties in the inundation area. The Authority conducts regular outreach with all affected landowners to maintain open lines of communication, provide updates on project schedule and project facility siting, and receive their feedback on Project activities.

- **Construction and Commissioning** – Currently, construction is anticipated to begin in late-2025 with roads and dam facilities comprising the initial construction efforts as these facilities have either the longest construction period (dams) or are necessary to access the dam locations and safely route local traffic around the construction locations. Construction of remaining facilities would have staggered start dates throughout the construction period. Construction and commissioning are expected to be completed in 2031 with the Project beginning full operations in 2032.

- **Financing** – Although not shown on the schedule, a substantial amount of effort is currently underway to establish Project financing. In March 2022, the Authority was invited by the U.S. Environmental Protection Agency (USEPA) to apply for what would be the largest Water Infrastructure Finance and Innovation Act (WIFIA) loan ever awarded by the USEPA. In March 2023, the Authority submitted its WIFIA application for an up to $2.6 billion loan for the Project and in June 2023, USEPA accepted the Authority's application. The Authority is currently working with USEPA on the terms and conditions of a Master Loan Agreement and anticipates the USEPA deciding on the loan in mid-2024. At its July 24, 2018, meeting, the CWC conditionally determined that the Sites Project was eligible for $816,377,686 in funding under Proposition 1 for ecosystem, flood control and recreation public benefits, subject to the Project completing the remaining legal requirements for funding. At its meeting on March 16, 2022, the CWC adjusted the maximum conditional eligibility determination for the Sites Project to $875,396,369. The Authority continues to work with CDFW, DWR, and the CWC to complete the necessary requirements and the final funding agreement in 2024. In addition to these sources of funding, Reclamation has also expressed its interest in being an investor in the Project. Consistent with the requirements of the Water Infrastructure Improvements for the Nation Act, in December 2020, Reclamation completed and transmitted to Congress a final feasibility report for the Project. This final feasibility report notified Congress of the Secretary of the Interior's determination of feasibility for the Project. Currently, the Authority anticipates completing all these financing efforts in late 2024/early 2025 in anticipation of construction commencing in mid-2025. Further, the Authority is working with the 22 Storage Partners to complete the

Benefits and Obligations Contract to secure revenues to repay any debt and to secure funding for ongoing operating, maintenance and replacement costs.

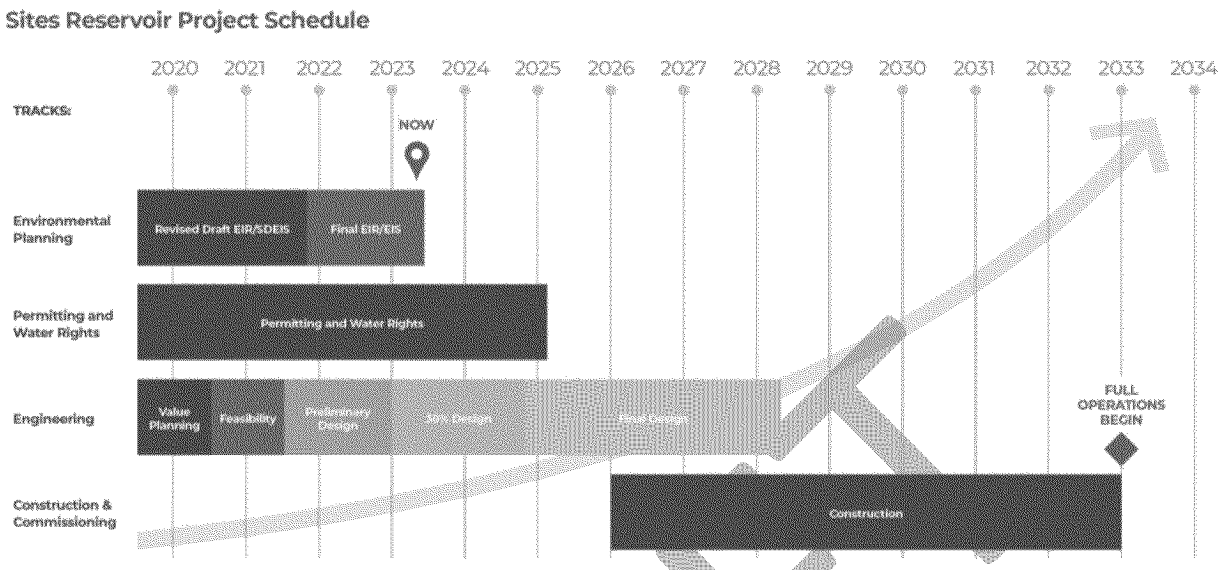

Figure 5. Project Schedule

2.0 Consistency with Statutory Requirements for Streamlining Under SB 149

This chapter summarizes each applicable section of the California Public Resources Code (PRC) as amended by Senate Bill 149, and describes how the Project complies with the requirements in the section. Additional supporting information is provided in attachments, as warranted.

2.1 Water-Related Project

PRC Section 21189.81(e)(4) defines the term "infrastructure project" to include a "water-related project." PRC section 21189.81(h)(1)(B)(i) defines a "water-related project" to include a "water storage project funded by the California Water Commission pursuant to Chapter 8 (commencing with Section 79750) of Division 26.7 of the Water Code."

The Sites Project qualifies as a "water-related project" under PRC Sections 21189.81(e)(4) & (h)(1)(B)(i). Chapter 8 of Division 26.7 of the Water Code, which was enacted by Proposition 1 and is part of the Water Quality, Supply, and Infrastructure Improvement Act of 2014, is administered by the CWC through WSIP. The CWC conducted an extensive and rigorous selection process that was open to the public from 2015 to 2018 to select water supply infrastructure projects that met the eligibility criteria and provided public benefits, such as flood control, ecosystem improvement, water quality improvement, emergency response, and recreation benefits. The selection process culminated in July 2018 when the CWC issuing maximum eligibility determinations for eight potential projects, including the Sites Reservoir Project, that would boost California water storage capacity by 4.3 million acre-feet.

At its July 24, 2018, meeting, the CWC conditionally determined that the Sites Project was eligible for $816,377,686 in funding under Proposition 1 for its flood control, ecosystem improvement, and recreation public benefits, subject to the Project completing the remaining legal requirements for funding. The CWC also approved up to $40,818,884 in early funding for the Sites Project and the Authority and CWC entered into an Early Funding agreement in June 2019. To date, early funding is approximately 95% spent.

The Authority has worked diligently towards completion of the requirements of Proposition 1 and associated regulations to receive its final WSIP funding award. In November 2021, the Authority completed the 2021 RDEIR/SDEIS pursuant to CEQA, provided a letter of commitment for 75% non-public costs share, and completed a feasibility study for the Project. Based on these milestones, at its meeting on December 15, 2021, the CWC determined the Project feasible. With this determination, the Project continues to be eligible for WSIP funding.

At its meeting on March 16, 2022, the CWC adjusted the maximum conditional eligibility determination for the Sites Project to $875,396,369. The Authority continues to work diligently towards completion of the legal requirements necessary for a final award hearing. The current schedule for the final award hearing is Spring 2025.

See Attachment B for key correspondence for the CWC to the Authority relative to the Project's WSIP funding.

2.2 Minimize Diversions Except During Times of Surplus and Prioritize the Discharge of Water for Ecological Benefits

PRC Section 21189.81(h)(1)(B)(ii) states that the project applicant for a water-related project "shall demonstrate that the project will minimize the intake or diversion of water except during times of surplus water and prioritizes the discharge of water for ecological benefits or to mitigate an emergency, including, but not limited to, dam repair, levee repair, wetland restoration, marshland restoration, or habitat preservation, or other public benefits described in Section 79753 of the Water Code."

The Authority is minimizing the Project's diversion of water except during times of surplus through its protective diversion criteria and proposed terms in its water right application submitted to the State Water Board. In addition, the Authority is prioritizing the discharge of water for ecological benefits through its beneficiary pays principle reflected in the Authority Board of Director's (Board) adopted Principles for the Storage, Delivery and Sale of Sites Reservoir Project Water (Storage Principles). The Project meets the requirements of this PRC section as described below.

2.2.1 Minimize Diversions Except During Times of Surplus

The Project includes several conditions that limit diversions of water to occur during times of surplus. These conditions include the following:

- Project diversions would only occur during the season that the Sacramento River is not fully appropriated (September 1 through June 14 of the following year).
- Flows in the Sacramento River exceed the following minimum diversion criteria for the protection of ecological health of aquatic resources including listed salmonids in the Sacramento River and Delta.
    - Bend Bridge Pulse Protection Criteria – Protection of all qualified precipitation-generated pulse events (i.e., peaks in river flow rather than scheduled operational events) from October to May based on predicted hydrology and monitoring to protect outmigration of juvenile salmonids. A qualified precipitation-generated pulse event is determined based on forecasted flows, and pulse protection may cease after 7 days or earlier if flows at Bend Bridge exceed 29,000 cubic feet per second (cfs) and Project diversions subtracted from Bend Bridge flows continue to be at least 25,000 cfs.
    - Minimum Bypass Flows in the Sacramento River at Wilkins Slough – Minimum bypass flows in the Sacramento River at Wilkins Slough is 10,700 cfs from October 1 to June 14; 5,000 cfs in September (no diversions to Sites Reservoir from June 15 to August 31). This criterion is based on recent science and provides protection for a number of aquatic resources in the Sacramento River and Delta.

[1] In the Coordinated Operations Agreement, excess water conditions are defined as periods when it is agreed by Reclamation and DWR that releases from reservoirs upstream of the Delta plus unregulated flow exceeds Sacramento Valley inbasin uses plus water being exported by Reclamation and DWR in the Delta.

- The Delta is in "excess[1]" conditions as determined by the Reclamation and DWR under the Coordinated Operations Agreement[2] and would remain in excess conditions during diversions.

- Senior downstream water rights, the CVP and SWP, and other more senior flow priorities have been satisfied.

- Flows are available for diversion above flows needed to meet all applicable laws, regulations, biological opinions and incidental take permits, and court orders in place at the time that diversion occurs.

- There is available capacity to divert and convey water to Sites Reservoir, above the capacity needed for deliveries to existing users.

These conditions will be reflected in the Project's upcoming Final EIR/EIS. These are also either included directly as components of the Project's water right application to the State Water Board, where appropriate, or are foundational components of the Project and the Project description in the water right application to the State Water Board. As they are foundational to the Project, they are included in the modeling and analysis of impacts in the Project's CEQA document and water right application (the Water Availability Analysis in particular). Changing these foundational components of the Project would trigger additional consideration under CEQA.

In addition to these diversion and operational criteria that form the Project, the Authority has included several conditions in its water right application to minimize diversions except during times of excess and protect ecological health of the Sacramento River and Delta ecosystem. These include the following:

- **Sites Project-Specific Terms** – These proposed terms are specific to the Sites Project and were included in the Authority's May 11, 2022, water right application or in the Authority's January 6, 2023, supplemental application materials. As identified in the Authority's letter dated January 6, 2023, to the State Water Board, the Authority is requesting these terms be included in its water right permit to proactively address concerns and protect environmental resources:

    - **Funks and Stone Corral Creeks Flows** – This term includes a requirement for the Authority to prepare a Technical Studies Plan to collect information on Funks and Stone Corral creeks to ensure the Project will comply with Fish and Game Code 5937[3]. The plan is to be prepared in conjunction with CDFW, U.S. Fish and Wildlife Service, and Colusa County. The term then requires the Authority to implement the study plan. Within 5 years of issuance of the water right permit, the term requires that the Authority develop an operations plan for releases into the two creeks. This operations plan is to be developed in conjunction with the same agencies and would be approved by the Deputy Director for Water Rights at the State Water Board. Collectively this term allows for the

[2] The full title of the document is the *Agreement Between the United States of America and the State of California for Coordinated Operations of the Central Valley Project and State Water Project*. Available here: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Files/Coordinated-Agreement-between-Reclamation-and-DWR_a_y20.pdf

[1] In the Coordinated Operations Agreement, excess water conditions are defined as periods when it is agreed by Reclamation and DWR that releases from reservoirs upstream of the Delta plus unregulated flow exceeds Sacramento Valley inbasin uses plus water being exported by Reclamation and DWR in the Delta.

[3] Fish and Game Code 5937 states: "The owner of any dam shall allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam."

collaborative collection of data on Funks and Stone Corral creeks to form the basis of a future operations plan for these two creeks along with the collaborate development of this operations plan.

- **Minimum Flow Requirement and Pulse Protection** – This term would require that the Authority's diversion of water into Sites Reservoir comply with the California Endangered Species Act, including any conditions of approval in any Incidental Take Permit issued by CDFW relative to the Authority's water operations.

- **Trinity River Term** – This term would prohibit the Sites Project from diverting water that originates from the Trinity River into storage in Sites Reservoir. This term would also prohibit the Sites Project diversion to storage from negatively impacting the Trinity River obligations of Reclamation. Overall, this term provides firm protections that the Project would not impact Trinity River resources.

- **Standard Terms** – The Authority included several standard permit terms in its water right application. Standard terms are terms developed by the State Water Board staff that are the same (standard) for all applicable water right permits[4]. The Authority understands that additional standard and mandatory terms are likely to be included in its water right permit, and chose to include these in its application to proactively address concerns and protect environmental resources:

  - **Term 90, Reduction of Diversion Season** – This term identifies that water may not be available for diversion during portions or the diversion season. The season of diversion may be reduced or eliminated.

  - **Term 91, Inbasin Entitlements** – This term identifies that no diversion is authorized when satisfaction of inbasin entitlements requires supplemental releases by the CVP and SWP.

  - **Term 96, Reserved Jurisdiction for Bay-Delta Plan Amendments** – This term recognizes that the State Water Board is in the process of amending the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) to establish new and modified Delta tributary inflow and cold water habitat and Delta outflow objectives and reserves jurisdiction to the State Water Board to amend Sites water right to establish a new and modified Bay-Delta Plan.

2.2.2 Prioritize the Discharge of Water for Ecological and Other Public Benefits

As described in Section 2.1 above, the Project includes storage space and Sites water for ecological benefits through State investment under Proposition 1 and WSIP. The Project was also awarded funds to deliver public benefits of flood control which occurs as a result of impounding two ephemeral streams and recreation which is part of the Project facilities. The Authority will enter into a public benefit contract with DWR to ensure these public benefits are delivered as part of the Project and in return for WSIP funds contributed.

4 Summaries of the standard terms are provided here. Full text of the standard terms can be found on the State Water Board's website here: https://www.waterboards.ca.gov/waterrights/water_issues/programs/permits/.

To ensure that each Storage Partner has the ability to manage their own storage space and prioritize their use of Sites water, the Authority Board adopted the Storage Principles[5]. The Storage Principles identify that all Storage Partners, including the State of California and Reclamation, have discretion over release of water from their Storage Allocation. The Storage Principles also identify a process to work through any release conflicts to meet the water demands of Storage Partners including the water demands to serve the public benefits for the Project under Proposition 1. This demonstrates a public benefit priority commensurate to the public investment, which is consistent with foundational principle under Proposition 1 that benefits accrue to those who pay for the benefit.

In addition to the Storage Principles, the Authority will be obligated to enter into a binding contract to ensure achievement of the ecological benefits of the Project funded by the State as part of the Proposition 1 requirements. The contact, termed the Public Benefits Contract, is currently in development between the Authority and CDFW. The execution of this contract is a condition precedent to the Funding Agreement with the CWC and the Authority receiving a final award of funds under Proposition 1.

The federal investment in the Project by Reclamation has been identified to include ecological public benefits of improving water management for anadromous fish species and delivery of water to wildlife refuges and ecological areas. Reclamation's use of its storage space and associated Sites water is at Reclamation's discretion and will follow the foundational principle under Proposition 1 that benefits accrue to those who pay for the benefit. These benefits are mentioned here because they were identified by Reclamation in their feasibility report to Congress in December 2020 and their feasibility addendum transmitted to the Office of Management and Budget in December 2022.

2.3 Public Works

PRC section 21189.81(h)(2) states that water-related projects "are public works for the purposes of Section 1720 of the Labor Code and shall comply with the applicable provisions of Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code."

The Sites Project is a public works project for purposes of Section 1720 of the Labor Code and the Authority will comply with the applicable provisions of Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code.

2.4 Court Costs

PRC section 21189.82(a)(4)(B)(i) states that project applicant must agree "to pay the costs of the trial court and the court of appeal in hearing and deciding any case challenging a lead agency's action on a certified project under this division, including payment of the costs for the appointment of a special master if deemed appropriate by the court, in a form and manner as provided in the rule of court adopted by the Judicial Council under Section 21189.85."

At its meeting on July 21, 2023, the Authority's Board of Directors voted unanimously to commit to pay these costs[6], should they occur.

[5] The Storage Principles can be found on the Authority's website here: https://sitesproject.org/wp-content/uploads/2021/04/02-01-Storage-Policy.pdf.

[6] The staff report for this item can be found on the Authority's website here: https://sitesproject.org/wp-content/uploads/2023/07/02-02-SB149.pdf.

2.5 Cost of the Record of Proceedings

PRC Section 21189.82(a)(4)(B)(ii) states that project applicant must agree "to pay the costs of preparing the record of proceedings for the project concurrent with the review and consideration of the project under this division, in a form and manner specified by the lead agency for the project."

At its meeting on July 21, 2023, meeting, the Authority's Board of Directors voted unanimously to commit to pay these costs[7] and authorized the services necessary to complete this work on the timeline required for compliance to achieve the certification.

2.6 Record of Proceedings Provisions

PRC Section 21189.82(a)(4)(B)(iii) states that for a project for which environmental review has commenced, the applicant must demonstrate "that the record of proceedings is being prepared in accordance with Section 21189.86."

The environmental review for the Sites Reservoir Project has commenced and the Authority is working to ensure compliance with the provisions of Section 21189.86 as expeditiously as possible.

The Authority has sought to advance the Project since its formation in August 2010. In August 2017, the Authority and Reclamation jointly issued a Draft Environmental Impact Report/Environmental Impact Statement (2017 Draft EIR/EIS)[8] for the Project pursuant to their respective lead agency obligations under CEQA and NEPA. In November 2021, the Authority and Reclamation issued a RDEIR/SDEIS[9] as a complete revision of the 2017 Draft EIR/EIS to reflect changes to the Project that occurred since the issuance of the 2017 Draft EIR/EIS. The Authority and Reclamation are currently preparing the Final EIR/EIS for the Project and expect to release this document in the coming months.

As the environmental review for the Project has commenced, the Authority has carefully reviewed the requirements in Senate Bill 149 and PRC Section 21189.86 and is working to gather the complete record of proceedings and make the record available on its website as quickly as possible. For any new record of proceeding materials from the effective date of the legislation, the Authority will comply with PRC Section 21189.86. For documents occurring prior to the date of the legislation, the Authority is compiling the record of proceedings and making the record available on its website as quickly as possible but no later than by the date of the Governor's certification. All references cited in the 2017 Draft EIR/EIS and 2021 RDEIR/SDEIS, that are not protected by copyright restrictions, have been available in an electronic format by contacting the Authority directly.

The Authority has exceeded minimum requirements for public agencies to make its records and materials available to the public. All Board meetings, Board workshops, and workgroup and committee meetings are public meetings and all materials are made available to the public on the website in advance of the meetings per the Brown Act requirements.

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7 The staff report for this item can be found on the Authority's website here: https://sitesproject.org/wp-content/uploads/2023/07/02-02-SB149.pdf.

8 The 2017 Draft EIR/EIS, public meeting information, and outreach materials can be found on the Authority's website here: https://sitesproject.org/environmental-review/.

9 The RDEIR/SDEIS, public meeting information, outreach materials and all public comments on the document can be found on the Authority's website here: https://sitesproject.org/environmental-review/.

Table 2 summarizes the Authority's efforts to gather the record of proceedings and make this record available on its website.

Table 2. Status of Project's CEQA Record of Proceedings

PRC Section 21189.86 Requirement	Authority's Current Efforts to Achieve Compliance
21189.86. Notwithstanding any other law, the preparation and certification of the record of proceedings for an infrastructure project shall be performed in the following manner:	
(a) The lead agency for the project shall prepare the record of proceedings under this division concurrently with the administrative process.	While the Authority's EIR process began in 2017 with issuance of a Notice of Preparation for the Project, the Authority is working expeditiously to gather the complete record of proceedings and make the record available on its website as quickly as possible.
(b) All documents and other materials placed in the record of proceedings shall be posted on, and be downloadable from, an internet website maintained by the lead agency commencing with the date of the release of the draft environmental impact report.	The Authority will comply with respect to any new documents from the effective date of the legislation. For documents occurring prior to the date of the legislation, the Authority is compiling the record of proceedings and will make these documents available in an electronic format on its website by the date of the Governor's certification.
(c) The lead agency shall make available to the public in a readily accessible electronic format the draft environmental impact report and all other documents submitted to, or relied on by, the lead agency in preparing the draft environmental impact report.	The 2017 Draft EIR/EIS and 2021 RDEIR/SDEIS are currently available on the Authority's website. All materials relied upon in these documents, that are not protected by copyright restrictions, are available in an electronic format by contacting the Authority. All comments on the 2021 RDEIR/SDEIS are available on the Authority's website. The Authority will make all other documents submitted to or relied upon in the preparation of the EIR available in an electric format on its website by the date of the Governor's certification.
(d) Any document prepared by the lead agency or submitted by the applicant after the date of the release of the draft environmental impact report that is a part of the record of proceedings shall be made available to the public in a readily accessible electronic format within five days after the document is released or received by the lead agency.	The Authority will comply with respect to any new documents from the effective date of the legislation. For documents occurring prior to the date of the legislation, the Authority will make these documents available in an electronic format on its website by the date of the Governor's certification.
(e) The lead agency shall encourage written comments on the project to be submitted in a readily accessible electronic format, and shall make any comment available to the public in a readily accessible electronic format within five days of its receipt.	All comments on the Project have been available in an electronic format by contacting the Authority. Comment letters and meeting transcripts for comments on the 2021 RDEIR/SDEIS are available on the Authority's website. The Authority will make comments on the 2017 Draft EIR/EIS available in an electronic format on its website by the date of the Governor's certification. The Authority will comply with respect to any comments received after the effective date of the legislation.

(f) Within seven days after the receipt of any comment that is not in an electronic format, the lead agency shall convert that comment into a readily accessible electronic format and make it available to the public in that format.	For previous comments, see response to item (e) above. The Authority will comply with respect to any comments received after the effective date of the legislation.
(g) Notwithstanding subdivisions (b) to (f), inclusive, documents submitted to or relied on by the lead agency that were not prepared specifically for the project and are copyright protected are not required to be made readily accessible in an electronic format. For those copyright-protected documents, the lead agency shall make an index of these documents available in an electronic format no later than the date of the release of the draft environmental impact report, or within five days if the document is received or relied on by the lead agency after the release of the draft environmental impact report. The index shall specify the libraries or lead agency offices in which hardcopies of the copyrighted materials are available for public review.	All materials relied upon in the 2017 Draft EIR/EIS and 2021 RDEIR/SDEIS that are protected by copyright restrictions are available for review at the Authority office. The Authority is working to prepare the required index and make the index available on its website by the date of the Governor's certification. The Authority will comply with respect to any new documents from the effective date of the legislation.
(h) The lead agency shall certify the final record of proceedings within five days of its approval of the project.	If the Authority Board votes in the affirmative to approve the Project, then the Board will also be prepared to certify the record within five days of its approval.
(i) Any dispute arising from the record of proceedings shall be resolved by the superior court. Unless the superior court directs otherwise, a party disputing the content of the record of proceedings shall file a motion to augment the record of proceedings at the time it files its initial brief.	Noted.
(j) The contents of the record of proceedings shall be as set forth in subdivision (e) of Section 21167.6.	Noted.
(k) The applicant shall pay the costs of preparing the record of proceedings for the project concurrent with review and consideration of the project under this division, in a form and manner specified by the lead agency for the project. The cost of preparing the record of proceedings for the project shall not be recoverable from the plaintiff or petitioner before, during, or after any litigation.	At its meeting on July 21, 2023, the Authority's Board of Directors voted unanimously to agree to pay these costs.

2.7 Minimization of Greenhouse Gas Emissions

PRC Section 21189.82(a)(4)(C) states that the Governor may certify a project as a water-related project for purposes of this chapter only if the Governor finds that greenhouse gas emissions resulting from the project will be mitigated to the extent feasible.

The Authority's mission is to build and operate a climate-resilient, 21st Century water storage system to responsibly manage and deliver water, improve the environment, and provide flood control and recreational benefits. Consistent with its mission, the Authority set a high bar for itself in its RDEIR/SDEIS by selecting a net-zero threshold of significance for greenhouse gas (GHG) emissions. With this high bar, the RDEIR/SDEIS identified the impacts from the Project's generation of GHG emissions during construction and operations as less than significant with mitigation. The GHG mitigation provides a worst-case estimate of the Project's annual GHG mitigation needs and a step-by-step program to measure and mitigate the actual GHG emissions during both construction and operations through the development and implementation of a GHG Reduction Plan to reduce GHG emissions to net-zero. No substantial changes have been made to the mitigation measure between the issuance of the RDEIR/SDEIS and the upcoming Final EIR/EIS. However, two provisions have been added to the mitigation measure. The first requires the Authority Board to formally adopt the completed GHG Reduction Plan and make it publicly available on its website prior to its adoption. The second requires the Authority to seek opportunities to implement GHG reduction measures in environmental justice communities (as identified in the Final EIR/EIS[10]) in and near the Project site and report on the effort and outcomes in the annual reporting required in the measure. The complete mitigation measure from the upcoming Final EIR/EIS is included as Attachment C.

The Authority and Reclamation analyzed the Project's potential GHG emissions during construction and operations in the 2021 RDEIR/SDEIS[11], including a calculation of GHG emissions from construction and operations. The 2021 RDEIR/SDEIS found the Projects generation of GHG emissions to have the potential to have a significant impact on the environment. To reduce this impact to less than significant, the 2021 RDEIR/SDEIS includes a mitigation measure that requires the development and implementation of a GHG Reduction Plan to reduce Project emissions from onsite and offsite sources to achieve net-zero Project emissions.

The mitigation measure requires that the Authority retain a qualified consultant to develop the GHG Reduction Plan to reduce GHG emissions to net-zero. The mitigation measure specifically calls for the GHG Reduction Plan to address GHG emissions from construction and operations on a continual basis, requiring advance planning and implementation of GHG emissions throughout the life of the Project. The Authority will thus need to proactively assess upcoming construction and operations activity and implement early investment in GHG reduction efforts prior to construction and operations to ensure that the emissions are being mitigated prior to the activity occurring.

The mitigation measure requires an updated emissions analysis to be performed using approved emissions models and methods available at the time of the analysis. The construction component and each operational increment in the GHG Reduction Plan will identify GHG reduction measures that will be implemented during the period to achieve the net zero performance standard. GHG reduction measures must be verifiable and feasible to implement, and the plan will identify the entity responsible for implementing each measure. Several possible GHG reduction strategies are identified in the mitigation measure and additional strategies may be identified in the development of the GHG Reduction Plan. Table 3 provides a summary of the possible GHG reduction strategies identified in the mitigation measure.

10 See Section 2.8 below for a discussion of environmental justice communities in and near the Project site.

11 See Chapter 21, Greenhouse Gas Emissions of the RDEIR/SDEIS, available on the Authority's website here: https://sitesproject.org/revised-draft-environmental-impact-report-supplemental-draft-environmental-impact-statement/.

Table 3. Summary of Possible GHG Reduction Strategies Identified in the Mitigation Measure and To Be Considered in the GHG Reduction Plan

Likelihood of Selection	Locality	Possible GHG Reduction Strategies[1]
Preconstruction and Construction Considerations		
High; All of these measures will be considered in the GHG Reduction Plan and are highly likely to be implemented; Some measures may be implemented to the extent feasible based on the remote Project location and unique Project characteristics	Project Site	• Use electric equipment and vehicles instead of diesel-powered vehicles to the extent possible • Use vehicles that use alternative fuels, such as compressed natural gas, liquified natural gas, propane, or biodiesel to the extent possible • Consider Project characteristics to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high efficiency technologies are appropriate and feasible • Ensure that all economically feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power • When generators must be used, consider use of alternative fuels, such as propane or solar • Minimize idling time by requiring that equipment be shut down after 3 minutes when not in use • Maintain all construction equipment in proper working condition and perform all preventive maintenance • Implement a tire inflation program on each jobsite to ensure that equipment tires are correctly inflated • Develop a Project-specific ride share program to encourage carpools and shuttle vans • Reduce electricity use in temporary construction offices by using high efficiency lighting and requiring that heating and cooling units be Energy Star compliant • Use SmartWay26 certified trucks for material deliveries to Project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box type trailer is used for hauling • Develop a Project-specific construction debris recycling and diversion program to achieve a documented 50% diversion of construction waste • During all activities, diesel-fueled portable equipment with maximum power greater than 25 horsepower shall be registered under the CARB's Statewide Portable Equipment Registration Program
Preconstruction, Construction and Operations Considerations		

High
 	
All of these measures will be considered in the GHG Reduction Plan and are highly likely to be implemented
	Offsite; Vicinity of the Project Site, Sac Valley Air Basin	• Increase the proportion of renewable energy purchases for the Project's electricity needs (construction and operations) to the highest amount that is feasible
		• Participate in or directly sponsor emissions-reducing projects, such as the following
		  ○ Replace diesel school buses with electric buses
		  ○ Plant trees in local communities
		  ○ Provide support to local businesses or homeowners to install solar photovoltaic systems, other renewable energy projects, or energy efficiency improvements
		  ○ Work with local communities to implement transportation-related emissions-reducing projects, which can include sponsoring bike- or car-share programs, providing support to public transit systems, or contributing to infrastructure and streetscape improvements for pedestrians and bicycles

High Purchase of carbon credits will be considered in the GHG Reduction Plan after all other feasible measures are implemented	Offsite; Sac Valley Air Basin, State, and United States	For all emissions that cannot otherwise be reduced through onsite or offsite measures, carbon credits would be required • Purchase carbon credits from a voluntary GHG credit provider that has an established protocol that requires projects generating GHG credits to demonstrate that the reduction of GHG emissions is real, permanent, quantifiable, verified, enforceable, and additional (per the definition in California Health & Saf. Code §§ 38562(d)(1) and (2)) Identify carbon credits in geographies closest to the Project first and only go to larger geographies (i.e., California, United States) if adequate credits cannot be found in closer geographies or the procurement of such credits would create an undue financial burden

1. Possible GHG reduction strategies are examples strategies to be considered in the development of the GHG Reduction Plan. Some strategies may be implemented to the extent feasible. Improving technology may also increase the use of certain strategies over the construction and operations period.

As part of implementation of the mitigation measure, the Authority is to prioritize strategies to reduce emissions in the following order (1) onsite measures for construction or operations, (2) offsite measures, and (3) carbon credits. The order of priority for the location of selected measures is as follows (1) within the Project footprint, (2) within communities in the vicinity of the Project site, (3) in the Sacramento Valley Air Basin, (4) in the state of California, and (5) in the United States. The Authority will seek opportunities to implement GHG reduction measures in environmental justice communities (as identified in the Final EIR/EIS) in and near the Project site and report on the effort and outcomes in the annual reporting required in the measure. The mitigation measure also includes required monitoring, reporting and enforcement requirements for implementation of the GHG Reduction Plan. These requirements include the approval of the GHG Reduction Plan by the Authority Board along with making the GHG Reduction Plan and annual compliance reports publicly available online on the Authority's website.

Based on comments received on the RDEIR/SDEIS, minor changes have been made to the GHG analysis and mitigation measure to make corrections and improvements in the Final EIR/EIS. The Final EIR/EIS is expected to maintain the less than significant impact with mitigation determination and mitigation measure requiring net zero emissions through development and implementation of the GHG Reduction Plan.

2.8 Disadvantaged Communities

PRC Section 21189.82(c)(1) states that an applicant for certification of an infrastructure project under this chapter must avoid or minimize significant environmental impacts in any disadvantaged community.

There are no disadvantaged communities in the Project Area as defined by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code designations. The Colusa, Glenn and Yolo counties general plans were reviewed and there are no disadvantaged unincorporated communities in the Project Area as defined by Section 65302.10 of the Government Code. No significant environmental impacts to any disadvantaged community as defined in PRC Section 21189.81(b) would occur as a result of the Project.

As the Project would not result in any significant environmental impacts in any disadvantaged communities, PRC Sections 21189.82 (c)(2) and 21189.82(c)(3) are not applicable to the Project.

Although not a requirement of the PRC or of CEQA, the Project's 2021 RDEIR/SDEIS and upcoming Final EIR/EIS includes an evaluation of the Project's environmental justice consequences under NEPA. According to the U.S. Environmental Protection Agency, environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Under NEPA, implementation of the Project would result in disproportionately high and adverse air quality and visual effects to minority and low-income environmental justice populations in the Maxwell, Stonyford and Dunnigan areas. Air quality mitigation measures would reduce effects on air quality for affected receptors, including environmental justice populations, by setting standards for emissions from vehicles, off-road equipment, and boats and mandating offsets with local air pollution control districts as close to the emissions source as possible for construction and operations-generated criteria pollutants. These mitigation measures would not fully reduce the identified effects of criteria pollutant emissions because there could be insufficient supply of offsets in the local area, making it infeasible to reach offset targets. Therefore, the 2021 RDEIR/SDEIS and upcoming Final EIR/EIS find that construction and operations emissions of criteria pollutants would remain substantially adverse. In terms of visual resources, construction would affect the visual character and quality of views from Sites Lodoga Road as travelers make their way from Maxwell to Lodoga to the west, and the new Sites Reservoir would change the visual character in the immediate reservoir footprint. Mitigation is not feasible for the effects on visual resources, and effects would remain substantially adverse.

Through its 2020 Strategic Plan[12], the Authority identified the value of respect for local communities. As part of this value, the Authority recognizes the significant contributions that the local Sacramento Valley landowners and communities have and will make to the Project and identifies that the Authority will be a respectful, supportive partner and good neighbor throughout the Project. To this effect, the Authority established a Local Community Working Group in the fall of 2022. The group represents a broad cross-section of local governmental organizations, business organization, and community associations in the Colusa, Glenn and Yolo counties area and provides a forum for efficient, effective, and meaningful local community engagement in the development of the Project. Through the discussions with the Local Community Working Group, the Authority is exploring ways to both avoid and minimize its effects to the local community and ways the Project can benefit the local community, including through a variety of mechanisms such as improved local services and utilities, workforce and career development, and joint community enhancement efforts. To date, the Local Community Working Group has met five times and, by the end of 2023, expects to provide recommendations to the Authority Board that identify policy actions that may be taken to bring desired outcomes from the Project to the local community.

[12] The Authority's 2020 Strategic Plan is available on the Authority's website here: https://sitesproject.org/wp-content/uploads/2019/11/02-02-Final-Strategic-Plan.pdf

From: Micko, Steve [Steve.Micko@jacobs.com]
Sent: 8/16/2023 5:27:33 PM
To: Katherine Maher [KMaher@valleywater.org]; Gavin Downs [GDowns@valleywater.org]
CC: Thayer, Reed [Reed.Thayer@jacobs.com]; Leaf, Rob [Rob.Leaf@jacobs.com]; Alicia Forsythe [aforsythe@sitesproject.org]; Wesley Walker [walker@mbkengineers.com]
Subject: RE: Sites modeling discussion

Hi Katherine and Gavin,

I posted requested material here: 20230816_CalSimResults_Evaporation_DemandAssumptions

At the link, you will see the following:

- CalSimII_Post-Processed_Results
  - Contains a spreadsheet with post-processed inflows, storage and deliveries associated with the Valley Water account in Sites for Alternative 1B at 2035CT, Alternative 1B at 2070, and Alternative 3B at 2035CT.
    - After our call, I realized that we do not have a version of Alternative 3B at 2070 on the shelf.
  - Alternative 1B represents Reclamation participation at 7%
  - Alternative 3B represents Reclamation participation at 16%
- EvaporationAssumptions
  - Contains a brief write-up regarding Sites reservoir evaporation assumptions.
  - Please note that recent CalSim II climate change modeling, including the SWP Long-term operations (when 2035CT was developed) and the CWC WSIP process (when 2070 was developed), do not include any adjustments to evaporation rate.
- SouthOfDeltaParticipantDemandAssumptions
  - Contains a brief list of South of Delta participant demand assumptions.

Please reach out if you have any questions!

Thanks,
Steve

-----Original Appointment-----
From: Katherine Maher <KMaher@valleywater.org>
Sent: Monday, July 31, 2023 8:24 AM
To: Katherine Maher; Alicia Forsythe; Wesley Walker; Micko, Steve; Gavin Downs
Subject: Sites modeling discussion
When: Tuesday, August 8, 2023 3:00 PM-4:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Microsoft Teams meeting

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Phone Conference ID: 651 641 544#

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From: Kim Floyd [kim@floydcommunications.com]
Sent: 8/16/2023 8:12:56 PM
To: Jerry Brown [jbrown@sitesproject.org]; Kevin Spesert [kspesert@sitesproject.org]; JP Robinette [jrobinette@sitesproject.org]; Alicia Forsythe [aforsythe@sitesproject.org]
Subject: Landowner Meeting - DRAFT 8.16 meeting notes
Attachments: Sites Project Authority Community Meeting - August 16, 2023.docx

All:

Nice job tonight. I've attached the rough meeting meeting notes for your review and in consideration of tomorrow night's meeting.

Thanks,

Kim

Kim Floyd Communications
(916) 838-2666 (c)
kim@floydcommunications.com

Community Benefits and Impacts Technical Memorandum

Sites

To:	Jerry Brown and Kevin Spesert
CC:	Henry Luu
Date:	July 7, 2023
From:	Jeff Herrin and Nik Carlson
Quality Review:	Ben Aldridge
Authority Agent Review:	NA
Subject:	Community Benefits and Impacts

1.0 Introduction

This memorandum has been developed in response to a request for information on local community impacts and opportunities (call with Jerry Brown and Kevin Spesert on 23 June, 2023). Section 2 of this memorandum addresses potential measures to reduce impacts to existing local infrastructure and community services that may occur during construction. These measures are in addition to the best management practices required in Chapter 26 of the Final EIR/S (Authority, 2023). Section 3 of the memorandum presents a variety of opportunities for local communities to benefit economically from the construction and operation of Sites Reservoir. The suggestions provided primarily focus on opportunities to generate local employment and to source local materials and services. Section 4 of the memorandum provides a summary of the anticipated round trips of workers per day throughout construction.

2.0 Reducing Community Impacts

It is important to begin identifying potential and anticipated impacts to the local communities and tracking how they might be mitigated. The contracts for construction manager at risk (CMARs) (and other construction contracts as needed) will eventually include coordination and disposition many of these issues. Avoidance and minimization of community impacts should be part of the CMAR proposal and interview process. However, labor laws may constrain the ability of the CMARs to implement some types of actions. It will be important to educated both the CMAR and the community regarding potential impacts and their resolution.

Recommended measures to reduce community impacts are as follows:

- Identify and begin tracking the "weak links" now (e.g., traffic, sewer lagoon capacity, etc.). It will also be important to understand the timing of potential future conflicts (e.g., scheduled construction activities, seasonal agriculture, annual community events, etc.). We recommend consultation with key local agency stakeholders to assess existing

Commented [JS(F1]: In general, all of the impacts from the project to the local community need to be disclosed in the EIR/EIS.

The concern we have is if new impacts or mitigations are created, we may run the risk of providing examples where the environmental documentation can be viewed as "inadequate".

The point of the caution is to make sure anything identified here is well grounded in the environmental documents.

Commented [JS(F2]: This is an example of language that might be problematic in the context of the environmental documentation. The EIR/EIS has identified all of the known impacts to the local communities and developed specific mitigation measures for those impacts. Implying otherwise could create some unintended consequences.

Commented [JS(F3]: The mitigation measures for any impacts are to be explicitly defined in the environmental document. We need to be careful about identifying any additional mitigation measures in this document, per thoughts above.

Perhaps an alternative approach is to focus on the mitigation measures that are identified in the environmental document and expand on them to provide additional color/clarity on implementation or the potential benefits expected from the mitigation measures.

Consultation with the environmental team on this approach would be a benefit.

Commented [JS(F4]: It could be helpful to hear from the CMAR candidates on how they would plan to implement the mitigation measures that are included in the environmental documents plus have them expand on any other community enhancement measures they will bring to the table.

Commented [JS(F5]: This brings up a few more questions than perhaps intended. What labor laws and what actions... are the mitigation measures not implementable because of labor laws?

Commented [JS(F6]: This might have already been addressed in the EIR/EIS and mitigation measures defined, if in fact it was significant.

There may be an additional nuance in addressing impacts that are not deemed significant... as a way to provide additional benefits to the community. Perhaps an item to investigate with the environmental team.

infrastructure and public service capacity so that the potential effects of expected project-related increases in demand can be identified. This assessment should determine extent that the existing local infrastructure can accommodate the project's service demands, the net increased cost for service provision and the available mechanisms for agency reimbursement, community compensation and/or mitigation. We recommend that the procurement for the CMARs include this information (e.g., not just the maximum capacity of local wastewater and water facilities, but their average daily usage so the Contractor can account for local constraints in their bid).

- Educate the Contractor so they understand the community. We recommend this be a topic in future Contractor outreach meetings. We also recommend formal outreach meetings with the CMARs. Also consider venues/mixers for the Contractors to meet the community.
- Avoid impacts on the town of Maxwell to the extent practicable by encouraging project-related activities and development to occur at within other local communities that can better meet and absorb project needs. Work with the CMAR to establish job entrances via Road 68 and Delevan Rd. Maximized use of Park & Ride for workers is recommended. It probably is not feasible to completely manage people, but conflicts can be greatly reduced with planning and education. Note that using a company rig to transport workers impacts cost as by law hours start earlier which increases overtime. This can probably be worked out with the Project Labor Agreement (PLA) (e.g., pay one way).
- Direct vendors to job entrances.
- May need to evaluate a mobile clinic to avoid overwhelming local medical facilities. This could represent a local amenity.
- Additional cell tower capacity may be needed to keep from overwhelming existing towers.
- Consider providing on-site treatment or package plant to provide additional wastewater treatment capacity without increasing facilities or utility costs.

Commented [JS(F7]: This is an example of something that perhaps should have been evaluated in the environmental process and maybe wasn't... which could lead some to think the documentation was inadequate.

3.0 Local Community Benefits

Labor agreements may complicate some measures. Recommend getting input from the CMARs before making commitments to the community.

Opportunities for the local communities to benefit during construction will be abundant.

Commented [JS(F8]: It would be great if the amount of economic benefit to the local community could be quantified somewhat... that way it could be dimensioned into its effect in the local community. Expand the level of detail and impact, if possible.

- Include incentives in the CMAR contracts for using local materials and services.
- Hold industry days to inform your Contractors on availability and sources of local materials and services.
- Food trucks for workers can provide local income and help manage traffic.
- Local property owners may decide to provide trailer hook-ups for temporary worker housing. They would need power and water, but not necessarily a sewer connection. Communities should consider this because it is likely that some local landowners will be interested and would reduce worker commuting and increase their local spending.
- Operation of pump trucks to remove waste from septic systems.
- Work with the CMARs to establish scholarships and training programs with local colleges and vocational schools. Contractor apprenticeship programs are a possibility. Contractors

can provide on-the-job training with simulators for local employees to advance their skills. Acknowledge safety and drug testing – it is a business agreement with work requirements.

- Clerical support – dozens of clerical staff will be needed.
- Opportunity to provide porta-potties.
- Opportunity to provide ice and drinking water.
- Opportunity to provide fuel.
- Significant opportunity for light vehicle maintenance – repair shops may be inundated so this could also be a community impact.
- Local service opportunities include small demolition, fence building, and well drillers.
- Material supplies include local borrow, asphalt, ready mix, gravel, and tires.
- Clearing and grubbing provide opportunity to collect firewood.
- Ranchers' seeding equipment may be appropriate for restoration (18-yr old farm kids know how to use equipment).
- Opportunities to participate in restoration of local roads following construction.
- Consider opportunities to transfer firefighting equipment/wells/tanks over to the communities after the project construction is completed.
- Donate CMAR ambulance to the community after the job.
- Donate computers, office equipment, phones, trailers to local communities and schools.
- Contractors are likely to support local leagues, rodeo, 4H (buy a pig to BBQ for the job site), etc. We have seen Contractors donate skills to schools. Craft people may chip in to donate time (e.g., grade a ballfield).
- There will be a high demand for hauling companies and local truck drivers and other transportation services (parts and materials).

Commented [JS(F9]: Potential example of an impact that may not have been described in the environmental document.

Commented [JS(F10]: Suggest deleting this comment.

4.0 Labor Projections for Construction

Annual labor projects from the feasibility-level design for the construction of the project are provided in Attachment 1. Projections can be updated as the design progresses.

Attachment 1

Daily Roadtrips from Feasibility Design

Facility	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Comments
Sites Inundation Area Demo and Dams	75	100	637	637	637	637	637	637	First two years are demo and mob. Will need access to town of Sites. Later years include Saddle Dams with approximately 100 workers focused in the North. Ramp up in Year 3 occurs in 3rd Quarter.
Roads and Bridges	310	310	310	310					Approximately 75 workers will be focused in the North.
I/O Facilities				50	50	50	50	50	Access via the North Construction Access Road or shoo-fly access.
Dunnigan Pipeline				146	146				Focus in the South. Perhaps accommodate in Woodland/Marysville/Yuba City.
Funks/TRR Pipelines				428	428	428			Access via Dirks Road and Sites Lodoga Road realignment.
Funks Reservoir				80	80	80	80	80	Seasonal. May have a Winter focus.
Funks PGP				86	86	86	86		Access via Dirks Road and Sites Lodoga Road realignment.
TRR				48	48	48	48		
TRR Pumping/Generation Plant				88	88	88	88	88	
Transmission Lines				74	74	74	74		
Substations					16	16			
Red Bluff Improvements			2	2	2	2			Accommodate in Red Bluff
GCID Improvements				44	44	44			Perhaps accommodate in Willows
Totals	**385**	**410**	**949**	**1993**	**1699**	**1553**	**1063**	**855**	Suggest you add 5% for related traffic (County, fire, tribal, Reclamation, Agencies, etc.)

Note: The location of trips will vary throughout construction.

Sent: 8/17/2023 2:49:35 PM
To: Calfee, Christopher@CNRA [Christopher.Calfee@resources.ca.gov]; Leslie, Heather@CNRA [Heather.Leslie@resources.ca.gov]; Jerry Brown [jbrown@sitesproject.org]
Subject: RE: SB149 Materials
Attachments: 20230817_Crosswalk to Water Right Application.docx

Chris – Attached is the water right crosswalk. Happy to chat through this if you have any questions.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Alicia Forsythe
Sent: Wednesday, August 16, 2023 12:05 PM
To: Jerry Brown <jbrown@sitesproject.org>; Calfee, Christopher@CNRA <Christopher.Calfee@resources.ca.gov>; Leslie, Heather@CNRA <Heather.Leslie@resources.ca.gov>
Subject: RE: SB149 Materials

Hi Chris – We have been working on a few items and have made some changes to the application. Attached is the revised draft application. Changes have been focused in Section 2.2 and Section 2.7.

We also plan to include the entire GHG mitigation measure from the upcoming Final EIR/EIS as an attachment. I've attached this new Attachment C to this email. I need to run some final pieces of this mitigation measure through Reclamation and am doing that now. I will keep you in the loop if it changes.

We are working on the crosswalk to our water right application and MBK is taking one last look today. I expect to get this to you tomorrow. Apologies for the delay on this one.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Alicia Forsythe
Sent: Friday, July 28, 2023 7:40 AM
To: Jerry Brown <jbrown@sitesproject.org>; Calfee, Christopher@CNRA <Christopher.Calfee@resources.ca.gov>; Vogel,

Nancy@CNRA <Nancy.Vogel@resources.ca.gov>
Cc: Leslie, Heather@CNRA <Heather.Leslie@resources.ca.gov>
Subject: RE: SB149 Materials

Attached is the revised draft application.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Project Authority | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

-----Original Appointment-----
From: Jerry Brown <jbrown@sitesproject.org>
Sent: Thursday, July 27, 2023 5:19 PM
To: Jerry Brown; Alicia Forsythe; Calfee, Christopher@CNRA; Vogel, Nancy@CNRA
Cc: Leslie, Heather@CNRA
Subject: SB149 Materials
When: Friday, July 28, 2023 12:00 PM-12:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Hope this time works for everyone. If not Ali and I could start @3p as an alternative.

Also please forward to anyone else you would like to attend.

Ali is doing a final pass of the app and will send to you both by 8a tomorrow.

Look forward to our discussion and moving forward.

Jerry

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From: Wesley Walker [walker@mbkengineers.com]
Sent: 8/17/2023 3:21:01 PM
To: Alicia Forsythe [aforsythe@sitesproject.org]; Yuan Liu [yliu@ccwater.com]; Lucinda Shih [lshih@ccwater.com]; Lu Han [lhan@ccwater.com]; steve.micko@jacobs.com; Deanna Sereno [dsereno@ccwater.com]
Subject: RE: Sites - Water Quality Discussion
Attachments: 2022-12-29 Sites Historical WAA Tool.xlsm

Hi All,

Attached is a copy of the Sites Historical WAA Tool from the January 6th water right application submission. As noted during our meeting, the ability to include the face value of all downstream water rights in the water availability calculations can be turned on with the dropdown menu in cell C9 of the Control worksheet (see highlighted reference below).

Also note, I had misremembered how we had ultimately adjusted the Delta portion of the tool for the January re-submission. USBR, DWR, CCWD, and City of Antioch water rights **<u>are included</u>** in the face value water right demands.

We look forward to discussing next week!

Thanks,
Wes

	A	B	C
1			
2		W/R Season	
3		Start	End
4		9.01	6.14
5		Constraint	On/Off
6		Delta Condition	On
7		Term 91	On
8		Include State Filings	Off
9		Include Face Value Demands	On

-----Original Appointment-----
From: Alicia Forsythe <aforsythe@sitesproject.org>
Sent: Monday, August 14, 2023 10:10 AM
To: Alicia Forsythe; Yuan Liu; Lucinda Shih; Lu Han; steve.micko@jacobs.com; Wesley Walker; Deanna Sereno
Subject: Sites - Water Quality Discussion
When: Tuesday, August 15, 2023 4:00 PM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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File Provided Natively

From: Rude, Pete [Pete.Rude@jacobs.com]
Sent: 8/18/2023 3:10:21 PM
To: Luu, Henry [Henry.Luu@hdrinc.com]; JP Robinette [jrobinette@sitesproject.org]
Subject: Sites HC: CBD modeling effort - coordinating with CBEC & RD108
Attachments: Sites HC: Subsidence in Dunnigan Pipeline area and CBD; Colusa Basin Drain HEC-RAS DraftFinal TM Nov 4 2021 v3.pdf

Hi Henry and JP – thought I should get this cleared before I share with RD108 and CBEC......the attached November 4 2021 TM does NOT have the mitigation information that was provided in the December 2021 TM ....

Hi Chris and John,

Good to talk with you this afternoon. Attached is what we recently found out on subsidence in the Dunnigan area. Also I have included a draft TM from November 2021 which was our initial CBD modeling effort to give you a flavor of what we are doing. The draft TM is confidential so please keep it within your RD108 modeling team. The draft TM will be updated this fall, as we are now using a daily release model from Sites and incorporating that into our HEC RAS model, along with other refinements.

It sounds like you are using a combination of 2007-2008 CVFED LiDAR and 2018 USGS LiDAR for mapping. We are using the 2007-2008 LiDAR as the 2018 USGS LiDAR does not give us the granularity we need. I also understand that you have not field verified the drainages and potential gate structures coming into the west side of the CBD. We will hopefully be undertaking that effort this fall, depending on landowner access, and will share what ever data we come up with.

I look forward to receiving the KSN survey report that describes some subsidence issues you have delt with and a newly installed new Riggs Ranch staff gauge information. Also you mentioned a winter water schedule that you are looking at.

Thanks

Peter H. Rude, PE *(CA, OR, HI, CO)* **/Jacobs/** Civil Engineer & Principal Project Manager
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pete.rude@jacobs.com / www.jacobs.com

From: Rude, Pete [Pete.Rude@jacobs.com]
Sent: 8/8/2023 11:04:08 AM
To: Luu, Henry [Henry.Luu@hdrinc.com]; JP Robinette [jrobinette@sitesproject.org]
CC: Winslow, Kyle [Kyle.Winslow@jacobs.com]; Hekl, Jessie [Jessie.Hekl@jacobs.com]; Joe Feyder [jfeyder@reyengineers.com]; Wu, Dawning [Dawning.Wu@hdrinc.com]
Subject: Sites HC: Subsidence in Dunnigan Pipeline area and CBD
Attachments: Subsidence Comparisons on Dunnigan Primary Control.pdf; 2017 Sacramento Valley Subsidence Graphic.pdf

HI Henry and JP,

As we mentioned last Friday, we have discovered that there is subsidence in the area of the Dunnigan pipeline and the CBD. Please see both attachments that Joe Feyder pulled together. For example, the CODY station is in the area of the Dunnigan Pipeline. At CODY from 2008 to 2022 the ground surface has subsided 1.14 feet and if we just look at 2017 to 2022 it subsided 0.10 feet. This is using ellipsoid height comparison which may be the best representation of subsidence.

We are a working on a solution for this in our modeling – when we have it all figured out we will let you know. Never a dull moment. Thanks.

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pete.rude@jacobs.com / www.jacobs.com

From: Joe Feyder <jfeyder@reyengineers.com>
Sent: Tuesday, August 08, 2023 10:44 AM
To: Rude, Pete <Pete.Rude@jacobs.com>; Hekl, Jessie <Jessie.Hekl@jacobs.com>
Cc: Winslow, Kyle <Kyle.Winslow@jacobs.com>
Subject: [EXTERNAL] RE: Sites HC: south CBD mapping from existing LiDAR

Hi Pete,
Your understanding is correct. There are calculations that can model the ellipsoids heights to orthometric heights (elevations) using a common GEOID model. My guess is that some of the differences might change by about ±0.1' here and there.

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www.reyengineers.com

From: Rude, Pete <Pete.Rude@jacobs.com>
Sent: Tuesday, August 8, 2023 11:28 AM
To: Joe Feyder <jfeyder@reyengineers.com>; Hekl, Jessie <Jessie.Hekl@jacobs.com>
Cc: Winslow, Kyle <Kyle.Winslow@jacobs.com>
Subject: RE: Sites HC: south CBD mapping from existing LiDAR

HI Joe – thanks for pulling this together and approx. location of I-505 on the map. So if I am reading this correctly at CODY Station from 2008 to 2022 the ground surface has subsided 1.14 feet and if we just look at 2017 to 2022 is subsided 0.10 feet. This is using ellipsoid height comparison which you say may be best representation of subsidence. Correct?

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pete.rude@jacobs.com / www.jacobs.com

From: Joe Feyder <jfeyder@reyengineers.com>
Sent: Monday, August 07, 2023 6:12 AM
To: Rude, Pete <Pete.Rude@jacobs.com>; Hekl, Jessie <Jessie.Hekl@jacobs.com>
Cc: Winslow, Kyle <Kyle.Winslow@jacobs.com>
Subject: [EXTERNAL] RE: Sites HC: south CBD mapping from existing LiDAR

Hi Pete,
I superimposed I-505 into the attached graphic. Also attached are the comparisons of all the primary control values we developed vs. the 2008 and 2017 surveys.

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From: Rude, Pete <Pete.Rude@jacobs.com>
Sent: Thursday, August 3, 2023 1:50 PM
To: Joe Feyder <jfeyder@reyengineers.com>; Hekl, Jessie <Jessie.Hekl@jacobs.com>
Cc: Winslow, Kyle <Kyle.Winslow@jacobs.com>
Subject: RE: Sites HC: south CBD mapping from existing LiDAR

HI Joe – agreed very help and subsidence is a can of worms. To bad the attached did not have I-505 on their map.

I believe the Dunnigan Pipeline is closer to the NGS Control Station 'HERS" or "CVAP" as I know we are north of Zamora and a few miles south of Dunnigan. Can you please verify the subsidence like you did for "CODY" for these other two points?

Thanks. I need to get this information over to Sites.

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pete.rude@jacobs.com / www.jacobs.com

From: Joe Feyder <jfeyder@reyengineers.com>
Sent: Wednesday, August 02, 2023 4:39 PM
To: Hekl, Jessie <Jessie.Hekl@jacobs.com>
Cc: Rude, Pete <Pete.Rude@jacobs.com>; Winslow, Kyle <Kyle.Winslow@jacobs.com>
Subject: [EXTERNAL] RE: Sites HC: south CBD mapping from existing LiDAR

Hi Jessie,
Regarding the 1-2 foot vertical difference between our LiDAR and the CVFED data, there are two variables:

1. The first, and smaller of the two, are the GEOID models in use at the time of the CVFED collection vs. what we've employed for the Sites Project(s).
a. At the time of the CVFED work, GEOID99 was likely used. We used the current GEOID18.
2. The second, and more significant, is subsidence.
a. The "*2008 DWR/USBR Sacramento Valley Subsidence Project*" reported an elevation of 41.83' at National Geodetic Survey (NGS) control station "CODY"
i."CODY" is located close to the center of the Dunnigan pipeline mapping)
b. The primary control we established in 2022 for the Sites Project(s) places "CODY" at 40.515'

There was also a "*2017 GPS Survey of the Sacramento Valley Subsidence Network*" that had "CODY" at 40.78'.

Attached is a graphic from the 2017 Survey, showing height changes from 2008 to 2017. As you can see it's not a constant.

In the vicinity of Finks Reservoir, National Geodetic Survey (NGS) control station "FINK" has these elevations, for the same dates shown above:

- 2008: ≈93.2' (based on the published elevation of 28.4m)
- 2017: ≈93.1' (based on comparison to the ≈2008 elevation)
- 2022: 93.186'

Subsidence in the Sites Reservoir area has been negligible.

When the time comes to construct the Dunnigan pipeline, subsidence could become an issue.

I hope this helps!

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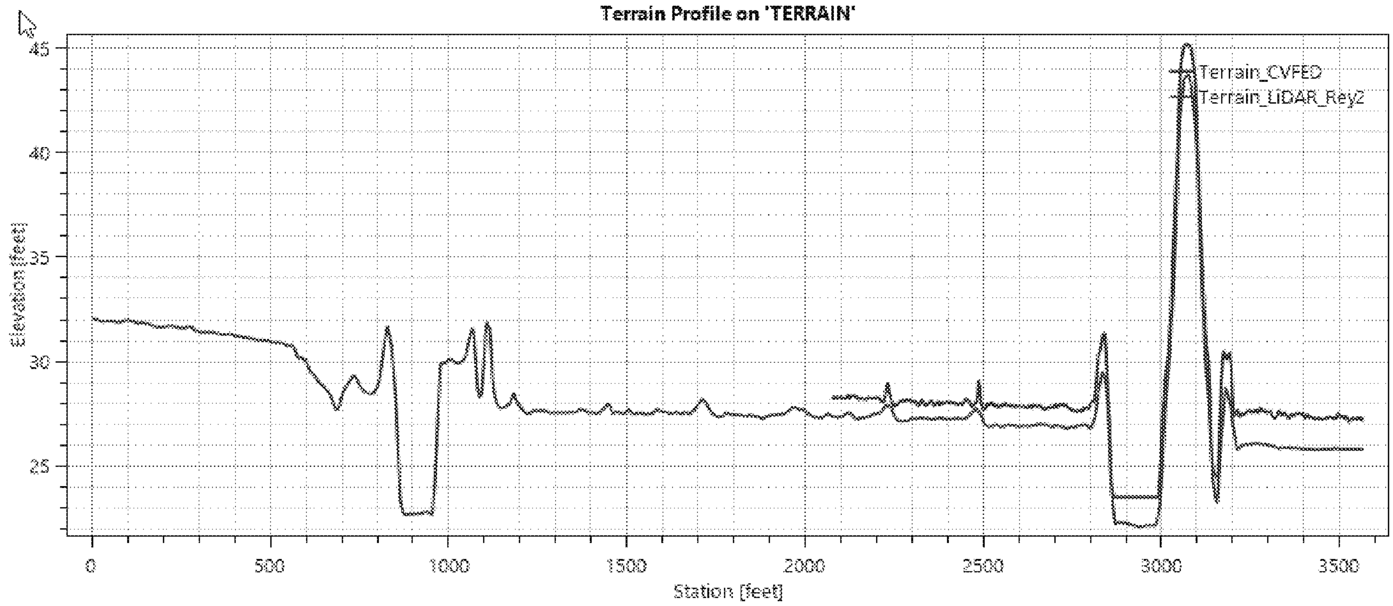
From: Hekl, Jessie <Jessie.Hekl@jacobs.com>
Sent: Wednesday, August 2, 2023 1:50 PM
To: Joe Feyder <jfeyder@reyengineers.com>
Cc: Rude, Pete <Pete.Rude@jacobs.com>; Winslow, Kyle <Kyle.Winslow@jacobs.com>
Subject: RE: Sites HC: south CBD mapping from existing LiDAR

Hi Joe,

Pete asked me to review the extent of the LiDAR in the proposal you sent this week for the CBD Mapping (also attached) to see if it is sufficient for our modeling effort. Can you send me a shapefile, kmz, or dwg (whatever is easiest) of the red line you have on your project map so I can review?

I am also reaching out again about the combined LAS file you sent a few weeks ago. When I compared it to the existing LiDAR we had in our model that overlaps for a small portion of our data sets there a 1-2 foot vertical offset between the two. The original LiDAR in the model is a CVFED high-resolution rater dataset with cell size 3.125 x 3.125 feet collected in 2008 and 2009 for the Sacramento and San Joaquin Basin valley floors. Can you think of why there would be a vertical offset like this? It is also in NAVD88 datum. Below is an example cross-section (bright red is CVFED LiDAR and dark red is the combined LAS file you sent) and the plan view location across the CBD:



Thank you!

Jessie Hekl, P.E. (she/her) | Jacobs | Water Resources Engineer

M: 703.402.4718 | Jessie.Hekl@jacobs.com
2485 Natomas Park Drive Suite 600 | Sacramento, CA 95833 | USA

Colusa Basin Drain HEC-RAS Model Updates Draft Final Technical Memorandum

To:	Sites Project Authority
CC:	Henry Luu, P.E. (HDR)
Date:	November 4, 2021
From:	Kyle Winslow Ph.D., P.E./Jacobs
Quality Review:	Troy Slocum/Jacobs, Peter Rude, P.E./Jacobs
Authority Agent Review:	Reviewer
Subject:	Colusa Basin Drain HEC-RAS Model Updates with CALSIM Project Flows

1.0 Introduction

This technical memorandum (TM) presents results of additional model development and analysis, performed in 2021, of the Colusa Basin Drain (CBD) hydraulics with Sites Project inflows. The analysis builds on previous work documented in an August 2020 TM (Jacobs 2020), which documents model development, data sources, model calibration, and results for a simple representation of the project with constant 1,000 cubic feet per second (cfs) release flows from Sites Reservoir to the CBD. This TM provides an update on recent improvements to the hydraulic modeling analysis and quantifies the probability of being able to pass project flows through the CBD. Additional analysis quantifies the expected water levels in the CBD for full project flows to show mitigation necessary to avoid water-level impacts to adjacent land. The TM includes sections on model updates, simulation results, bank mitigation, environmental flows, and conclusions and next steps.

2.0 Model Updates

Model updates since the August 2020 report include updated information on the geometric configuration of the Balsdon and Davis weirs; updated, time-variable, Sites Project inflows to the CBD; and updated geometry representing the bank elevation in the lower 25 miles of the CBD, downstream of the Balsdon Weir.

2.1 Inline Weir Structures

The previous HEC-RAS model made several assumptions for the Balsdon and Davis weirs because as-built drawings were not available at the time of the initial model development. Subsequent to the August 2020 TM, this information was provided by Reclamation District 108 (RD108) and Glenn-Colusa Irrigation District (GCID) to allow better representation of these inline structures in the HEC-RAS model.

2.2 Sites Project Inflows

The previous analysis (Jacobs 2020) used a constant 1,000 cfs for the Sites Project releases through the CBD. The current analysis uses updated, time-variable, flows developed from results of the CALSIM model project simulations. The CALSIM flows applied in this analysis consist of five year-type, specific, monthly, average flows. They were derived by averaging all results from the 82-year CALSIM Alternative 1B simulation by year type and month. Figure 1 shows a bar chart of the monthly flows for each of the five year types (wet, above normal, below normal, dry, and critical).

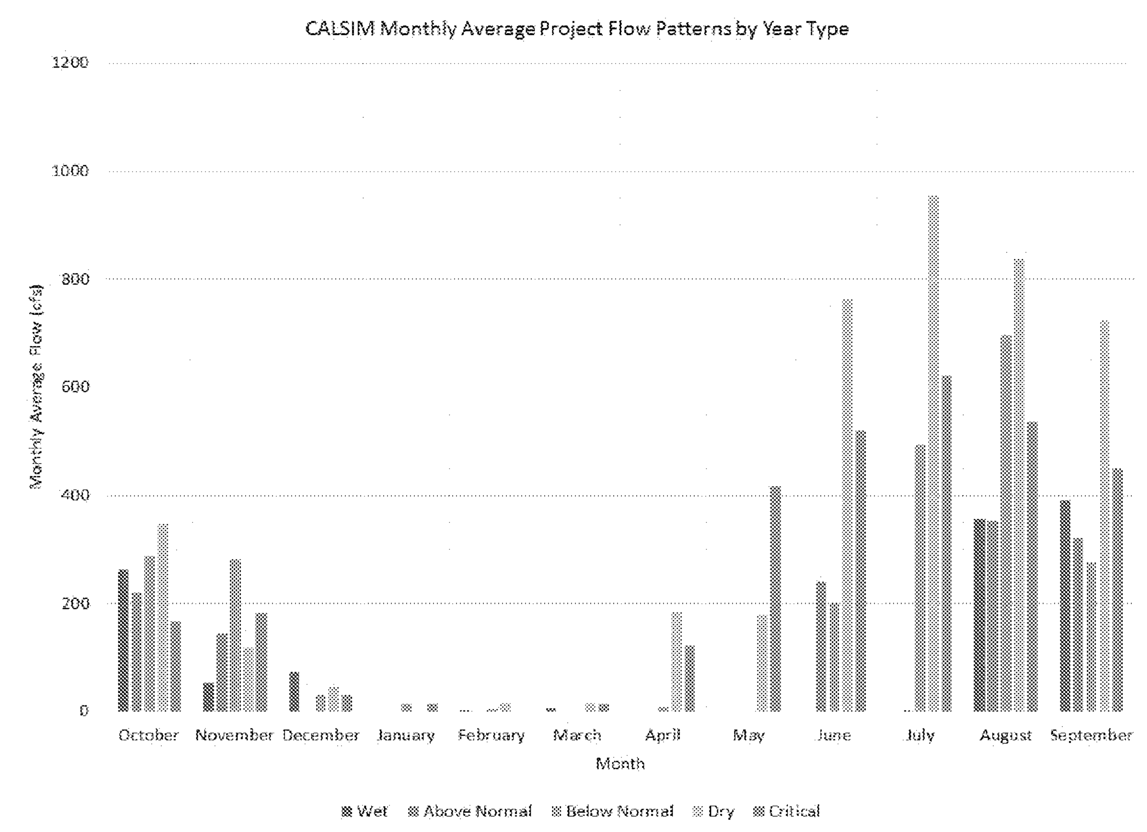


Figure 1. CALSIM Monthly Average Sites Project Flows by Year Type

2.3 Western Bank Elevation Updates

The lateral weirs used to represent the western bank of the CBD in the HEC-RAS model were originally developed from light detection and ranging (LiDAR) data coverage. Lateral weirs are model elements used to calculate flow from the channel to the floodplain, and do not represent physical weirs. The weir equation is applied over a defined weir topography based on the local bank elevation. Detailed review of the model flows indicated that there were significant spills out of the CBD over the west levee during high-flow events. Review of the weir elevation profiles indicated many locations where the LiDAR data represent low points in the bank that are not representative of an available flow path; these locations needed to be corrected to properly represent flow paths through the bank. There are many drains from the agricultural fields west of the CBD that enter the CBD. The LiDAR data, which have a resolution of approximately 3 feet laterally, can easily pick up lower elevations in the agricultural drains, rather than the higher bank elevation. These drains with flow control devices are effectively dead ends for flooding from the CBD; therefore, they were removed from the weir elevation profiles to properly simulate potential flows through the western bank to the adjoining fields.

Figure 2 compares the previous western bank elevation profile and the updated western bank elevation profile used in the HEC-RAS model. Note the reduction in the number of dips to approximately 25 feet elevation in the lower graph between River Miles (RMs) 5 and 25.

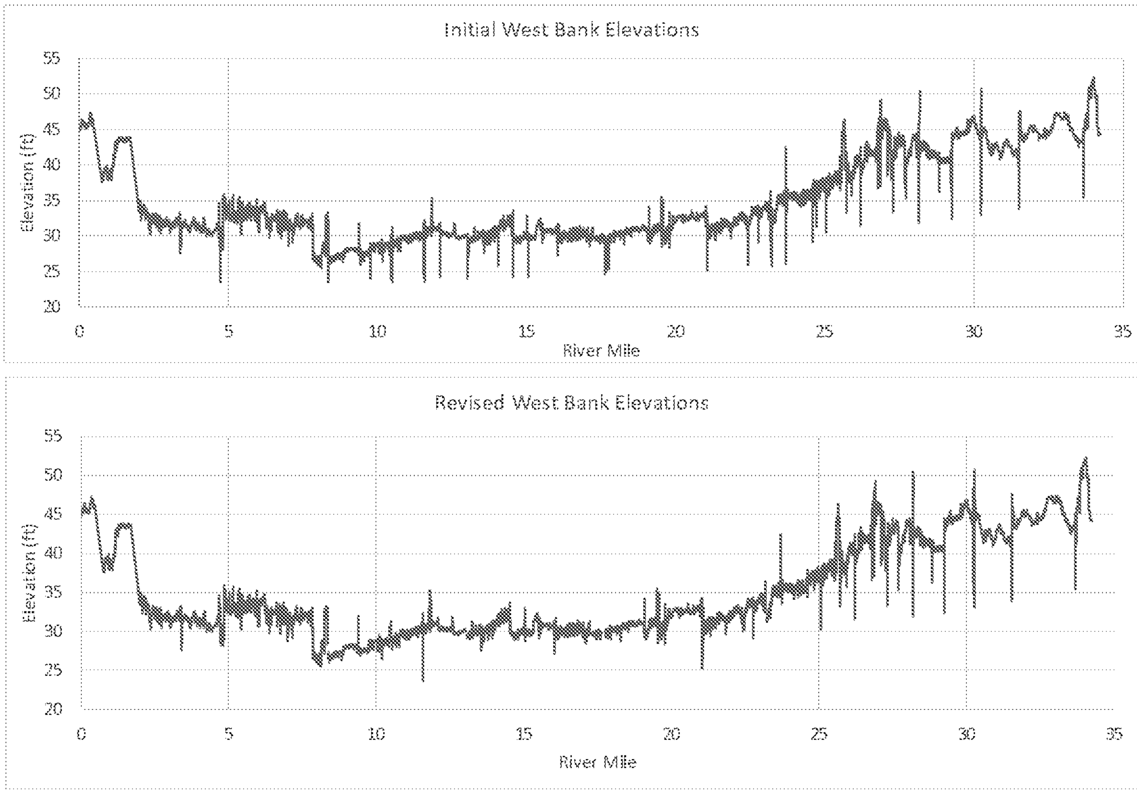


Figure 2. Initial and Revised Western Bank Elevations in CBD

3.0 Simulation Results and Analysis

Multiple, separate analyses have been conducted since the previous hydraulic modeling efforts were documented in August 2020. Simulations were conducted with the following goals:

- Quantify impacts of variations in the setpoint controlling water surface elevation at the Knights Landing Outfall Gates (KLOG) Structure.
- Update previous simulations of 2013, 2014, 2015, and 2017 historical conditions with updated time-varying CALSIM project flows to quantify water-level impacts in the CBD under a range of ambient and project flow conditions.
- Provide frequency-based results of available capacity in CBD to pass project flows without water-level impacts and quantify impacts for the passage of full flows.

The analysis of results presented in the following subsections is focused on conditions at RM 8.9 because it represents the low point in the western bank where agricultural fields are flooded when water levels exceed 25.3 feet North American Vertical Datum of 1988 (NAVD88). Project staff have met with local landowners of the ranch that fronts the CBD between RM 7.9 and 8.9 (approximately) and discussed water-level impacts to local agricultural fields. The landowners noted that with mitigation structures on local drainage canals and increasing the west levee height, local fields could avoid flooding with water elevations 1.5 feet higher than those that currently flood their fields. For this reason, analyses were also conducted with a secondary critical water level of 26.5 feet, slightly lower than the 1.5-foot increase because this increase could have exposed adjacent property owners to increased flooding.

Figure 3 provides a snapshot of model results, with the updates to the inline structures, western channel banks, and project flows. Results are presented for the peak water levels during the 2013 simulation. The increase in water level over baseline conditions is included.

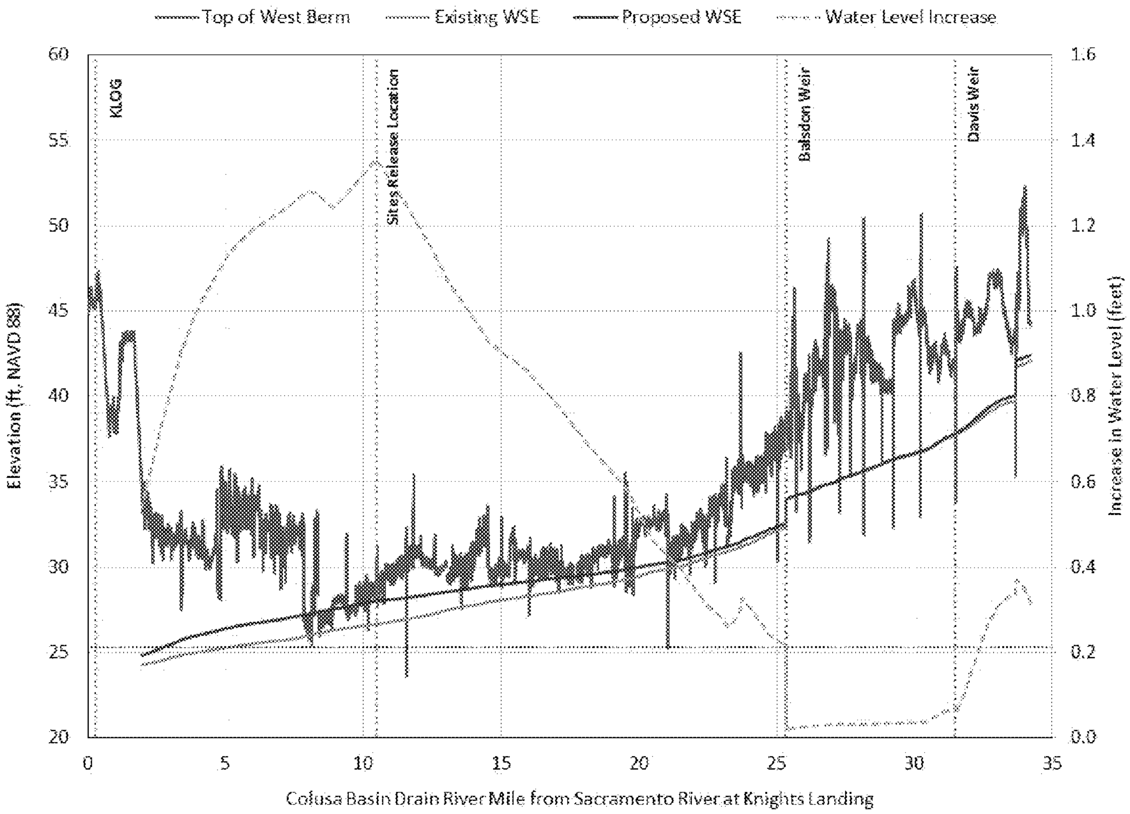


Figure 3. Peak Water-Level Profiles in CBD for 2013 Conditions

3.1 Knights Landing Outfall Gates Setpoint Analysis

The KLOG structure functions to maintain the water level upstream of the gates at an elevation of 23.73 feet NAVD88, to provide sufficient head for the operation of agricultural diversion upstream in the CBD. When the elevation upstream of the gates exceeds 23.73 feet, the gates open at a fixed rate to allow release of water to the Sacramento River, provided that the stage downstream of the gates is below 22.25 feet. When the stage in the Sacramento River is above this elevation, the KLOG gates are closed and outflow from the CBD is through the Knights Landing Ridge Cut.

The operation of the KLOG gates influences the stage between the gates and the Balsdon Weir. The relative influence is a function of flow in the channel, with higher flows reducing the distance upstream at which there is an influence. A reduction in the setpoint or target water surface elevation upstream of the KLOG structure will reduce water surface elevations upstream and the frequency at which stages exceed the critical level of 25.3 feet at RM 8.9, thereby reducing mitigation. Figure 4 present time series results at RM 8.9 for four simulations, an existing conditions and project simulation with the existing setpoint of 23.73 feet, and two project simulations with setpoints lowered by 0.5 foot (23.23 feet) and 1 foot (22.73 feet). Figure 5 presents a frequency distribution of the predicted stages at RM 8.9 showing the percentile exceedance for a given stage. All project simulations assume a constant 1,000 cfs project flow and 2013 conditions, because these simulations pre-dated the CALSIM project flow update.

Results show the shift in the frequency at which the critical water level of 25.3 feet is exceeded with the project. Under the existing setpoint, the critical water level is exceeded 12 percent of the time under existing conditions and 72 percent of the time under project conditions. With the reduced setpoints, the frequency of exceedance drops to 60 percent with reductions in the setpoint of 0.5 foot, and 44 percent with reductions in the setpoint of 0 1 foot. This information was presented to the California Department of Water Resources (DWR), which operates KLOG, in May 2021. DWR needs to study the implication of a lower setpoint.

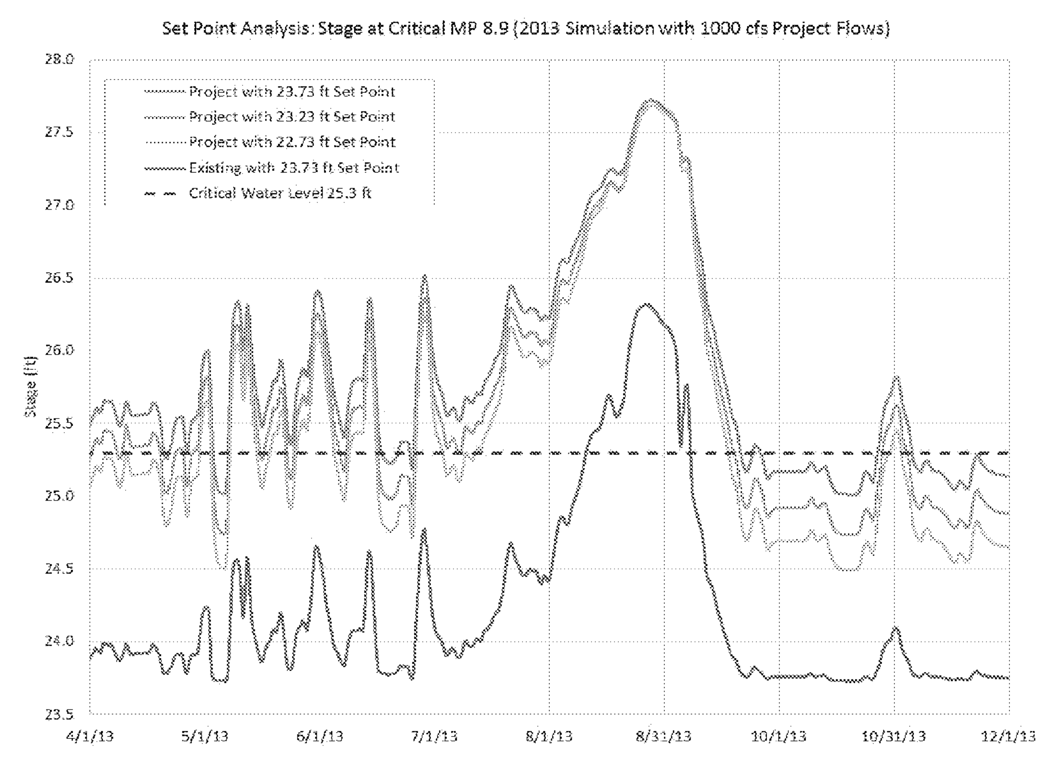


Figure 4. Stages in CBD at RM 8.9 for Setpoint Simulations

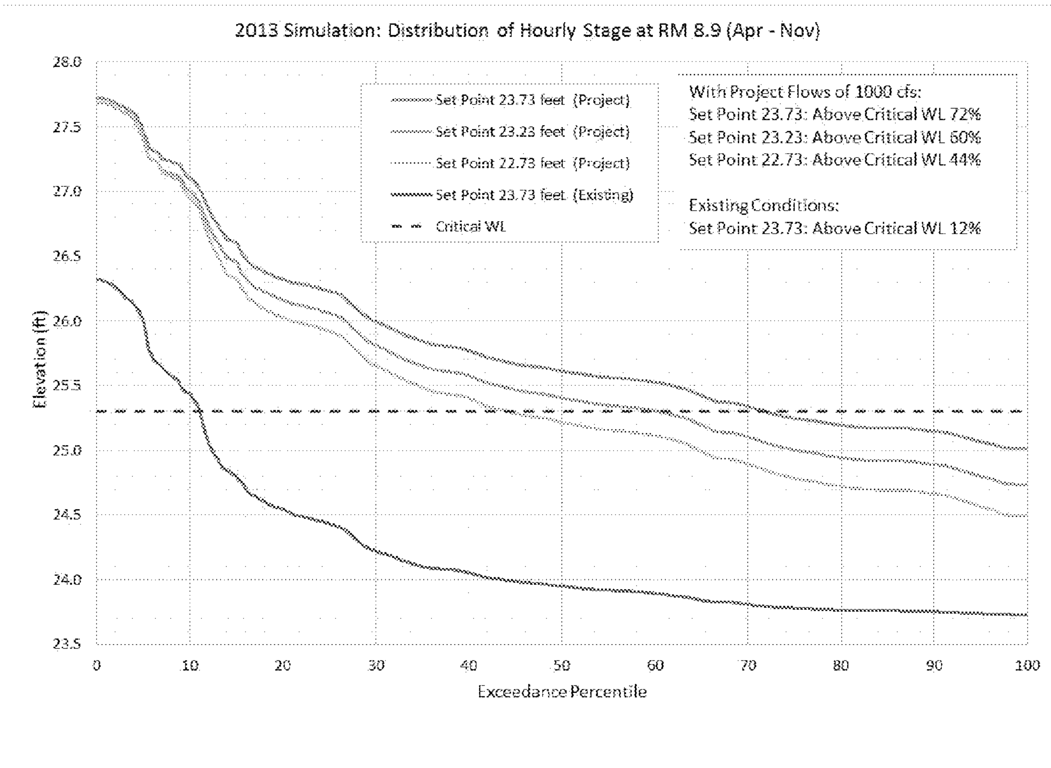


Figure 5. Frequency Distribution Showing Influence of Setpoint on Stage at RM 8.9

3.2 Local Rating Curve at Low Point

Channel hydraulics at the low point in the western bank at RM 8.9 of the CBD are summarized in Figure 6. Figure 6 contains daily average flow and stage conditions for 4, separate, 8-month simulations, depicting ambient flow conditions, as measured during 2013, 2014, 2015, and 2017, and project flows based on CALSIM Alternative 1B operations. The rating curve at RM 8.9 has two branches, one for when the KLOG gates are open and another for when the KLOG gates are closed, which yields a higher water surface elevation for a given flow because exit thought the Knights Landing Ridge Cut is not as hydraulically efficient as outflow through the KLOG structure. The gates were closed only in the 2017 simulation, as represented by the short branch with blue circles.

The rating curve for the longer lobe, which is representative of normal, gates open, operations shows that the critical elevation of 25.3 feet is reached at a flow of 1,180 cfs; and the secondary critical elevation of 26.5 feet is reached at a flow of 1,750 cfs. The upper portion of the main rating curve is not a clean linear relationship because of the standard hysteresis effect of downstream stage conditions during the falling limb of a hydrograph. These flows of 1,180 and 1,750 cfs are used in Figure 6, in the analysis of available ambient flow capacity and flow frequency.

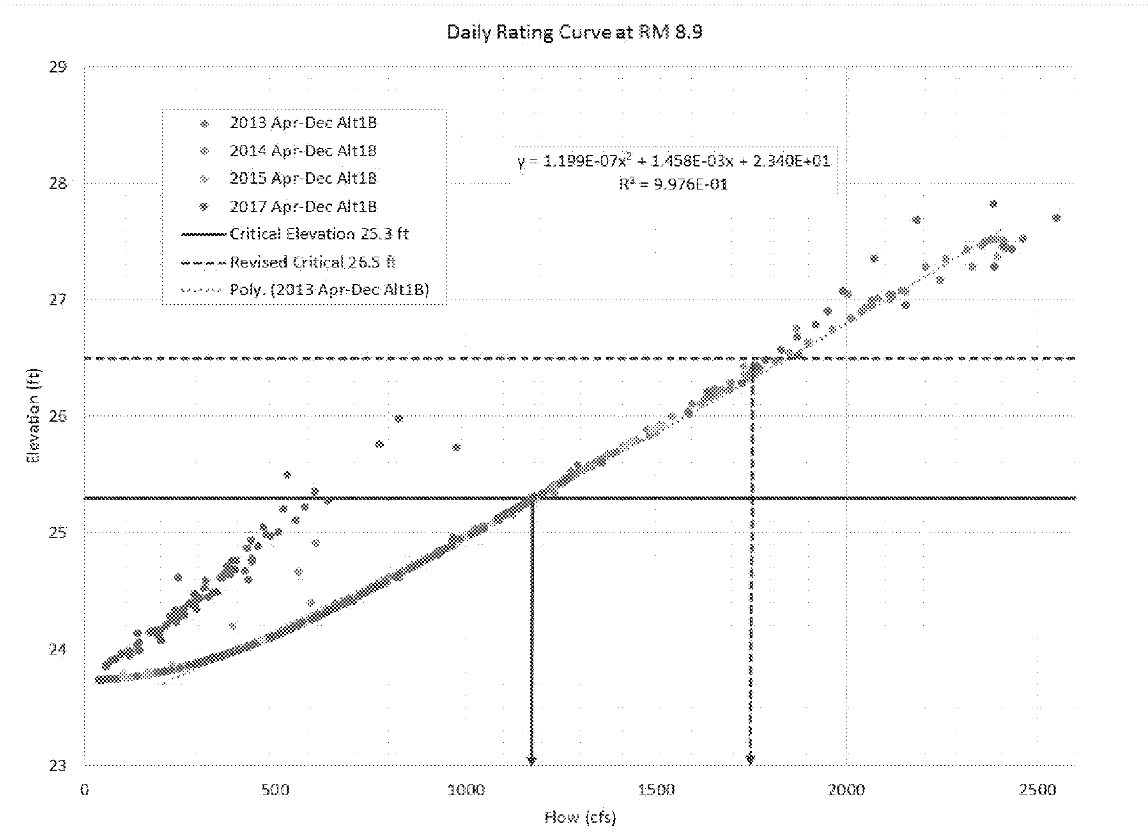


Figure 6. Rating Curve at River Mile 8.9

3.3 Impact Days Analysis

The previous report documentation (Jacobs 2020) included an analysis of the number of days with project impacts on water levels above a critical value of 25.3 feet, at RM 8.9, under constant project flows of 1,000 cfs. In this section, results are presented for the updated analysis with time-varying project flows based on the CALSIM Alternative 1B project flows.

Table 1 summarizes the number of days each month where the water level at RM 8.9 was not raised above the critical level of 25.3 feet because of the project. Results are presented for the months of April through December for four simulations, representing a range in ambient conditions from critical (2014 and 2015) to wet (2017). Large, ambient flows in a given month generally correspond to water-level impacts. In August 2013, for example, the ambient flow of 1,415 cfs exceeded the 1,180 cfs value (presented in Figure 6) that leads to water-level impacts. Therefore, no days without water-level impacts occurred in August 2013; so, no project water could have been conveyed to the Sacramento River that month without causing water-level impacts.

Table 1. Summary of Days without Water Surface Elevation Impact with Project

CALSIM-derived Monthly Project Inflow Time Series by Year Type (Alternative 1B)												
	CBD Existing Conditions Monthly Average Flow[a] (cfs)				No. of Days without WSE Effects[b]				Sites Volume Conveyed to Sacramento River[c] (TAF)			
Month	2013 (D)	2014 (C)	2015 (C)	2017 (W)	2013 (D)	2014 (C)	2015 (C)	2017 (W)	2013 (D)	2014 (C)	2015 (C)	2017 (W)
April	355	169	100	305	30	30	30	30	10.9	7.3	7.3	0.0
May	475	102	81	256	31	31	31	31	11.0	25.6	25.6	0.0
June	441	165	41	383	16	30	30	26	24.3	30.9	30.9	0.0
July	584	167	6	411	0	31	31	31	0.0	38.2	38.2	0.0
Aug	1415	553	564	1224	0	22	22	14	0.0	23.4	23.4	9.9
Sept	593	627	371	839	15	15	23	16	21.6	13.4	20.6	12.4
Oct	163	51	2	74	31	31	31	31	10.4	10.4	17.6	17.6
Nov	153	131	68	650	30	30	30	30	10.9	10.9	16.8	16.8
Total	NA	NA	NA	NA	153	220	228	209	89.0	160.2	180.5	56.7

[a] This is the monthly average flow from GCID data at Davis Weir.

[b] Critical WSE of 25.3 feet (NAVD88) was used to calculate the number of days without WSE effects.

[c] Sites volume was calculated using the daily project flow on days without WSE effects each month.

C = critical year
D = dry year
NA = not applicable
TAF = thousand acre-feet
W = wet year
WSE = water surface elevation

3.4 Percentile View of Channel Capacity

The local rating curve presented in Section 3.2 provides information on the capacity of the CBD to carry water at a given water elevation. Knowing the low point in the western bank is 25.3 feet elevation near RM 8.9 means that 1,180 cfs can be moved through the channel without water levels rising above this low point and impacting agricultural fields west of the CBD. With peak Sites Project flows of 1,000 cfs, this means that if the ambient flows in the CBD exceed 180 cfs, there will be water-level impacts at RM 8.9.

To understand the likelihood of being able to pass project flows through the Colusa Basin Dain without water-level impacts, a frequency analysis was conducted on existing in-stream flows using historical data. Flow data at Davis Weir were provided by GCID staff for an 8-year period, starting in 2013. The annual flow patterns at Davis Weir are shown on Figure 7. High flows in August are associated with drainage of rice fields upstream of Davis Weir. High flows in December are associated with rainfall-induced runoff. The 8-year dataset provides an overview of seasonal patterns, but is not long enough to determine variability based on water year type or an estimate of extreme conditions.

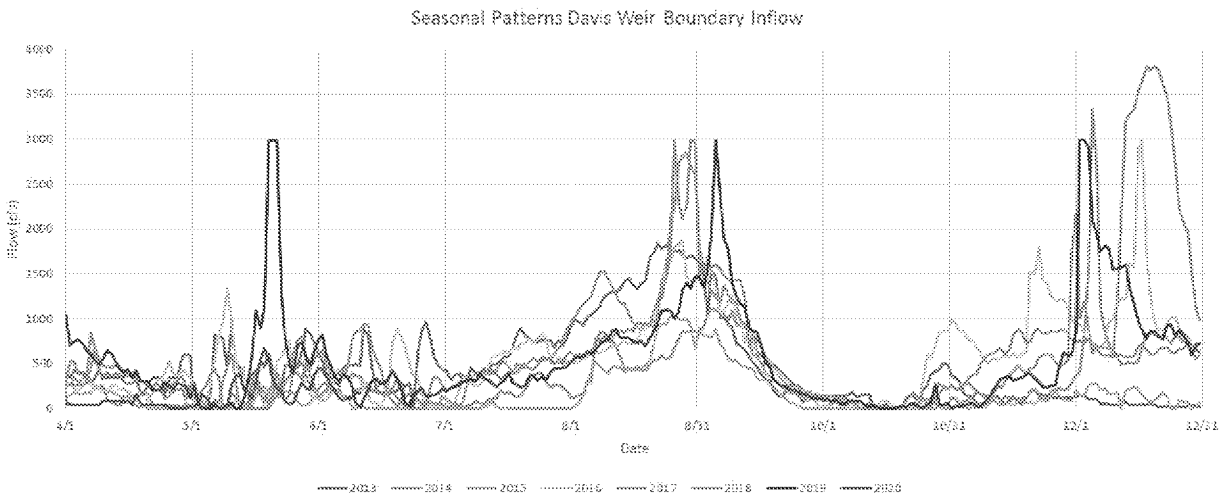


Figure 7. Seasonal Patterns Davis Weir Boundary Inflow

Flow data were also obtained through the California Data Exchange Center (CDEC) for flow in the CBD at Highway 20 (CDEC Gage ID CDR 1998-2020). Data from this site were available for 23 years. A reasonably good correlation occurs between flows at Highway 20 and at Davis Weir, as shown in time series format in Figure 8. Flows at Davis Weir are generally higher than those at Highway 20 because of the additional drainage area contributing to flow at the downstream gage.

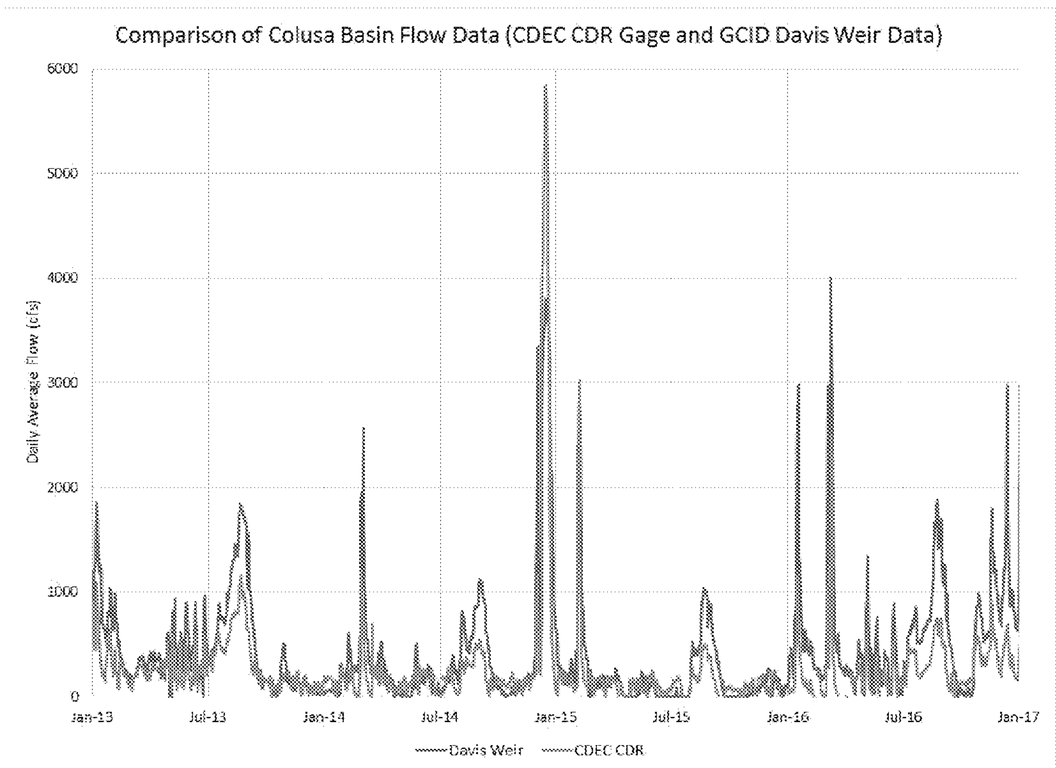


Figure 8. Comparison of Colusa Basin Flow Data (Highway 20 and Davis Weir)

Monthly average flows were compared for the 8 years in which data were available from both flow gages. Figure 9 shows the relationship between the monthly average flows. A linear correlation for flows at Davis Weir based on flows at Highway 20 was generated in Excel with an "R" squared value of 0.81, where "R" represents how close the data are to the fitted regression line. This relationship was used to estimate Davis Weir flows for the full period of record of flows at Highway 20.

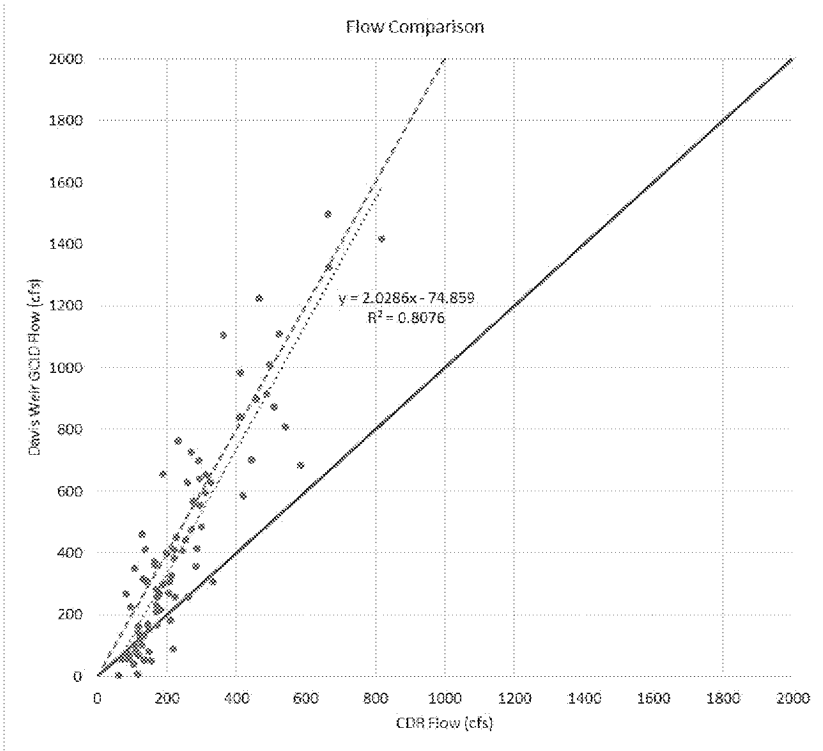


Figure 9. Flow Comparison and Regression for Davis Weir and Highway 20 Flows

The 23-year CDR dataset was used to create a frequency distribution of daily average flow by month. These distributions are presented in Figure 10. Flows are truncated at 2,000 cfs for clarity. Table 2 presents the decadal percentiles of monthly average flow at Highway 20. Table 3 presents the corresponding flows at Davis Weir using the regression presented in Figure 9.

Tabulations of percentile flows at Davis Weir, which are assumed to represent flows at RM 8.9 because of the lack of significant additional runoff contributions to the channel between these two points, were used to generate tables showing available capacity accounting for the water year-type, specific, project inflows. These generated capacities are presented in Tables 4 through 8, for all 5 water year types, for the critical flow of 1,180 cfs. Tables are color coded, with green-shaded cells having available capacity to carry the full project flows. Tables 9 through 13 present the available flow percentiles for the higher critical flow of 1,750 cfs.

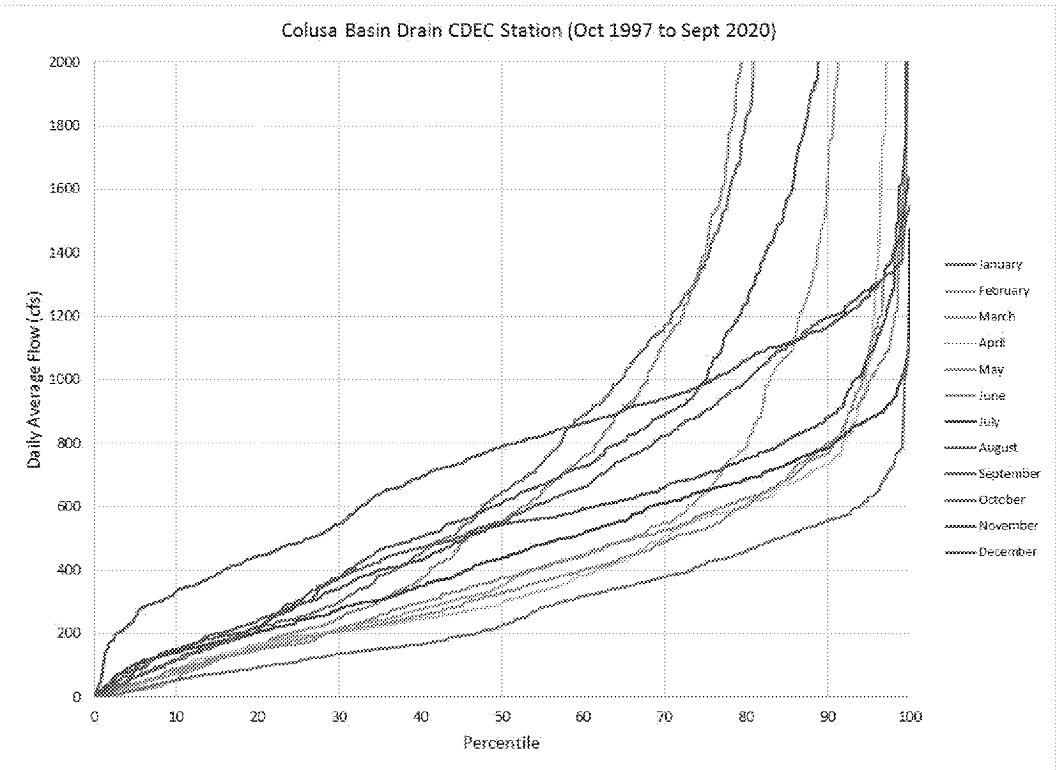


Figure 10. Frequency Distributions of Highway 20 Flows by Month

Table 2. Percentiles of Monthly Average Flow in CBD at Highway 20 (in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	119	75	63	87	91	84	142	332	121	56	151	151
20	222	159	170	166	151	154	207	443	233	96	221	249
30	316	251	223	209	220	208	282	545	394	140	348	396
40	479	377	286	250	304	261	358	691	483	174	440	517
50	676	557	381	313	380	333	447	790	582	248	547	631
60	929	764	461	409	462	406	526	864	715	335	600	759
70	1,270	1,141	584	543	540	502	618	941	877	400	678	923
80	2,614	2,196	1,008	632	643	628	695	1,064	1,090	500	767	1,423
90	4,707	3,797	2,663	873	862	820	815	1,168	1,278	610	911	2,995
95	8,259	8,114	4,276	3,130	1,359	1,056	898	1,265	1,503	1,020	1,170	4,174

Table 3. Percentiles of Monthly Average Flow in CBD at Davis Weir from Regression (in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399

Table 4. Available Capacity Percentiles for Wet Year Types and 1,180 CFS Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Wet	0	3	6	0	0	0	0	356	391	263	53	74
Available Monthly Capacity												
Wet	1,180	1,177	1,174	1,180	11,80	1,180	1,180	824	789	917	1,127	1,106
(Critical Flow Level 1,180 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 5. Available Capacity Percentiles for Above Normal Year Types and 1,180 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Above Normal	0	0	0	0	0	241	1	354	322	221	144	0
Available Monthly Capacity												
Above Normal	1,200	1,200	1,200	1,200	1,200	959	1,199	846	878	979	1,056	1,200
(Critical Flow Level 1,180 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 6. Available Capacity Percentiles for below Normal Year Types and 1,180 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Below Normal	15	5	0	8	0	201	494	697	277	287	282	31
Available Monthly Capacity												
Below Normal	1,165	1,175	1,180	1,172	1,180	979	686	483	903	893	898	1,149
(Critical Flow Level 1,180 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 7. Available Capacity Percentiles for Dry-year Types and 1,180 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Dry	0	15	15	184	178	765	956	840	725	347	119	45
Available Monthly Capacity												
Dry	1,180	1,165	1,165	996	1,002	415	224	340	455	833	1,061	1,135
(Critical Flow Level 1,180 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 8. Available Capacity Percentiles for Critical Year Types and 1,180 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Critical	15	0	13	123	417	520	621	537	451	169	184	31
Available Monthly Capacity												
Critical	1,165	1,180	1,167	1,057	763	660	559	643	729	1,011	996	1,149
(Critical Flow Level 1,180 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 9. Available Capacity Percentiles for Wet Year Types and 1,750 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Wet	0	3	6	0	0	0	0	356	391	263	53	74
Available Monthly Capacity												
Wet	1,750	1,747	1,744	1,750	1,750	1,750	1,750	1,394	1,359	1,487	1,697	1,676
(Critical Flow Level 1,750 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 10. Available Capacity Percentiles for Above Normal Year Types and 1,750 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Above Normal	0	0	0	0	0	241	1	354	322	221	144	0
Available Monthly Capacity												
Above Normal	1,750	1,750	1,750	1,750	1,750	1,509	1,749	1,396	1,428	1,529	1,606	1,750
(Critical Flow Level 1,750 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 11. Available Capacity Percentiles for Below Normal Year Types and 1,750 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Below Normal	15	5	0	8	0	201	494	697	277	287	282	31
Available Monthly Capacity												
Below Normal	1,735	1,745	1,750	1,742	1,750	1,549	1,256	1,053	1,473	1,463	1,468	1,719
(Critical Flow Level 1,750 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 12. Available Capacity Percentiles for Dry-year Types and 1,750 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Dry	0	15	15	184	178	765	956	840	725	347	119	45
Available Monthly Capacity												
Dry	1,750	1,735	1,735	1,566	1,572	985	794	910	1,025	1,403	1,631	1,705
(Critical Flow Level 1,750 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

Table 13. Available Capacity Percentiles for Critical Year Types and 1,750 cfs Critical Flow (flows in cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	167	78	53	102	109	95	213	598	171	39	231	231
20	376	247	271	263	232	238	344	823	398	120	374	431
30	566	434	377	350	371	348	497	1,031	726	210	631	729
40	898	691	506	432	542	454	652	1,327	906	279	819	975
50	1,298	1,057	698	561	697	602	832	1,529	1,107	429	1,036	1,206
60	1,811	1,476	861	755	864	750	993	1,679	1,377	605	1,142	1,466
70	2,502	2,242	1,110	1,028	1,022	943	1,179	1,834	1,705	736	1,301	1,800
80	5,231	4,382	1,971	1,207	1,231	1,199	1,336	2,086	2,137	939	1,482	2,815
90	9,480	7,634	5,330	1,698	1,676	1,589	1,579	2,296	2,519	1,162	1,775	6,006
95	16,691	16,397	8,605	6,278	2,684	2,068	1,747	2,493	2,976	1,996	2,299	8,399
Monthly Average Project Flows												
Critical	15	0	13	123	417	520	621	537	451	169	184	31
Available Monthly Capacity												
Critical	1,735	1,750	1,737	1,627	1,333	1,230	1,129	1,213	1,299	1,581	1,566	1,719
(Critical Flow Level 1,750 cfs)												

Green highlighting indicates available capacity to carry the full project flows.

The percentile flow information was used with a regression developed to fit the rating curve, to translate the flow percentiles to expected stages at RM 8.9. This allows for a quantification of required mitigation to avoid water-level impacts from the full project flows. Table 14 presents the water levels at RM 8.9 corresponding to wet year-type project flows. The water levels correspond to the flow equal to the monthly percentile flow at Davis Pond (Table 3) with the project flows added to each entry. For example, the 50th percentile stage of 26.56 feet in August corresponds to a flow of 1,885 cfs, which is the sum of the 50th percentile Davis Pond flow of 1,529 cfs (Table 3) and the wet year-type average August project flow of 356 cfs.

Tables 15 through 18 present the stage percentiles for above normal, below normal, dry, and critical year-type project flows.

Table 14. Stage Percentiles for Wet Year-type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	23.65	23.52	23.48	23.55	23.56	23.54	23.71	24.90	24.25	23.85	23.82	23.85
20	23.96	23.77	23.81	23.79	23.74	23.75	23.91	25.28	24.62	23.97	24.04	24.16
30	24.26	24.06	23.97	23.92	23.95	23.92	24.15	25.65	25.17	24.11	24.45	24.64
40	24.80	24.47	24.17	24.05	24.22	24.08	24.40	26.18	25.49	24.22	24.76	25.05
50	25.49	25.07	24.48	24.25	24.47	24.32	24.69	26.56	25.84	24.46	25.12	25.45
60	26.42	25.81	24.75	24.56	24.74	24.56	24.96	26.85	26.34	24.75	25.31	25.92

Table 14. Stage Percentiles for Wet Year-type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
70	27.78	27.26	25.17	25.02	25.01	24.88	25.28	27.16	26.97	24.97	25.59	26.54
80	NA	NA	26.74	25.33	25.37	25.31	25.55	27.66	27.84	25.32	25.91	28.59
90	NA	NA	NA	26.21	26.17	26.01	25.99	NA	NA	25.71	26.45	NA
95	NA	NA	NA	NA	NA	26.91	26.30	NA	NA	27.29	27.48	NA

Legend:

green text = < 25.3 feet

red text = > 26.5 feet

NA = not applicable; outside range of regression (> 28.0 feet)

Table 15. Stage Percentiles for Above Normal Year-type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	23.65	23.51	23.48	23.55	23.56	23.90	23.71	24.89	24.15	23.79	23.96	23.74
20	23.96	23.77	23.80	23.79	23.74	24.12	23.92	25.28	24.51	23.91	24.19	24.05
30	24.26	24.05	23.96	23.92	23.95	24.30	24.15	25.64	25.05	24.05	24.60	24.52
40	24.80	24.46	24.16	24.05	24.22	24.47	24.40	26.18	25.36	24.16	24.91	24.93
50	25.49	25.07	24.47	24.25	24.47	24.71	24.69	26.56	25.72	24.39	25.28	25.32
60	26.42	25.80	24.74	24.56	24.74	24.96	24.96	26.85	26.21	24.68	25.47	25.79
70	27.78	27.26	25.16	25.02	25.01	25.29	25.28	27.15	26.84	24.90	25.75	26.40
80	NA	NA	26.73	25.33	25.37	25.74	25.55	27.66	27.70	25.25	26.08	28.43
90	NA	NA	NA	26.21	26.17	26.46	25.99	NA	NA	25.64	26.63	NA
95	NA	NA	NA	NA	NA	27.39	26.30	NA	NA	27.21	27.66	NA

Legend:

green text = < 25.3 feet

red text = > 26.5 feet

NA = not applicable; outside range of regression (> 28.0 feet)

Table 16. Stage percentiles for Below Normal Year-type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	23.67	23.52	23.48	23.56	23.56	23.84	24.49	25.49	24.08	23.89	24.18	23.79
20	23.99	23.77	23.80	23.80	23.74	24.06	24.70	25.89	24.44	24.01	24.41	24.10
30	24.28	24.06	23.96	23.94	23.95	24.23	24.96	26.27	24.98	24.15	24.83	24.57
40	24.82	24.47	24.16	24.06	24.22	24.40	25.22	26.83	25.29	24.26	25.15	24.98
50	25.51	25.08	24.47	24.27	24.47	24.64	25.54	27.23	25.64	24.50	25.52	25.38
60	26.45	25.81	24.74	24.58	24.74	24.89	25.83	27.53	26.13	24.79	25.71	25.84

Table 16. Stage percentiles for Below Normal Year-type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
70	27.81	27.27	25.16	25.03	25.01	25.22	26.17	27.85	26.75	25.01	26.00	26.46
80	NA	NA	26.73	25.34	25.37	25.67	26.46	28.37	27.60	25.36	26.34	28.50
90	NA	NA	NA	26.23	26.17	26.38	26.93	NA	NA	25.76	26.89	NA
95	NA	NA	NA	NA	NA	27.31	27.26	NA	NA	27.34	27.95	NA

Legend:

green text = < 25.3 feet

red text = > 26.5 feet

NA = not applicable; outside range of regression (> 28.0 feet)

Table 17. Stage Percentiles for Dry Year Type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	23.65	23.54	23.50	23.82	23.83	24.74	25.27	25.74	24.80	23.98	23.92	23.81
20	23.96	23.79	23.82	24.07	24.02	24.98	25.50	26.15	25.19	24.11	24.15	24.12
30	24.26	24.08	23.99	24.21	24.23	25.17	25.77	26.54	25.76	24.25	24.56	24.60
40	24.80	24.48	24.19	24.34	24.51	25.35	26.05	27.11	26.09	24.36	24.87	25.01
50	25.49	25.09	24.50	24.55	24.76	25.61	26.38	27.51	26.47	24.60	25.24	25.40
60	26.42	25.83	24.76	24.87	25.04	25.88	26.69	27.82	26.98	24.89	25.42	25.87
70	27.78	27.28	25.18	25.34	25.32	26.23	27.05	NA	27.64	25.12	25.70	26.49
80	NA	NA	26.75	25.65	25.68	26.72	27.36	NA	NA	25.47	26.03	NA
90	NA	NA	NA	26.56	26.50	27.48	27.85	NA	NA	25.87	26.58	NA
95	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.46	27.61	NA

Legend:

green text = < 25.3 feet

red text = > 26.5 feet

NA = not applicable; outside range of regression (> 28.0 feet)

Table 18. Stage Percentiles for Critical Year-type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	23.65	23.52	23.48	23.55	23.56	23.54	23.71	24.90	24.25	23.85	23.82	23.85
20	23.96	23.77	23.81	23.79	23.74	23.75	23.91	25.28	24.62	23.97	24.04	24.16
30	24.26	24.06	23.97	23.92	23.95	23.92	24.15	25.65	25.17	24.11	24.45	24.64
40	24.80	24.47	24.17	24.05	24.22	24.08	24.40	26.18	25.49	24.22	24.76	25.05
50	25.49	25.07	24.48	24.25	24.47	24.32	24.69	26.56	25.84	24.46	25.12	25.45
60	26.42	25.81	24.75	24.56	24.74	24.56	24.96	26.85	26.34	24.75	25.31	25.92

Table 18. Stage Percentiles for Critical Year-type Project Flows (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
70	27.78	27.26	25.17	25.02	25.01	24.88	25.28	27.16	26.97	24.97	25.59	26.54
80	NA	NA	26.74	25.33	25.37	25.31	25.55	27.66	27.84	25.32	25.91	NA
90	NA	NA	NA	26.21	26.17	26.01	25.99	NA	NA	25.71	26.45	NA
95	NA	NA	NA	NA	NA	26.91	26.30	NA	NA	27.29	27.48	NA

Legend:

green text = < 25.3 feet

red text = > 26.5 feet

NA = not applicable; outside range of regression (> 28.0 feet)

Figure 11 summarizes the percent of chance of the CBD having enough capacity to carry full project flows without any water-level impacts. Results are shown for dry-year project flows and two critical stage levels in the CBD at RM 8.9. Providing mitigation to local landowners near RM 8.9 to allow water levels to rise an additional 1.3 feet without incurring water-level impacts would increase the frequency at which the full project flows could be passed through the CBD without further impacts.

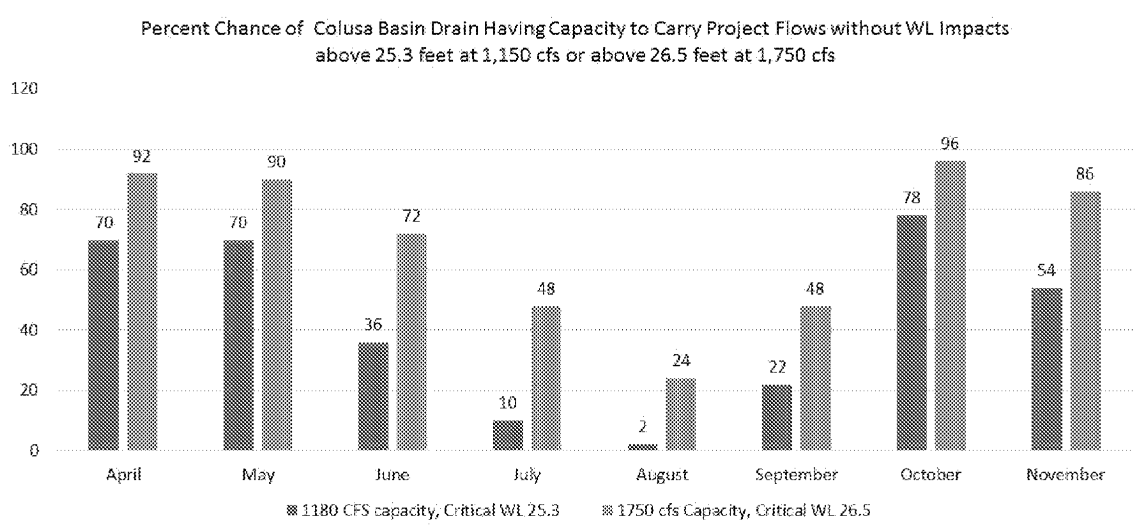


Figure 11. Percent Chance of Available Capacity Sufficient to Carry Full Project Flows without Water-Level (WL) Impacts

Tables 19 and 20 summarize the percent change of no impact for all 5 water year types for the lower (1,180 cfs) and higher (1,750 cfs) critical flows. Percentages provided for the months of December through March are generally constant for each critical flow level because these months have negligible project flow for all year types. Therefore, the percentages indicate the amount of time that the estimated ambient flows will be below those levels that would cause a water-level impact.

Table 19. Percent Chance of Passing Full Project Flows Through CBD Without Water-level Impacts Above 25.3 Feet

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wet	48	52	72	80	78	80	70	20	34	82	60	46
Above Normal	48	52	72	80	78	70	70	20	38	84	50	50
Below Normal	48	52	72	80	78	72	42	4	40	80	44	48
Dry	48	52	72	70	70	36	10	2	22	78	54	48
Critical	48	52	72	72	54	54	36	12	30	86	48	48

Table 20. Percent Chance of Passing Full Project Flows through CBD Without Water-Level Impacts Above 26.5 Feet

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wet	60	64	80	92	92	92	96	42	62	98	88	68
Above Normal	60	64	80	92	92	88	96	42	64	98	86	70
Below Normal	60	64	80	92	92	90	74	30	64	98	80	68
Dry	60	64	80	92	90	72	48	24	48	96	86	68
Critical	60	64	80	92	84	82	66	34	60	98	84	68

4.0 Bank Mitigation Simulations

Based on the low percentage of being able to pass project flows without water-level impacts near RM 8.9 (Table 17, for example), bank mitigation measures were added to the model geometry to improve the ability to pass project flows without water-level impacts. Bank mitigation was applied by raising the bank elevation in the model, as shown in Figure 12. The model elevations were adjusted from RM 8.329 to 10.469 by an average of approximately 3 feet, while bank elevations were set to 29.0 feet from RM 7.849 to 8.243. Simulations were conducted with these adjustments using the CALSIM Alt 1B year-type averaged project inflows and measured ambient flows for 2013, 2014, 2015, and 2017. Simulations were conducted for the April to December timeframe.

Table 21 summarizes the overbank flows on the west bank, downstream of Balsdon Weir, for the revised baseline, which includes updates to low spots shown in Figure 2 and the mitigation scenario. Values in the table represent peak overflows in cfs. Results indicate that all spills downstream of RM 10.6 were mitigated by raising the bank elevations as detailed. The remaining overflows at RM 11.635 and RM 21.053 are at legitimate low spots in the bank based on review of satellite imagery.

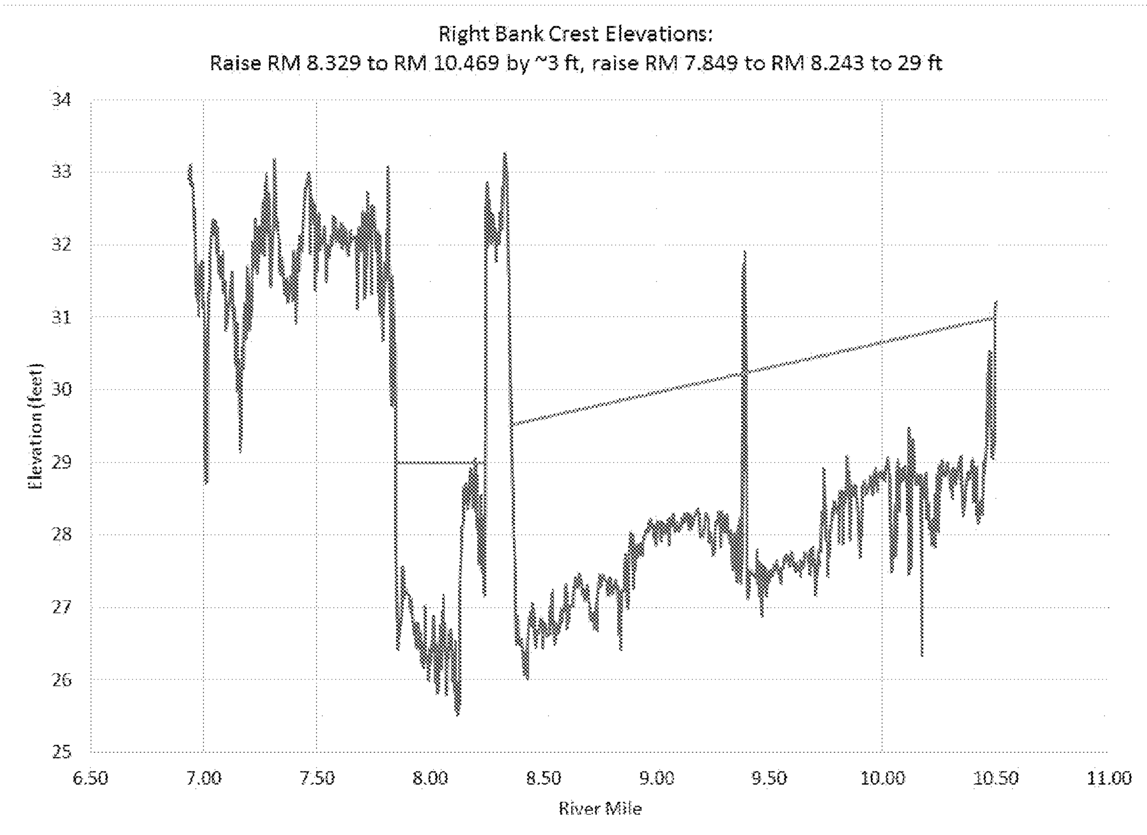


Figure 12. Original and Modified West Bank Crest Elevations

Table 21. Maximum Overflow in CBD Downstream OF Balsdon Weir Before and After Proposed Bank Mitigation

Overflow Location (Model ID = RM)	2013 Project Flows WEIR FIX V2 (No Mitigation)	2013 Project Flows WEIR FIX V4 (Levee Mitigation)
7.637	6	0
8.787	16	0
9.727	139	0
10.635	15	0
11.635	69	89
16.035	8	9
21.053	131	139
21.933	2	2
23.191	0	3

Table 22 presents an update to Table 17 (dry-year conditions) accounting for bank mitigation. Results are presented for dry-year conditions because they have the largest project flows and therefore the largest water-level impact. Results show that in the peak project flow months of June through

September, the CBD can carry project flows for ambient flow conditions at or below the 90th or 95th percentile flow.

Table 22. Stage Percentiles for Dry-year Type Project Flows with Bank Mitigation, RM 8.9 (stage in feet)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	23.61	23.50	23.46	23.80	23.81	24.75	25.28	25.74	24.81	23.97	23.91	23.79
20	23.95	23.76	23.80	24.06	24.01	24.99	25.50	26.14	25.20	24.10	24.14	24.11
30	24.26	24.07	23.97	24.20	24.23	25.18	25.77	26.52	25.77	24.24	24.56	24.60
40	24.81	24.49	24.18	24.34	24.51	25.36	26.04	27.06	26.08	24.36	24.88	25.02
50	25.49	25.10	24.50	24.55	24.77	25.62	26.37	27.44	26.44	24.61	25.25	25.41
60	26.40	25.83	24.77	24.88	25.05	25.88	26.66	27.72	26.94	24.90	25.43	25.87
70	27.68	27.22	25.19	25.35	25.33	26.22	27.00	28.02	27.55	25.13	25.71	26.46
80	33.35	31.51	26.72	25.66	25.69	26.68	27.29	28.50	28.38	25.48	26.03	28.37
90	NA	NA	33.61	26.53	26.48	27.41	27.75	28.92	29.13	25.87	26.55	35.24
95	NA	NA	NA	36.23	28.37	28.32	28.07	29.31	30.05	27.38	27.52	NA

Legend:

green text = < 25.3 feet

red text = > 26.5 feet

NA = not applicable; outside range of regression (> 28.0 feet)

Figure 13 presents the maximum water-level profiles in the CBD for the bank mitigation project scenario, using Alt 1B CALSIM inputs and the existing set point. Baseline (no-project) results are included for reference and the difference between the with-project and baseline water surface elevations are plotted. The maximum difference in water level with the project is 1.44 feet, near RM 10.5 where the project flows are added.

Figure 14 is an update to Figure 11, adding results for the bank mitigation simulation and showing the percentile of ambient flow for which the CBD can accept full project flows without water-level impacts. These results depend on extending the rating curve, the relationship between flow and stage at RM 8.9 beyond modeled flows to include low frequency events that are in the data record at the CBD CDEC gage at Highway 20. Figure 14 assumes a flow capacity of 3,000 cfs at RM 8.9. Figure 15 shows the sensitivity to results if the flow capacity is assumed to be 3,500 cfs. The extension of the rating curve used to inform this range of results is shown in Figure 16. This shows that the rating curve at RM 8.9 varies with the KLOG set point, which has been taken into account in the values represented in the stage percentile summary tables.

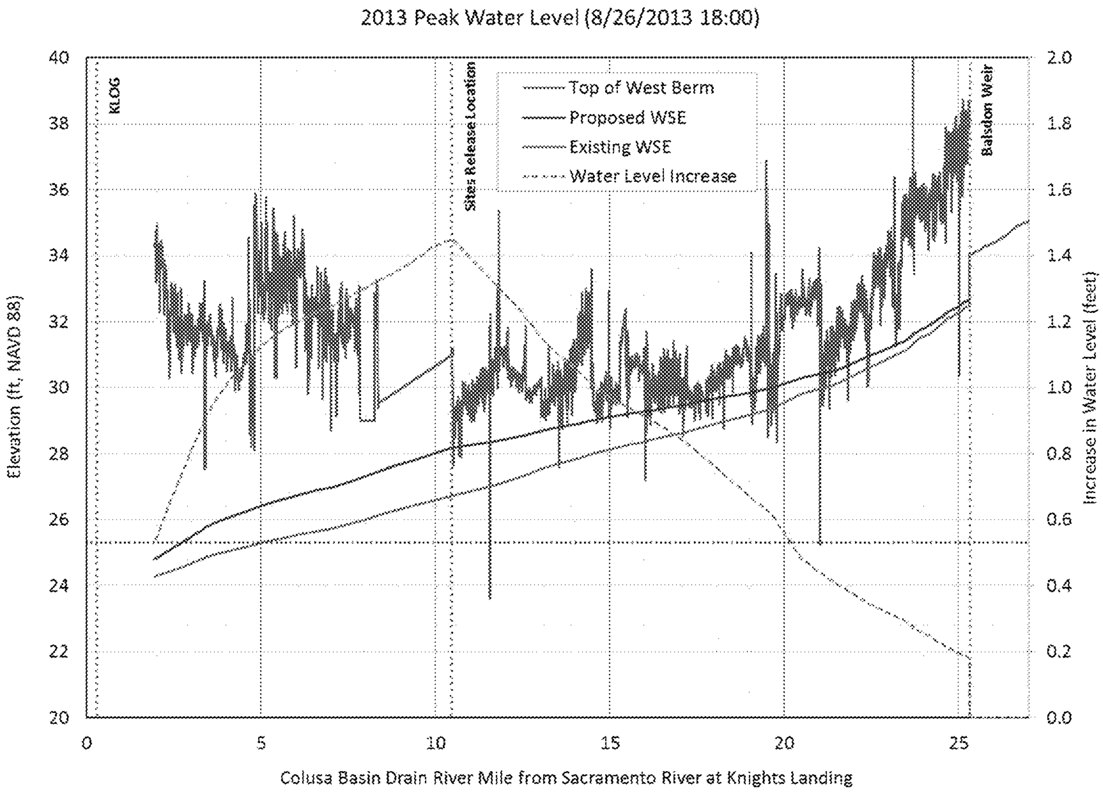


Figure 13. Peak Water-level Profiles in CBD with Bank Mitigation (2013 dry-year conditions)

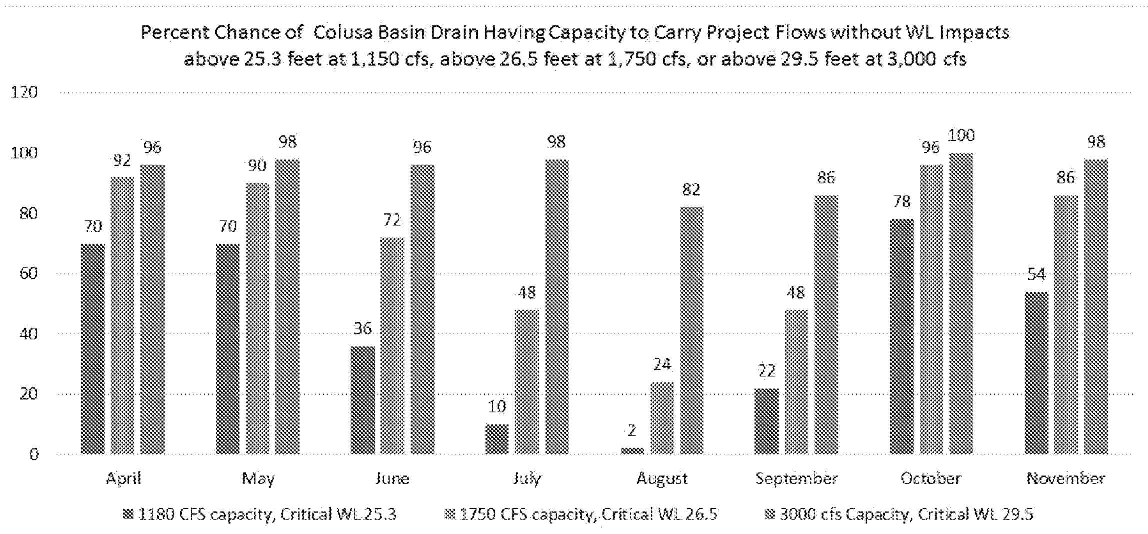


Figure 14. Percent Chance of Available Capacity Sufficient to Carry Full Project Flows, with Bank Mitigation (3,000 cfs flow capacity)

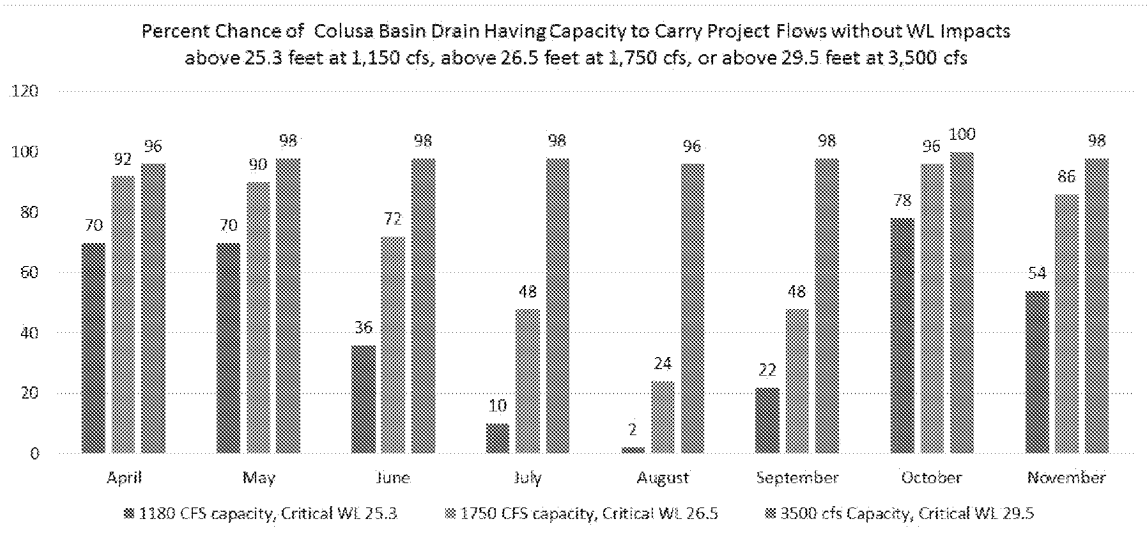


Figure 15. Percent Chance of Available Capacity Sufficient to Carry Full Project Flows, With Bank Mitigation (3,500 cfs flow capacity)

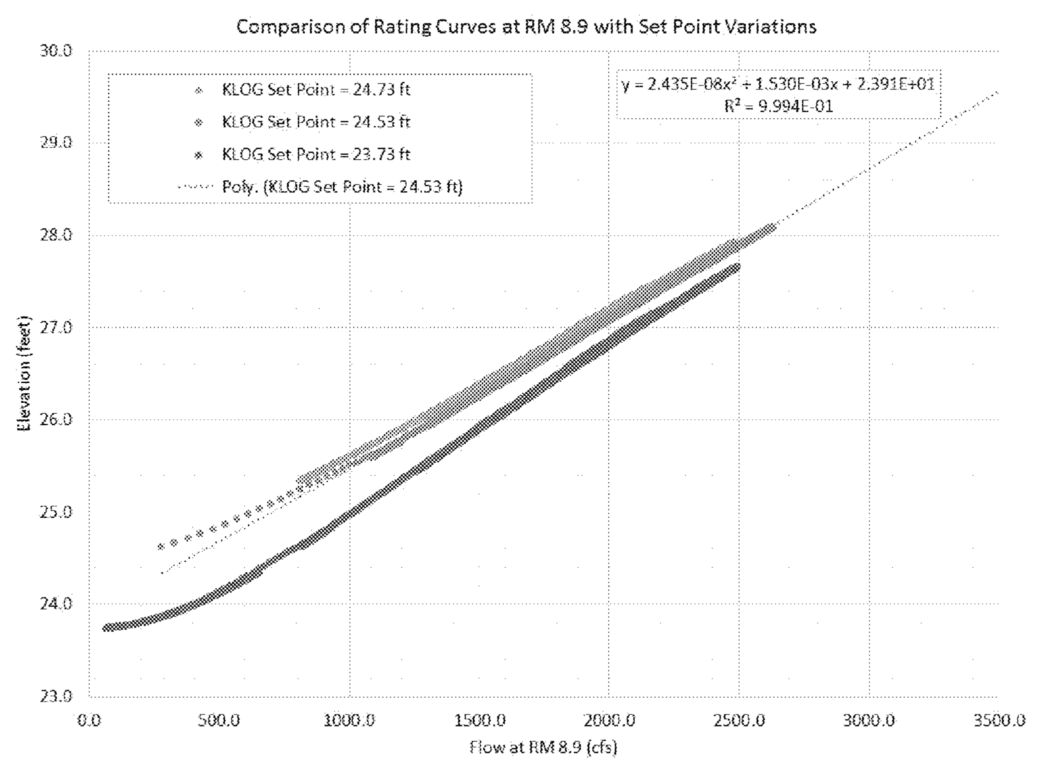


Figure 16. Comparison of Rating Curves at RM 8.9 for Range in KLOG Set Point

5.0 Environmental Flows

The project flows released to the CBD include environmental flows earmarked for the Yolo Bypass, by way of the Knights Landing Ridge Cut. These flows include up to 27,600 acre-feet per month (approximately 460 cfs) in the months of August, September, and October, although the flows do not occur in 28% of the years in the long-term CALSIM simulation. The average annual flow is 228 cfs for the 3-month period.

The operation of the KLOG gates and the gates at Wallace Weir control the flow distribution of outflow from the CBD to the Sacramento River and the Yolo Bypass. The baseline HEC-RAS model includes operations that hold the water surface elevation upstream of both gates at 23.73 feet by opening the gates further as flow increases and water levels increase above this set point. This matches current DWR operations. Under the current operations, only a small percentage of the flow from the CBD reaches the Yolo Bypass by way of Wallace Weir, with 90% or more exiting through the KLOG gates because of the hydraulic efficiency (Figure 17). This distribution is a function of the set point elevation; increases in the set point elevation will shift more water to the Knights Landing Ridge Cut because of the steeper gradient.

Model simulations indicate that increasing the KLOG set point by 0.8 to 1 foot, while leaving the Wallace Weir set point at 23.73 feet, will yield outflow through Wallace Weir of between 400 and 550 cfs, as shown in Figure 18. This would require a new agreement with DWR. The oscillations in the flow in Figure 18 relate to how the gate operations were coded and the model time step.

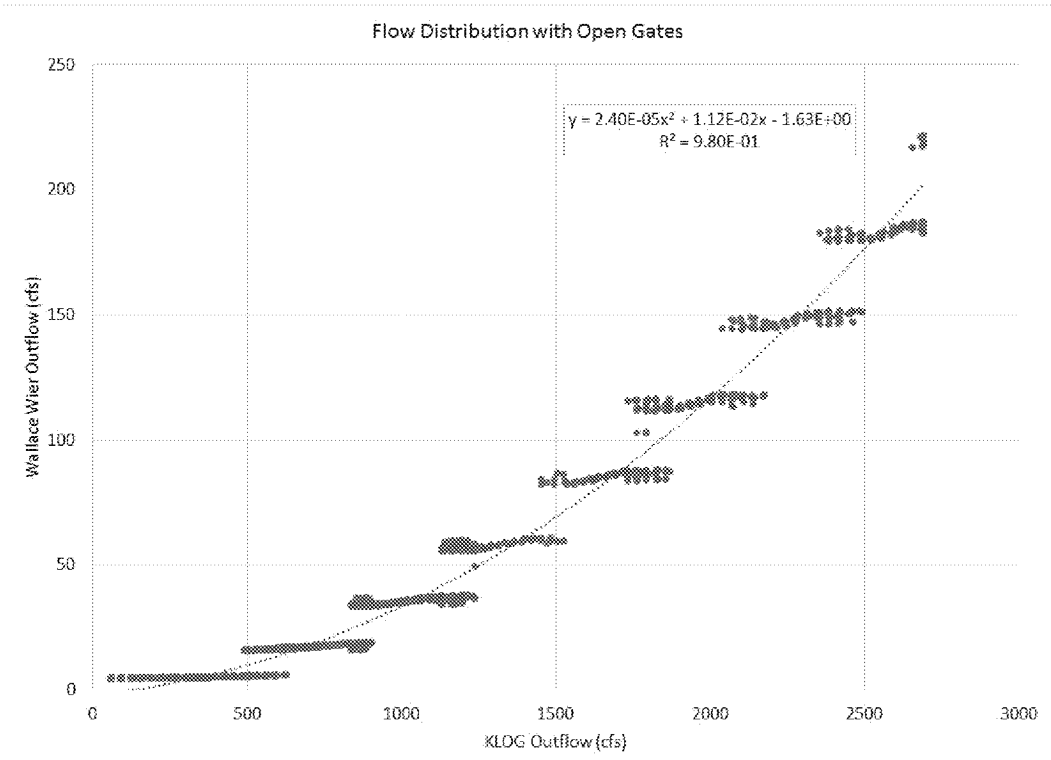


Figure 17. Flow Distribution through KLOG and Wallace Weir when KLOG is Open

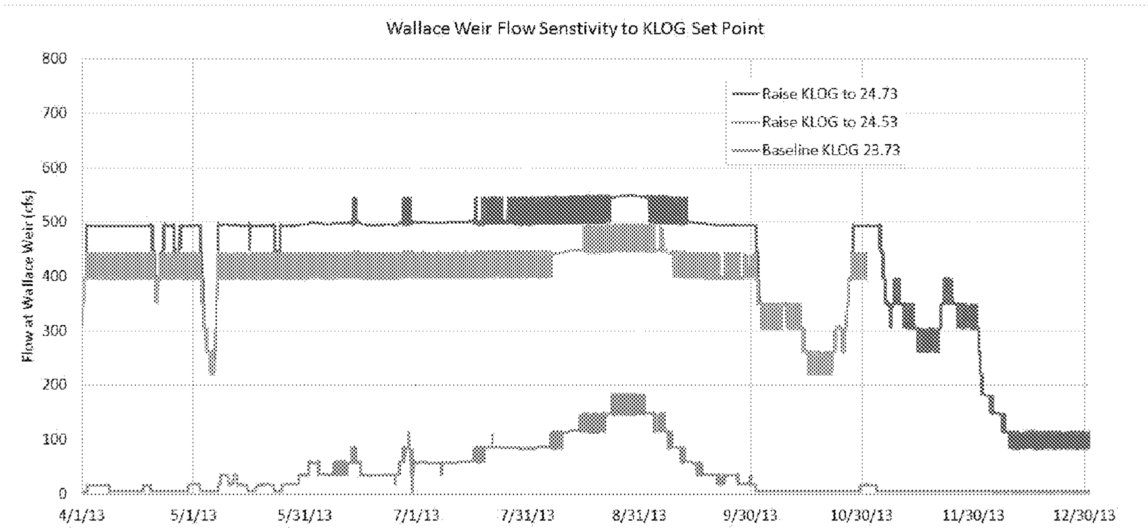


Figure 18. Change in Wallace Weir Outflow with Set Point Adjustments at KLOG (2013)

Table 23. Stage Percentiles for Dry-year Type Project Flows with Bank Mitigation (environmental flows only), RM 8.9

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	24.16	24.03	23.99	24.06	24.08	24.05	24.24	25.55	24.88	24.68	24.26	24.26
20	24.49	24.29	24.32	24.31	24.27	24.27	24.44	25.91	25.24	24.80	24.48	24.57
30	24.78	24.58	24.49	24.45	24.48	24.44	24.67	26.24	25.75	24.94	24.88	25.03
40	25.30	24.97	24.69	24.57	24.74	24.61	24.91	26.71	26.04	25.05	25.17	25.42
50	25.93	25.55	24.98	24.77	24.98	24.84	25.19	27.04	26.36	25.29	25.51	25.78
60	26.75	26.21	25.24	25.07	25.24	25.07	25.45	27.28	26.79	25.56	25.68	26.20
70	27.88	27.45	25.63	25.50	25.49	25.37	25.74	27.54	27.33	25.77	25.93	26.73
80	NA	NA	27.01	25.79	25.82	25.77	25.99	27.95	28.04	26.09	26.22	28.39
90	NA	NA	NA	26.57	26.53	26.39	26.38	28.30	28.67	26.45	26.69	NA
95	NA	NA	NA	NA	28.18	27.17	26.65	28.63	29.44	27.80	27.54	NA

Legend:

green text = < 29.5 feet

red text = > 29.5 feet

NA = not applicable; outside range of regression

Table 23 summarizes the stage percentiles for project flows that only include environmental flows in August, September, and October. Results are presented for a typical dry year for comparison to previous results (Tables 17 and 22) because dry years have the largest impact from the project in terms of water-level increases. The delivery of project flows that only include environmental flows would not negate the need for mitigation of bank elevation because elevations above 25.3 feet would cause water-level impacts at RM 8.9 absent bank mitigation. The ambient flows without any project flows already cause flooding and water-level impacts in the lower CBD. Water-level percentiles for ambient flows are reflected in Table 23 for all months other than August through October. The addition of any project flows exacerbates the flooding when ambient flows are high. The capping of project flows at 460 cfs only changes the percentile likelihood of passing project flows without water-level impacts.

6.0 Conclusions and Next Steps

6.1 Conclusions

The CBD portion of the Central Valley Flood Protection Program, Sacramento Basin, model was updated for analysis of Sites Project releases into the CBD and the resulting hydraulic impacts of these additional flows. The model geometry was updated to more correctly represent the physical system, including updates to the Davis Weir, the Balsdon Weir, and the western bank elevations in the lower 25 miles of the CBD.

Model boundary conditions were updated to reflect time-variable conditions based on water year types, based on results of the 82-year CALSIM simulations of the Sites Project (using Alternative 1B).

A setpoint analysis was conducted to quantify the benefits of possible reductions in the setpoint elevation in terms of a reduction in the frequency of water surface elevations in CBD above a critical elevation. Significant benefits were found for a reduction of 1 foot in the setpoint.

A frequency analysis was conducted to quantify the likelihood of the CBD carrying full project flows without, causing water-level impacts to agricultural users adjacent to the channel. Mitigation to allow for an increase in water levels of 1.3 feet before impacts occur also would increase the frequency at which the drain could pass full project flows.

Bank mitigation along 2.6 miles of the western bank would eliminate any overbank flows downstream of Balsdon Weir, except at two existing drainage canals (RM 11.635 and RM 21.053) for ambient flows below the 82nd and 96th percentile events, depending on the assumed capacity.

Environmental flows to the Yolo Bypass can be met by adjusting the set point elevation to which the KLOG gates are operated. Increases of between 0.8 and 1 foot to the existing set point of 23.73 feet will provide the regulatory flows of approximately 460 cfs for a range in ambient and project flows in the CBD.

Capping project deliveries at only the environmental flows does not negate the need for bank mitigation in order to pass these reduced flows without water-level impacts.

6.2 Next Steps

The preliminary results and conclusions need to be vetted with Reclamation District No. 108 and the Sites Land Management Committee.

7.0 Citations

California Data Exchange Center (CDEC). 1998-2020. Daily Average Flow at the CDR Station from January 1998 to December 2020. Accessed October 2021. https://cdec.water.ca.gov/dynamicapp/selectQuery.

Jacobs. 2020. *Colusa Basin Drain Hydraulic Modeling Final Technical Memorandum*. August.