

Operations & Engineering Workgroup

August 12, 2026



Agenda

1.1 – Discuss Cost Management Terminology for use in development of the Program Baseline Report

1.2 – Review overall program schedule and cash flow

1.3 – Discuss Phase 3 goals for the purpose of developing 2027 and 2028 budgets

1.4 – Review sample pro rata equations from the Benefits and Obligations Contract

1.5 – Review operations modeling

Agenda Item 1.1

Discuss Cost Management Terminology for use in development of the Program Baseline Report

JP Robinette



For Today

Issue for Discussion

- Managing Project costs for a mega-project requires a shared goal, aligned behaviors, and clarity on terminology

Policy Direction Needed

- Provide feedback on the cost management terms and the process for establishing cost management metrics for the Project Baseline Report
- Confirm the setting of a Management Budget

Prior work

May 2025: After convening the Value Planning Ad Hoc, the Project established

- A Management Budget of \$6.1-6.6B in 2024\$
- A Governance Budget of \$7.5B in 2024\$

January 2026: An updated plan of finance shows a total project spend in nominal dollars of \$9.4B when accounting for the project schedule and assumed escalation

Since these updates, the **underlying cost estimate has not changed**; more thought has been given to a cost management approach and terminology and the schedule has been updated.

Terminology Updates Summary

- Management Budget → Management Estimate
- Governance Budget → Governance Estimate
- New Terms:
 - Management Forecast
 - Governance Forecast
 - Management Contingency
 - Governance Contingency

Convention

Estimate = Constant Dollar view of total cost (e.g. 2024\$)

Forecast = YOE view of expected spend (aka nominal dollars)

Cost Management – two lanes

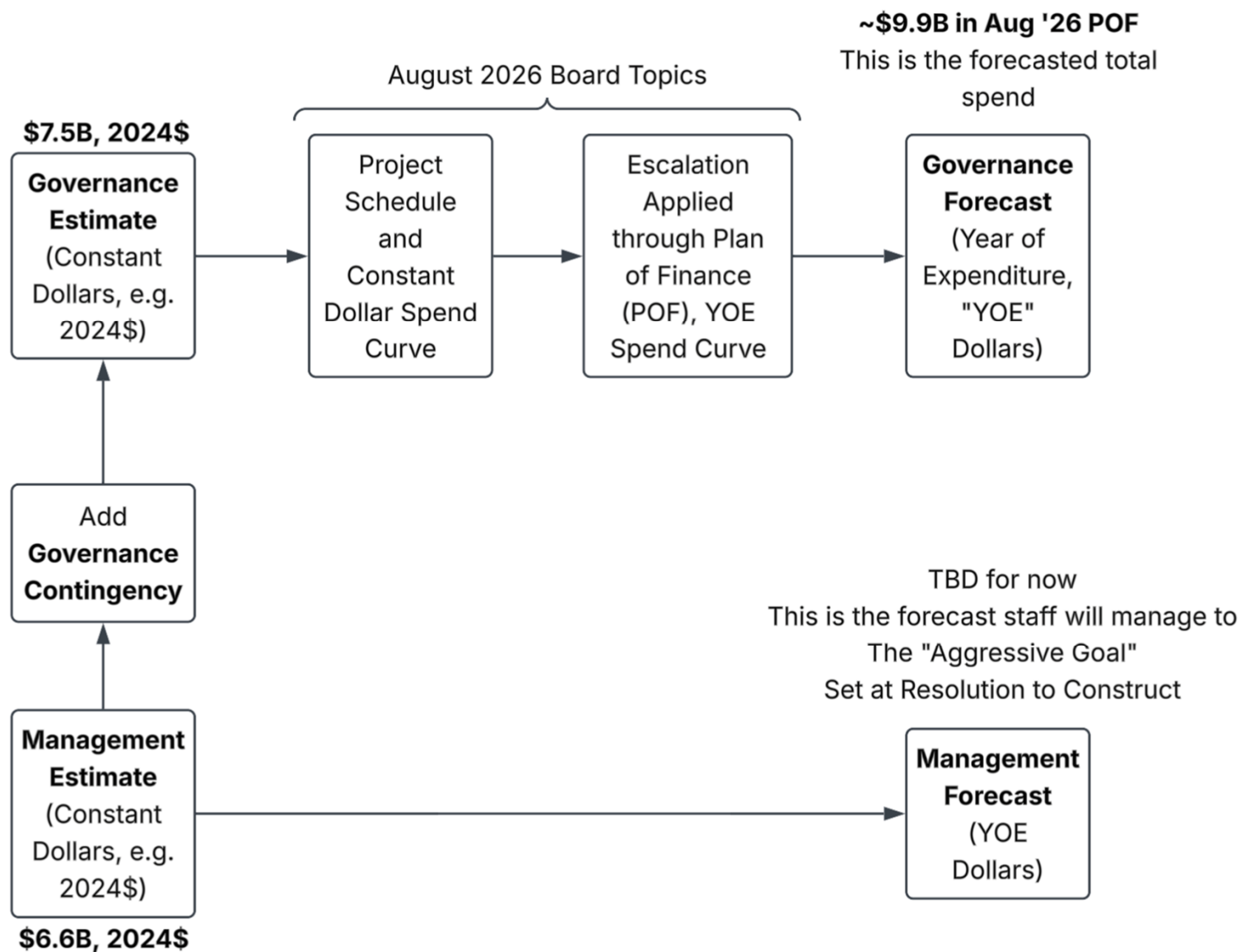
Governance lane	Management lane
Governance Forecast / Governance Estimate	Management Forecast / Management Estimate
Governance Contingency	Management Contingency
Controlled by the Board	Managed by staff within delegated authority / approved package controls

Management vs Governance Estimates

RN1

Constant Dollars	YOE Dollars
Management Estimate Total Project Cost Estimate in constant dollars. <u>Excludes</u> Governance Contingency \$6.6B (2024\$)	Management Forecast Total Project Cost Estimate in YOE dollars. <u>Excludes</u> Governance Contingency TBD
Governance Estimate Total Project Cost Estimate in constant dollars. <u>Includes</u> Governance Contingency \$7.5B (2024\$)	Governance Forecast Total Project Cost Estimate in YOE dollars. <u>Includes</u> Governance Contingency ~\$9.9B (Plan of Finance to be reviewed)

Proposed Process



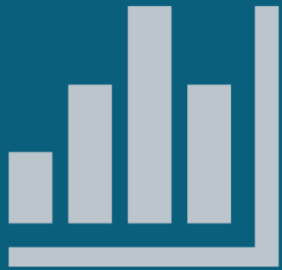
Setting a Management Estimate, Governance Contingency, and Governance Estimate (review)

- In May 2025, three cost estimate Options were presented to the Value Planning Subcommittee:
 1. Conservative: \$6.6B (\$2024)
 2. Optimistic: \$6.1B (\$2024)
 3. Pragmatic: \$6.4B (\$2024)
- Each option included \$900M of Governance Contingency above the base estimate. The options differed in the level of anticipated future cost savings and reductions in design contingency assumed within the base estimate.
- The Value Planning recommendation was to use the Conservative \$6.6B estimate, resulting in a **\$7.5B Governance Estimate when the Governance contingency is added.**

Setting a Management Estimate, Governance Contingency, and Governance Estimate

- Confirm moving forward with:
 - Management Estimate of \$6.6B (\$2024)
 - Governance Contingency of \$900M (\$2024)
 - Governance Estimate of \$7.5B (\$2024)
- Cost estimates and the forecast of those costs over the project schedule will continue to be refined as more information is gained and will be compared back to the Management & Governance Forecasts.

Takeaways and Discussion



The Governance Forecast and Management Forecasts will be used to compare actual costs through the life of the Project as they are in YOE dollars.



The Management Estimate and Management Forecast represent the “aggressive goal” shared by the RC/AB and Staff.



A future discussion will focus on delegation of authority for change orders and contingencies. It is recommended to revisit the Management Forecast and contingencies after that discussion.

Agenda Item 1.2

Review overall program schedule and cash flow

Kyle Hughes



For Today

Issue for Discussion

- Updated Program Schedule and Key Assumptions

Policy Direction Needed

- Input on Updated Schedule

Review of January 2026 Program Schedule

- In January 2026, Staff presented a schedule showing substantial completion in late 2033, with 2033/34 as the first reservoir filling season.
- The schedule assumed 100% Participant commitment by October 2026 and access to Project financing in November 2026.

Key Assumptions Underlying the Updated Schedule

- The updated schedule assumes enabling activities are not constrained by funding in 2027, based on Project financing being available in **March 2027** and the 2027 Work Plan is developed based on the anticipated availability of Project financing. RN1
- Without this 2027 additional funding assumption, Staff would need to plan to currently available funding, limiting the work that can be accomplished in 2027—particularly seasonal activities. RN2

What Changed with the Schedule Update?

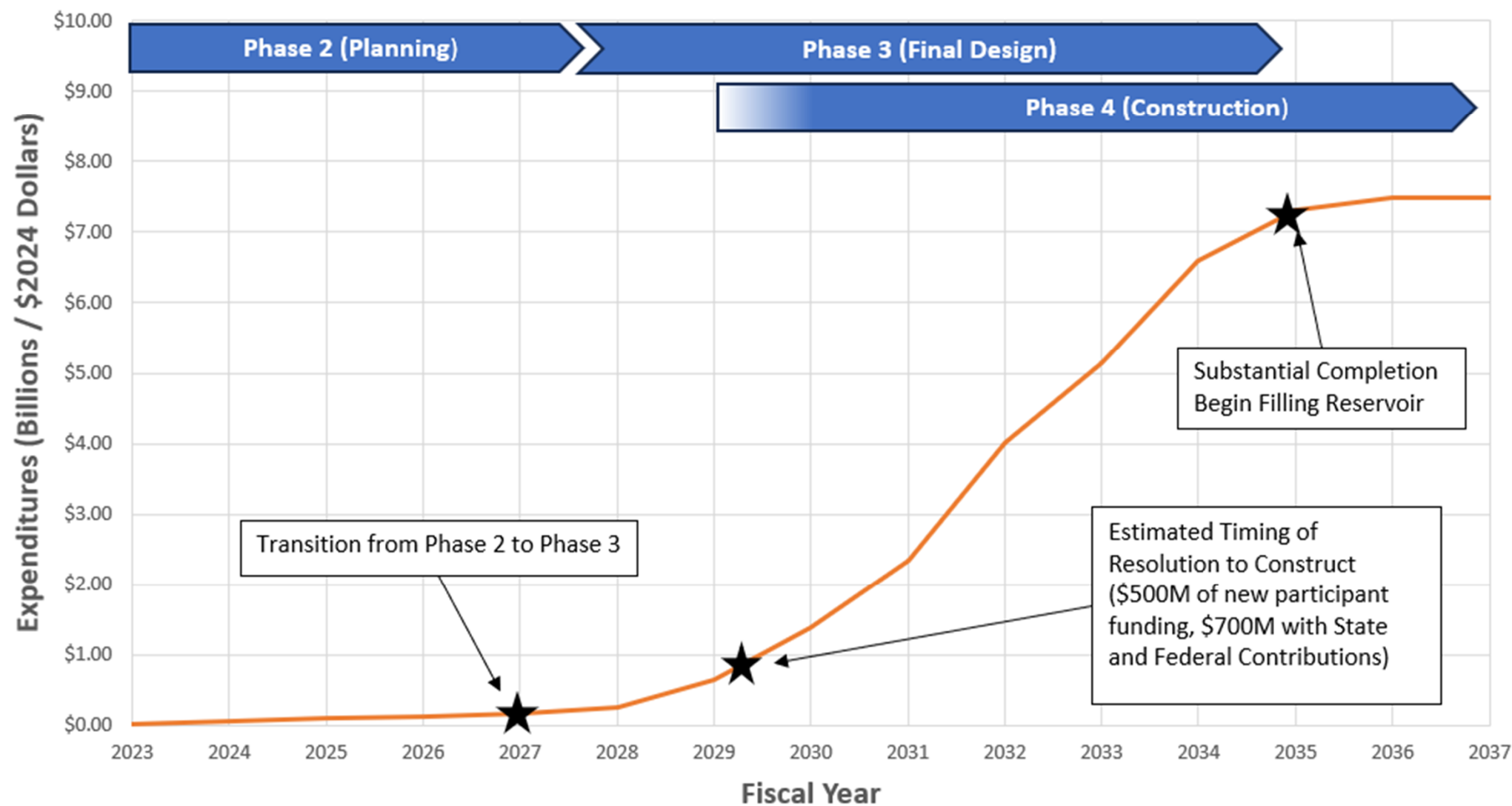
- Substantial completion date has moved approximately one year, from late 2033 to late 2034.
- Primary drivers are:
 - The extended timeframe of the water right Process
 - Updated timeframes for land acquisitions and other construction enabling activities.
 - Factored in ramp-up time for the project team to scale and organize around executing work at scale.
 - Additional input and consideration on construction durations and sequencing from R-CMAR.

How does the Schedule Inform the Plan of Finance?

- The updated schedule establishes the timing of major capital expenditures and provides the basis for spend plan updating the Plan of Finance.
- Schedule changes affect escalation and financing costs, not simply completion date.
- The updated spend curve is being incorporated into the upcoming Plan of Finance update.

How does the Schedule Inform the Plan of Finance?

Aug-2026 Schedule Update Spend Curve
(2024 Dollars)

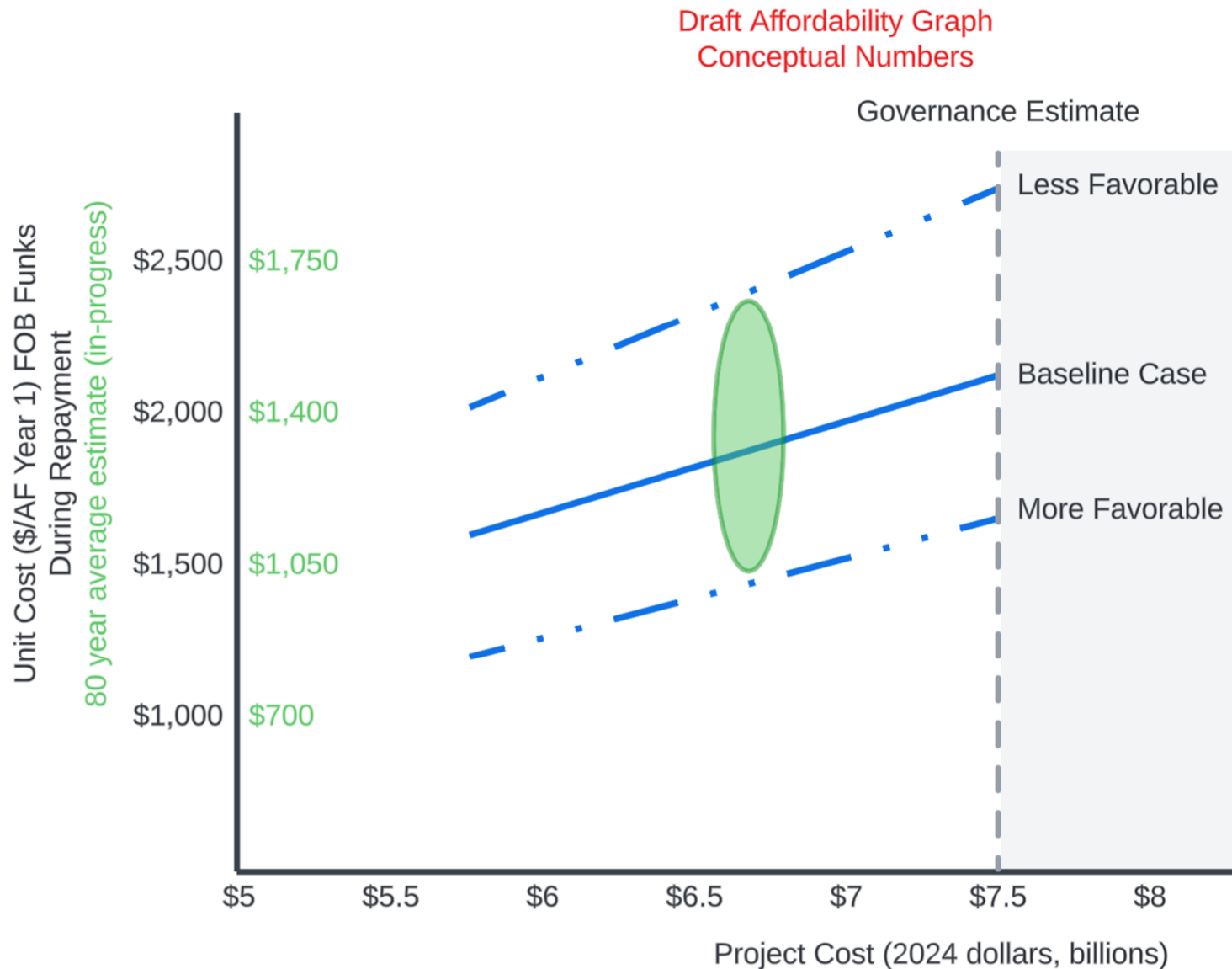


Changes in escalation impact Governance Forecast

- Schedule has a one year later completion
- Schedule activities moved out (back-loading)
- 2-years of escalation (2024 to 2026) higher than what was in the January 2026 Plan of Finance,
 - 4.45% vs. 3.7%

The Governance Forecast is ~\$9.9B in YOE dollars, pending finalizing the Plan of Finance (to be reviewed by Budget and Finance Committee)

Escalation and interest rates have the biggest impact on unit cost (2025 graphic)



Key Takeaways

- The updated schedule reflects an improved understanding of what it will take to execute the Project and moves the start date out as well as the anticipated substantial completion approximately one year to late 2034.
- The schedule will continue to mature as design, field investigations, permitting and CMAR planning advance.
- The updated schedule informs the Plan of Finance update and the Governance Forecast.

Agenda Item 1.3

Discuss Phase 3 goals for the purpose of developing 2027 and 2028 budgets

Rob Natoli



For Today

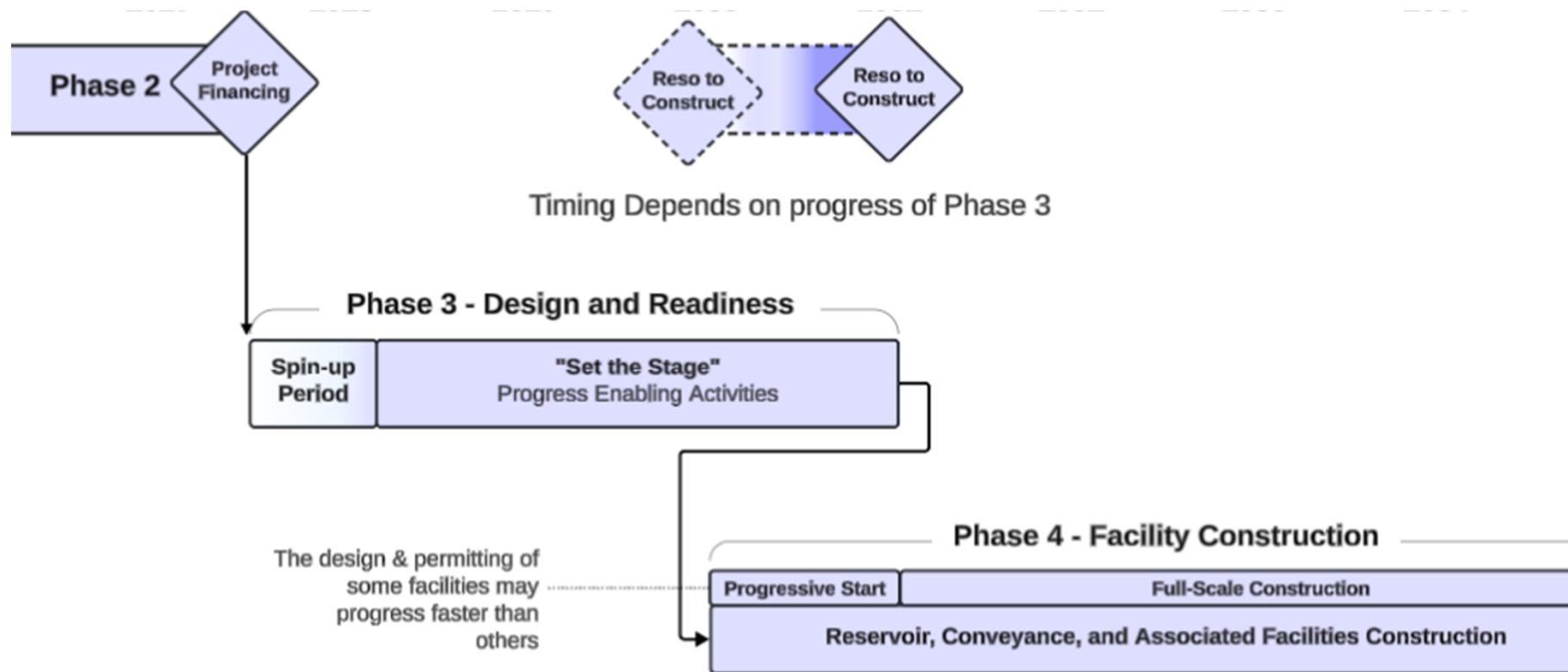
Issue for Discussion

- Discuss Phase 3 Activities and Goals

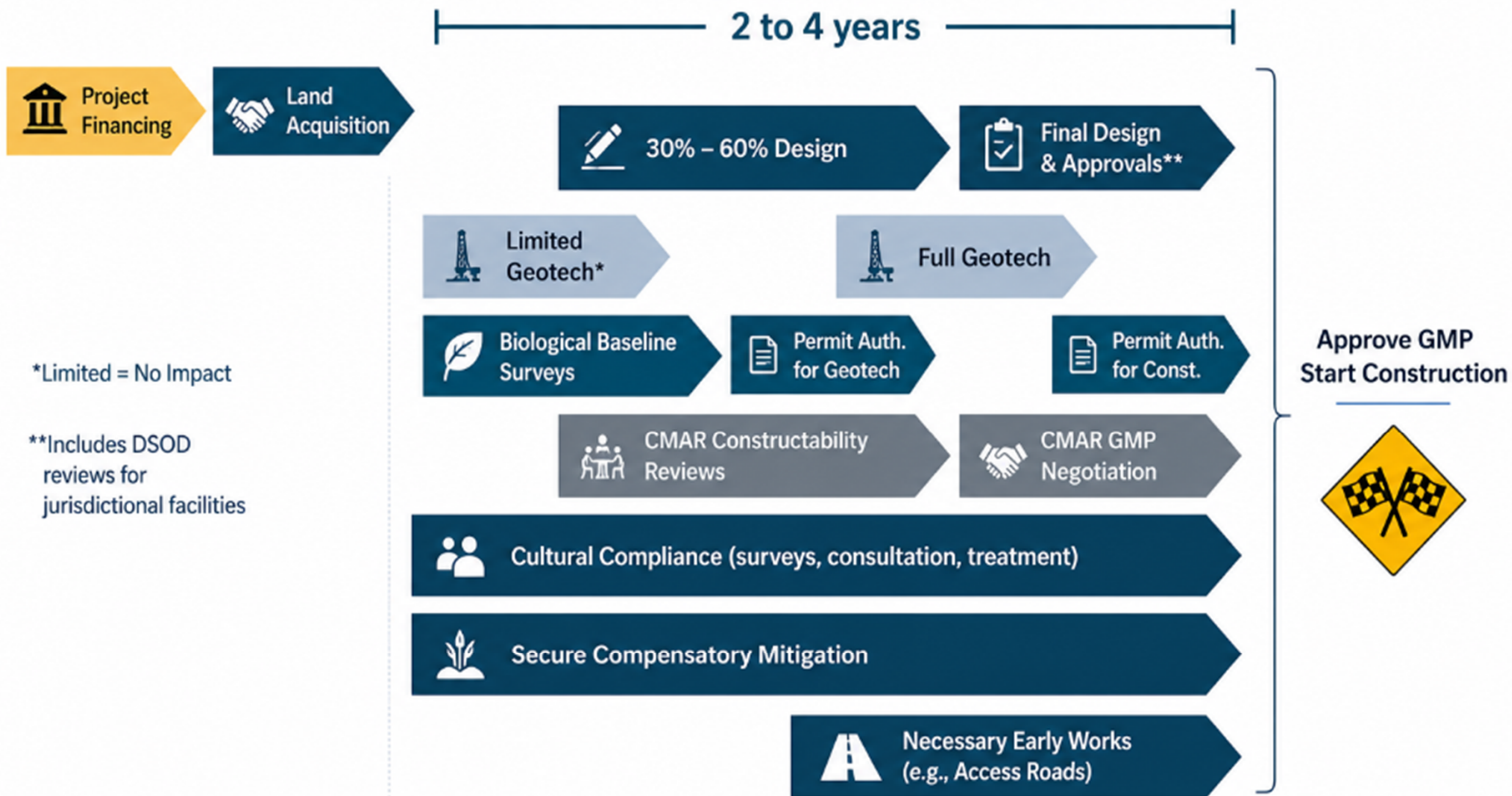
Policy Direction Needed

- Build understanding of goals and the activities to achieve Phase 3 goals to support Phase 3 progress and budgeting awareness

Overview of Project Phases



Review of Enabling Activities



Phase 3 Goals and Supporting Tasks



Enable Efficient Construction

Complete enabling activities and build sufficient runway for Major Construction

- Build out Owner Delivery Team
- Land purchase
- Environmental baseline surveys
- Permit authorizations
- Secure compensatory mitigation



Refine Cost & Schedule

Complete geotechnical investigations and design

- Geotechnical investigations
- CMAR Preconstruction Input
- Value Engineering Analysis
- Design Progression
- Advancement of most GMP Packages to 60%, some to 90%



Advance Project & Risk Understanding

Transition from “desktop “ to “field” level of understanding

Building Confidence in
Resolution to Construct

Getting Phase 3 Started on the Right Foot

Develop Processes

- Standards/procedures/templates to promotes efficient and effective progress and collaboration with stakeholders

Data management & tools

- Using the right tools, Manage and leverage data effectively, keeping operations in mind

Strategic Implementation

- Lots of inputs to consider when packaging or separating activity and/or facility progress

Streamline decision making

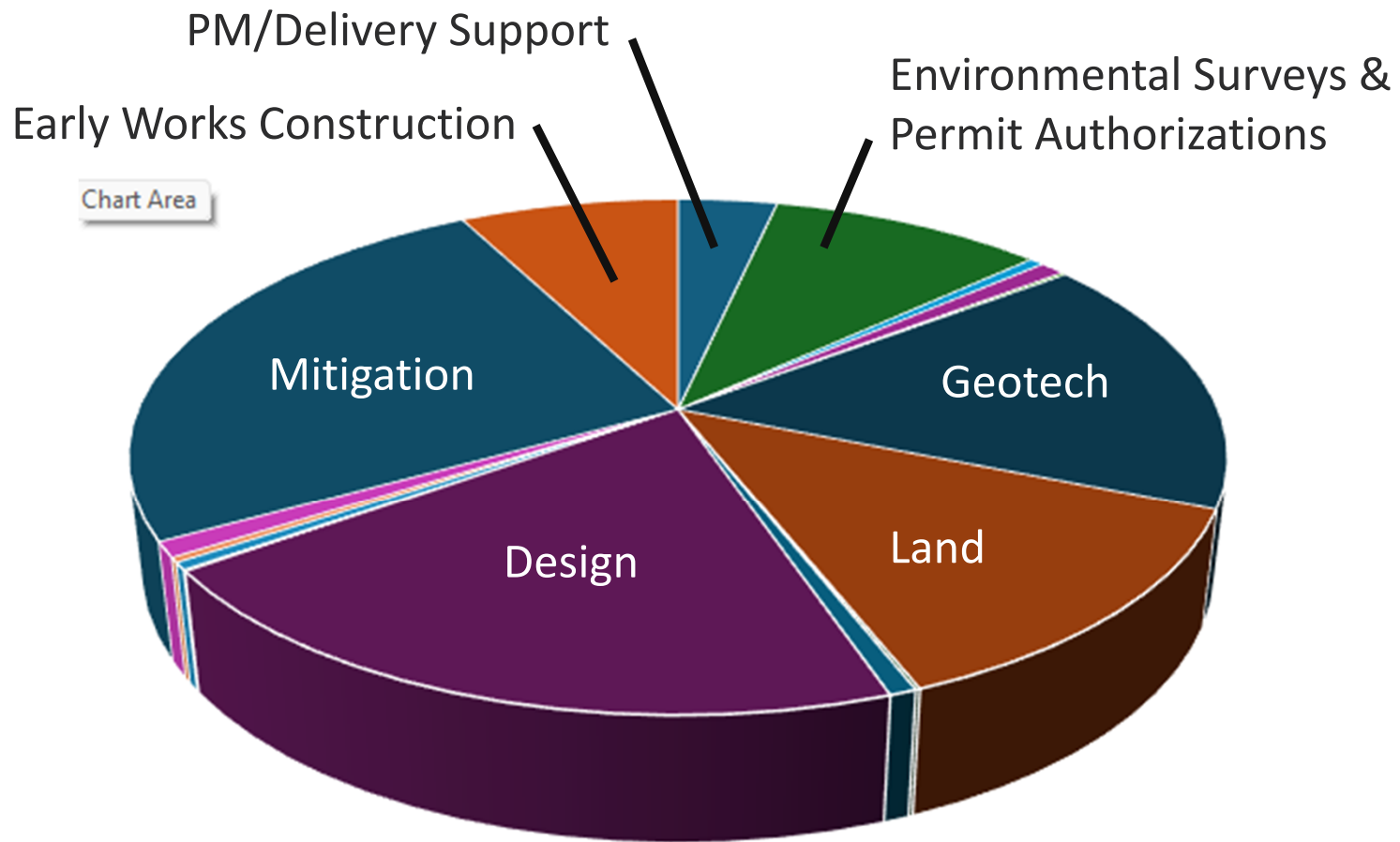
- Build clarity on decision making processes

Resource Availability

- Qualified People, Cashflow management

Onboarding the Owner Delivery Support Team is critical to support these keys to success, ramping into Phase 3, and managing Phase 3 resources effectively.

2027 / 2028 Phase 3: Major Slices of Budget



Takeaways

- Priority tasks for Phase 3 ramp up and budget are being actively advanced/developed for 2027
- The major slices of 2027/2028 budget are being developed to achieve the Phase 3 goals:
 - Enable Efficient Construction
 - Refine Costs and Schedule
 - Advance Project and Risk Understanding
 - Build Confidence for the Resolution to Construct

Agenda Item 1.4

Review sample pro rata equations from the Benefits and Obligations Contract

JP Robinette / Jerry Brown



For Today

Issue for Discussion

The B&O Contract requires RMB-approved pro-rata allocation equations and examples to be incorporated into the Sites Operations Plan before the Board approves a construction-commencement resolution.

Policy Direction Needed

Confirm that pro-rata allocations should be based on the constrained or used Project component—base capacity for storage/diversion-related actions and downstream facility capacity for release/conveyance-related actions—and identify which example scenarios should be developed for Board review.

July RC/AB Direction

July 24, 2026 B&O Contract Direction

- Provide opportunity for board members to review pro rata equations and discuss how they will function. Specific examples to identify loss due to evaporation, allocation of diversion, and others. (TODAY)
- Incorporate proposed language for making the pro rata equations part of the Ops Plan in Section 4.2 of the B&O (DONE)

New B&O Contract Language, Section 4.2.4

This Contract requires pro-rata calculations in Sections 4.2.3, 4.3.4, 4.4.3, 6.13.2, 8.1.1, 8.2.1, 10.3.2, 10.3.6, 10.3.7, and 11.1. The Reservoir Management Board shall approve equations for each of those pro rata allocation calculations, with examples applying these equations, as an addition to the Sites Operations Plan before the Reservoir Management Board approves a resolution confirming commencement of all or a portion of construction of the Project pursuant to Section 3.2.1 of this Contract

Why we're here / what we aren't doing today

- **Contract driver:** RMB must approve pro-rata equations + examples for specified sections, to be incorporated into the Ops Plan before the Resolution to Construct.
- **Today's objective:** confirm shared understanding of:
 - the **allocation principles** (what's being allocated and why),
 - the **capacity buckets** that drive allocations,
 - the **set of scenarios** the Board wants to see in example form.
- **Not today:** final math, final exhibit formatting, or adopting Ops Plan language—this is a **conceptual alignment** discussion.

What pro-rata is based on?

Core principle: allocations track what system component is being constrained/used.

- **Base Capacity** (diversion facilities, storage / reservoir)
- **Downstream Capacity** (ability/right to move water through downstream facilities)
- *Exception: wind-up is based on actual \$\$ contributions to date*

If the action

- primarily applies to **storage/diversion capacity**, it keys off **base capacity**.
- primarily applies to **conveyance/release to delivery point**, it keys off **downstream capacity**.
- primarily applies to **payments**, it keys off **paid Fixed Project Costs**

Sections identified in B&O 4.2.4 to be clarified with equations/examples

Section	Title/description	Pro-rata based on?	Notes
4.2.3	Uniform standards	Capacity Interest	Applied across all Storage Partners
4.3.4	Constrained downstream capacity	Downstream facility capacity	Depends on the reach that is constrained; Consider 1 st priority/2 nd priority
4.4.3	Diversions and releases	Base capacity for diversions; downstream capacity for releases	Confirm mixed cases
6.13.2	Shortfall of State/Fed payments	Pro-Rata cost shares of actuals	
8.1.1	Lease of capacity interests	The component being leased - base and/or downstream capacity	Apply to each bucket independently
8.2.1	Sale of capacity interests	Same as 8.1.1	
10.3.6/ 10.3.7	Assignment of defaulted capacity	Base and downstream capacity shares	50% cap Account for voluntary purchases
11.1	Wind-up cash and asset distribution	Pro-rata cost shares of actuals	

Other Items: evaporation and other losses, opt-in capital improvements, etc

Agenda Item 1.5

Review operations modeling

Ali Forsythe



Background

- Participants requested release and delivery information by agency
- CalSim 3 includes routing of Participant water, and thus considers some conveyance capacity constraints
 - Results in differences in % reductions for some SOD Participants (especially for those along South Bay Aqueduct)
 - Staff feel that actual operations would avoid these conveyance capacity constraints
- Staff have revised the Participant release and delivery values for SOD Participants to a pro-rata share reduction
 - Eliminates the differences based on canal conveyance capacity constraints that are likely to be avoided during actual operations

Releases – Dry Year Prioritization

Revised SOD Values

Releases & Transfers (TAF/year)	Dry Year Prioritization (ITP)		Dry Year Prioritization (ITP + Term 23)		Difference (Reduction)	
	Average	Dry and Critical	Average	Dry and Critical	Average	Dry and Critical
Colusa County WD	1.4	2.7	0.8	1.8	39%	35%
Cortina WD	0.1	0.1	0	0.1	39%	35%
Davis WD	0.3	0.6	0.2	0.4	39%	35%
Dunnigan WD	0.5	0.9	0.3	0.6	39%	35%
LaGrande WD	0.2	0.3	0.1	0.2	39%	35%
Westside W.D.	0.8	1.6	0.5	1	39%	35%
GCID	0	0	0	0	78%	78%
RD 108	0	0	0	0	-	-
County of Colusa	5.6	1.8	4.4	0.4	23%	75%
NOD to NOD Transfer	12.3	0	11.3	0	8%	-
NOD to SOD Transfer	16.2	19.5	13	14.6	20%	25%
American Canyon	1.6	3	1.4	2.6	15%	14%
AVEK	0.5	0.8	0.4	0.7	14%	17%
Coachella Valley WD	9.3	16.1	7.9	13.4	14%	17%
Desert WA	6.0	10.5	5.2	8.7	14%	17%
IRWD	0.9	1.6	0.8	1.3	14%	17%
Metropolitan WD	46.3	80.5	39.6	67.2	14%	17%
Rosedale-Rio Bravo	0.5	0.8	0.4	0.7	14%	17%
SBVMWD	19.8	34.5	17.0	28.8	14%	17%
San Geronio Pass WA	13.0	22.5	11.1	18.8	14%	17%
Valley Water	1.4	2.4	1.2	2.0	14%	17%
SCVWA	4.6	8.0	4.0	6.7	14%	17%
Wheeler-Ridge	1.9	3.3	1.6	2.8	14%	17%
Zone 7 WA	9.3	16.1	7.9	13.4	14%	17%
Reclamation	32.9	77.6	27.7	65.3	16%	16%
State NOD	13.1	16.4	11.4	13.5	13%	17%
State SOD	37.3	39.4	32.2	31.7	14%	20%
Total	235.6	361.1	200.4	296.7	15%	18%

Deliveries – Dry Year Prioritization

Revised SOD Values

Deliveries & Transfers (TAF/year)	Dry Year Prioritization (ITP)		Dry Year Prioritization (ITP + Term 23)		Difference (Reduction)	
	Average	Dry and Critical	Average	Dry and Critical	Average	Dry and Critical
Colusa County WD	1.4	2.7	0.8	1.8	39%	35%
Cortina WD	0.1	0.1	0	0.1	39%	35%
Davis WD	0.3	0.6	0.2	0.4	39%	35%
Dunnigan WD	0.5	0.9	0.3	0.6	39%	35%
LaGrande WD	0.2	0.3	0.1	0.2	39%	35%
Westside W.D.	0.8	1.6	0.5	1	39%	35%
GCID	0	0	0	0	78%	78%
RD 108	0	0	0	0	-	-
County of Colusa	5.6	1.8	4.4	0.4	23%	75%
NOD to NOD Transfer	12.3	0	11.3	0	8%	-
NOD to SOD Transfer	11.7	14.9	9.4	11.2	20%	25%
American Canyon	1.6	3	1.4	2.6	15%	14%
AVEK	0.3	0.6	0.3	0.5	15%	18%
Coachella Valley WD	6.8	12.1	5.7	10.0	15%	18%
Desert WA	4.4	7.9	3.7	6.5	15%	18%
IRWD	0.7	1.2	0.6	1.0	15%	18%
Metropolitan WD	33.8	60.5	28.6	49.9	15%	18%
Rosedale-Rio Bravo	0.3	0.6	0.3	0.5	15%	18%
SBVMWD	14.5	25.9	12.3	21.3	15%	18%
San Geronio Pass WA	9.5	17.0	8.0	14.0	15%	18%
Valley Water	1.0	1.8	0.9	1.5	15%	18%
SCVWA	3.4	6.1	2.9	5.0	15%	18%
Wheeler-Ridge	1.4	2.5	1.2	2.0	15%	18%
Zone 7 WA	6.8	12.1	5.7	10.0	15%	18%
Reclamation	26.5	70.5	24.0	65.2	9%	8%
State NOD	13.1	16.4	11.4	13.5	13%	17%
State SOD	26.5	29.2	22.8	23.5	14%	20%
Total	183.3	290.4	156.6	242.7	15%	16%

Releases – Top Speed Revised SOD Values

Releases & Transfers (TAF/year)	Top Speed (ITP)		Top Speed (ITP + Term 23)		Difference (Reduction)	
	Average	Dry and Critical	Average	Dry and Critical	Average	Dry and Critical
Colusa County WD	0.7	1.2	0.2	0.3	68%	71%
Cortina WD	0.0	0.1	0.0	0.0	68%	71%
Davis WD	0.2	0.3	0.1	0.1	68%	71%
Dunnigan WD	0.2	0.4	0.1	0.1	68%	71%
LaGrande WD	0.1	0.1	0.0	0.0	68%	71%
Westside W.D.	0.4	0.7	0.1	0.2	68%	71%
GCID	0	0	0	0	78%	78%
RD 108	0	0	0	0	76%	86%
County of Colusa	5.1	1.3	3.7	0.4	27%	67%
NOD to NOD Transfer	32.7	0.0	25.6	0.0	22%	-
NOD to SOD Transfer	6.2	8.1	3.3	3.4	46%	58%
American Canyon	1.5	3	1.3	2.3	17%	17%
AVEK	0.5	0.7	0.4	0.5	18%	26%
Coachella Valley WD	10.9	14.4	9.0	10.7	18%	26%
Desert WA	7.1	9.4	5.8	7.0	18%	26%
IRWD	1.1	1.4	0.9	1.1	18%	26%
Metropolitan WD	54.7	72.1	44.9	53.5	18%	26%
Rosedale-Rio Bravo	0.5	0.7	0.4	0.5	18%	26%
SBVMWD	23.4	30.9	19.2	22.9	18%	26%
San Geronio Pass WA	15.3	20.2	12.6	15.0	18%	26%
Valley Water	1.6	2.2	1.3	1.6	18%	26%
SCVWA	5.5	7.2	4.5	5.4	18%	26%
Wheeler-Ridge	2.2	3.0	1.8	2.2	18%	26%
Zone 7 WA	10.9	14.4	9.0	10.7	18%	26%
Reclamation	32.7	77.0	27.2	64.1	17%	17%
State NOD	13.1	16.3	11.2	13.1	15%	19%
State SOD	37.0	38.9	31.2	29.8	16%	23%
Total	263.9	323.8	214.0	245.1	19%	24%

Deliveries – Top Speed

Revised SOD Values

Deliveries & Transfers (TAF/year)	Top Speed (ITP)		Top Speed (ITP + Term 23)		Difference (Reduction)	
	Average	Dry and Critical	Average	Dry and Critical	Average	Dry and Critical
Colusa County WD	0.7	1.2	0.2	0.3	68%	71%
Cortina WD	0.0	0.1	0.0	0.0	68%	71%
Davis WD	0.2	0.3	0.1	0.1	68%	71%
Dunnigan WD	0.2	0.4	0.1	0.1	68%	71%
LaGrande WD	0.1	0.1	0.0	0.0	68%	71%
Westside W.D.	0.4	0.7	0.1	0.2	68%	71%
GCID	0	0	0	0	78%	78%
RD 108	0	0	0	0	76%	86%
County of Colusa	5.1	1.3	3.7	0.4	27%	67%
NOD to NOD Transfer	32.7	0.0	25.6	0.0	22%	-
NOD to SOD Transfer	4.6	6.3	2.4	2.7	47%	57%
American Canyon	1.5	3	1.3	2.3	17%	17%
AVEK	0.4	0.5	0.3	0.4	18%	26%
Coachella Valley WD	7.8	10.8	6.4	8.1	18%	26%
Desert WA	5.1	7.0	4.1	5.2	18%	26%
IRWD	0.8	1.1	0.6	0.8	18%	26%
Metropolitan WD	39.0	54.2	31.9	40.3	18%	26%
Rosedale-Rio Bravo	0.4	0.5	0.3	0.4	18%	26%
SBVMWD	16.7	23.2	13.6	17.2	18%	26%
San Geronio Pass WA	10.9	15.2	8.9	11.3	18%	26%
Valley Water	1.2	1.6	1.0	1.2	18%	26%
SCVWA	3.9	5.4	3.2	4.0	18%	26%
Wheeler-Ridge	1.6	2.2	1.3	1.7	18%	26%
Zone 7 WA	7.8	10.8	6.4	8.1	18%	26%
Reclamation	28.9	75.0	27.0	70.7	6%	6%
State NOD	13.1	16.3	11.2	13.1	15%	19%
State SOD	26.3	28.9	22.0	22.1	16%	24%
Total	209.5	266.1	171.8	210.8	18%	21%

Engineering and Construction Manager's Report

JP Robinette

Engineering and Construction Manager's Report

- Priority Geotech
- Conveyance Update
- Future Topics

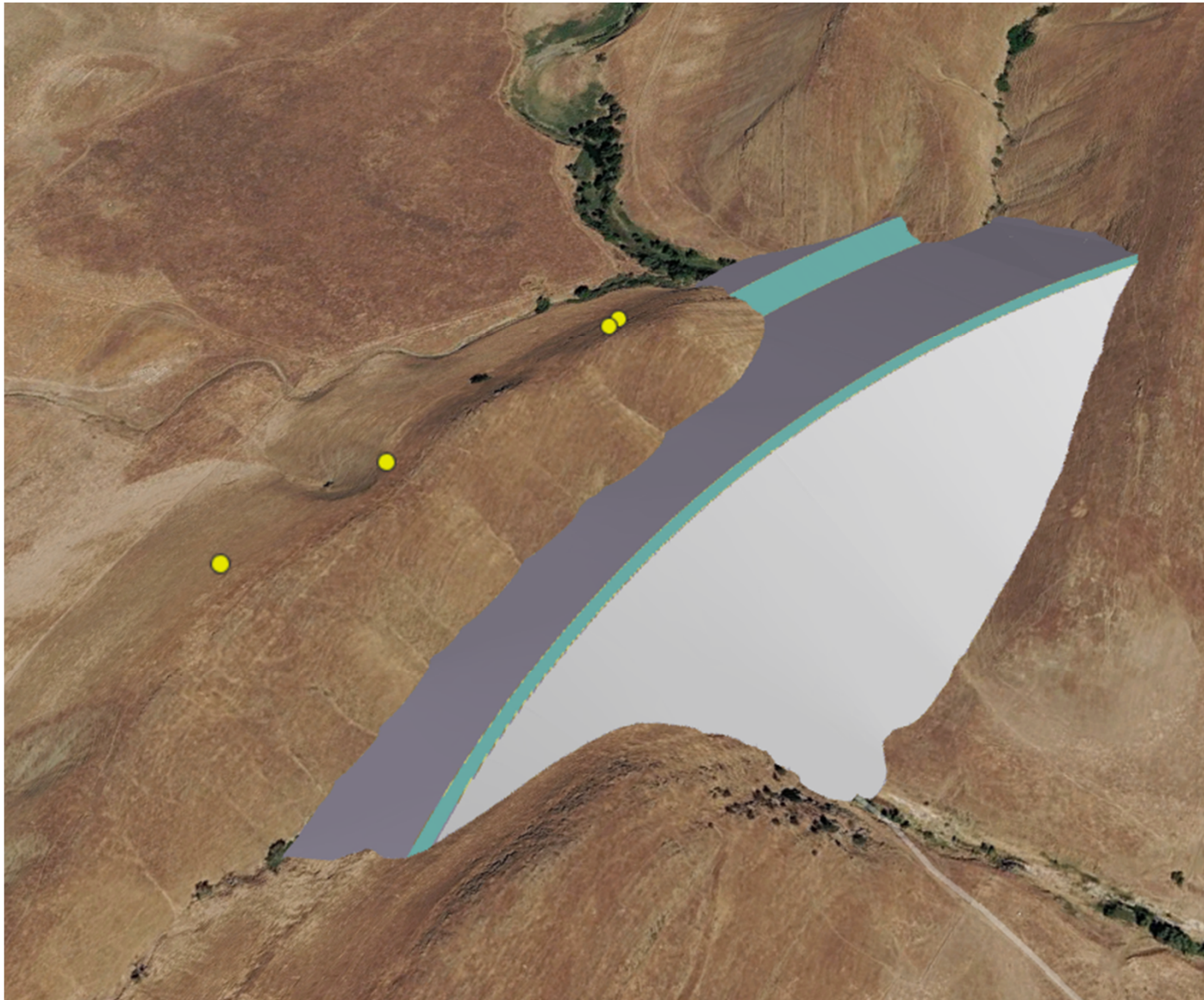
Proposed 2026 Priority Geotechnical Investigations

Staff is proposing to redirect available 2026 budget to complete four targeted investigations at Golden Gate Dam.

Why these investigations now?

- Inform key design decisions with significant cost implications, including potential optimization of the GGD alignment and refinements to the Inlet/Outlet structure and tunnel location.
- Truncate design timeframes by obtaining this critical information. Further design work for GGD and the I/O are dependent on this information.
- Start small and learn by using these investigations to refine permitting, access, drilling, environmental monitoring, and field procedures before geotechnical investigations ramp up at scale.

Proposed 2026 Priority Geotechnical Investigations



Questions?



Thank you!

Upcoming Meetings:

Reservoir Committee and Authority Board:
Friday Aug 21 – 9 am to 3 pm

O&E Workgroup:
Wednesday September 9 – 1:30 to 3:30 pm