

Plan of Finance Workshop Costs

Reservoir Committee and Authority Board

September 13, 2022



Cost questions on our minds...



Today we will address:

- Have we accounted for today's interest rates, market volatility, and escalation in our plan of finance?
- How does our schedule impact project costs?
- What kinds of decisions can we make to improve affordability, near-term and long-term, and what are the risks?

Workshop objective

Identify **policy decisions** and their timing related to improving the project's affordability



What moves the needle on cost?

Items covered today shown in green

Fixed Costs

- Interest rates (financing participants)
- Pace (schedule)
- Controlling construction costs (delivery method & risk allocation)
- Bifurcated costs
- Extreme market conditions

Variable Costs

- Power
- Losses (evaporation and seepage)



The project costs have come a long way

Serving California's **environment, families,** and **farms** takes:

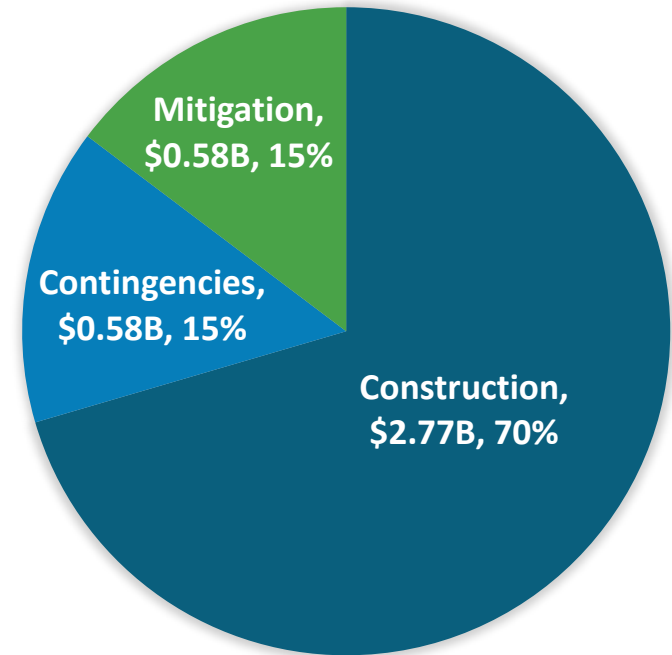
1.5 million acre-ft of storage

9 new dams

11 miles of big pipes (9-12ft)

20 million cubic yards of fill

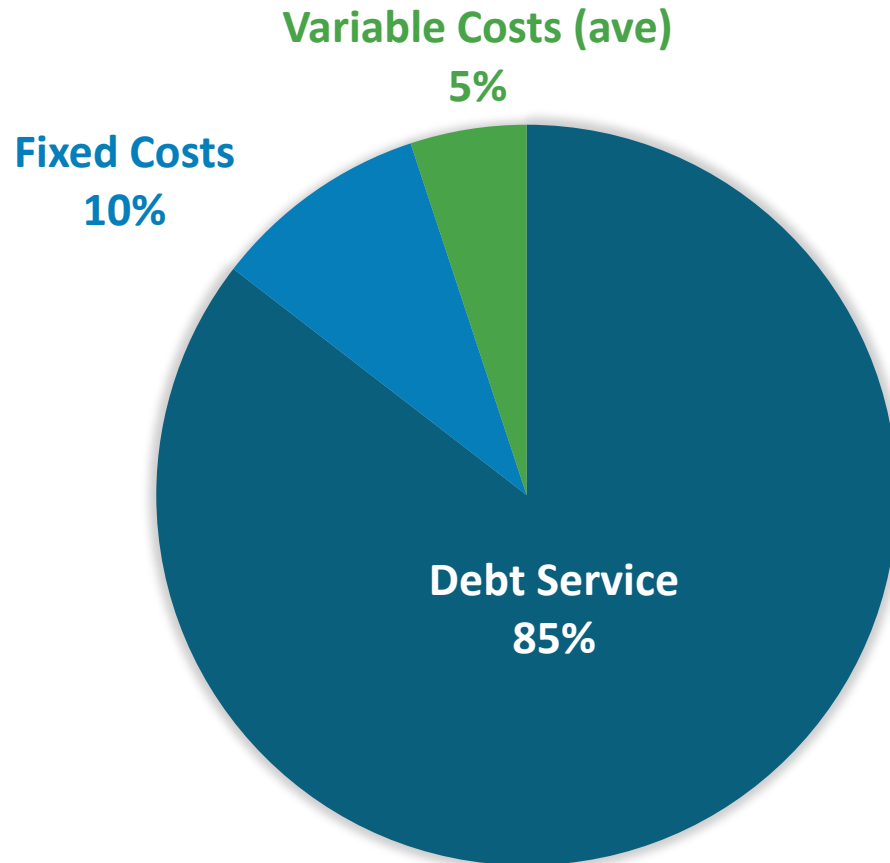
ESTIMATED PROJECT COSTS
(\$3.9B, 2021\$)



Estimated construction costs are based on the class 4 cost estimate for alternative 1 approved by the Reservoir Committee and Authority Board in June 2021

Debt service is the biggest annual cost

FINANCING PARTICIPANTS ANNUAL PROJECT COSTS



Market Conditions and WIFIA



We are in a very dynamic interest rate environment (Slide updated 9/26/2022, post workshop)

Parameter	Oct-21 Plan of Finance (POF) "Historical" Rates (Case 1)	\$2.2B WIFIA with POF "Current" Rates (Case 6)	\$2.2B WIFIA with POF "Historical" Rates (Case 7)	\$2.2B WIFIA with POF "Historical" Rates Deferred Interest (Case 8)
Revenue Bond Interest Rate	5%	3.5%	5%	5%
WIFIA Interest Rate	n/a	2.38%	3.5%	3.5%
Bond funding	\$2.8 B	\$0.7 B	\$0.7 B	\$1.3 B
WIFIA funding	\$0	\$2.2 B	\$2.2 B	\$2.2 B = \$1.6 B for Const + \$0.6 B for interest
Annual Debt Service (\$2021)	\$137 M	\$107 M	\$121 M	\$155 M
\$/AF of Participant Storage (\$2021) Debt Service, Full Storage of 1,045 TAF	\$131	\$102	\$116	\$148
Debt Service \$/AF of Participant Yield (\$2021) Average Nominal Yield of 168 TAF/Yr	\$818	\$636	\$722	\$923
Total \$/AF of Participant Yield (\$2021) (Average Fixed and Variable Cost = \$120/AF)	\$938	\$756	\$842	\$1,043

Note: Sep 2022 WIFIA rates now equal historical assumption of 3.5%. Current bond rates are within 0.5% of historical assumption.
B=billions, M=millions

WIFIA can work as an interest rate hedge and an option for early borrowing

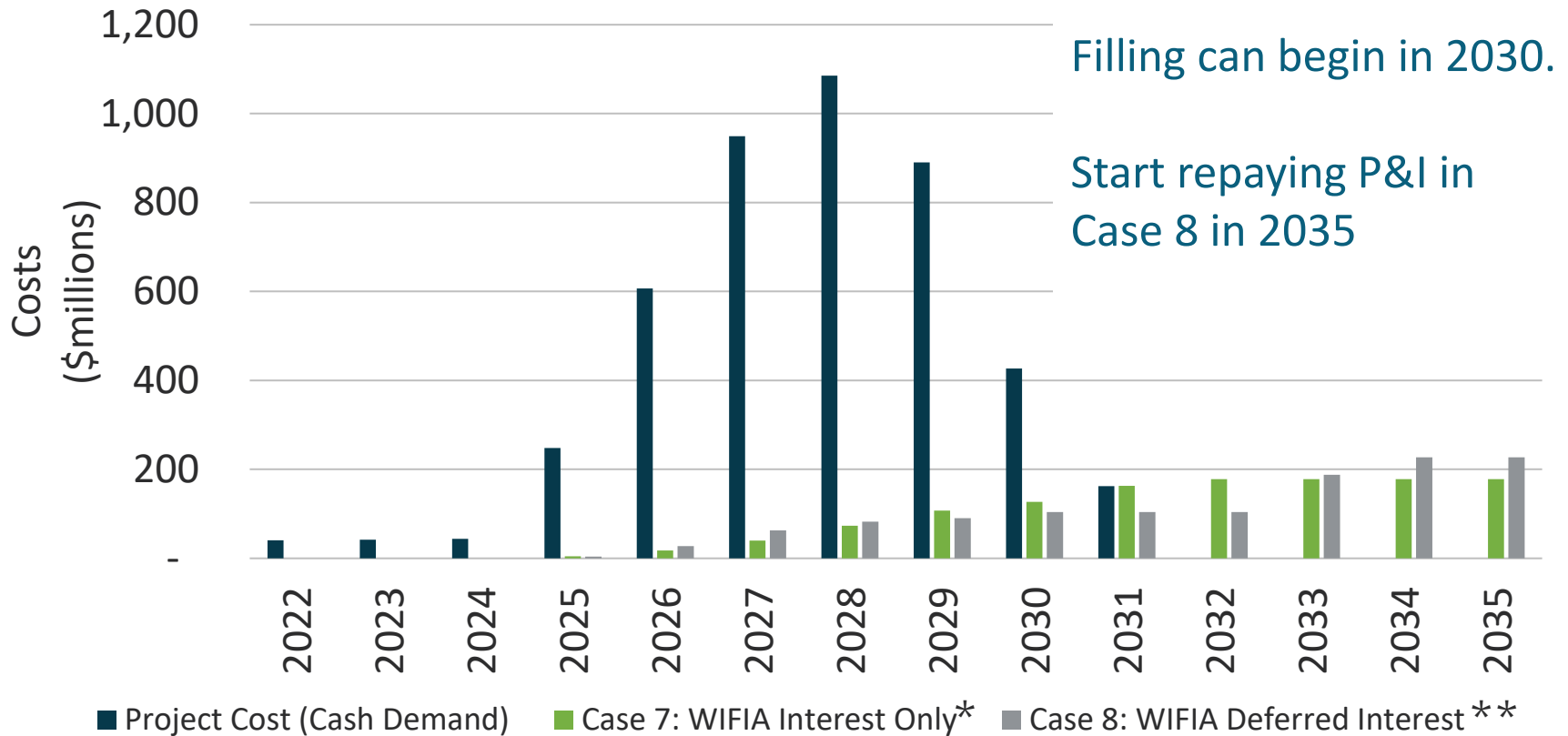
WIFIA anticipation notes can be issued for interim financing to avoid drawing on the WIFIA loan

- CEQA/NEPA is required to be complete
- Considered by most agencies receiving WIFIA loans

If rates improve, the Authority can refinance the WIFIA loan (as long as no draws have occurred)

A WIFIA Master Agreement allows for borrowing to occur on a portion of the project costs ahead of final CEQA/NEPA

WIFIA provides options for repayment that could reduce costs during construction

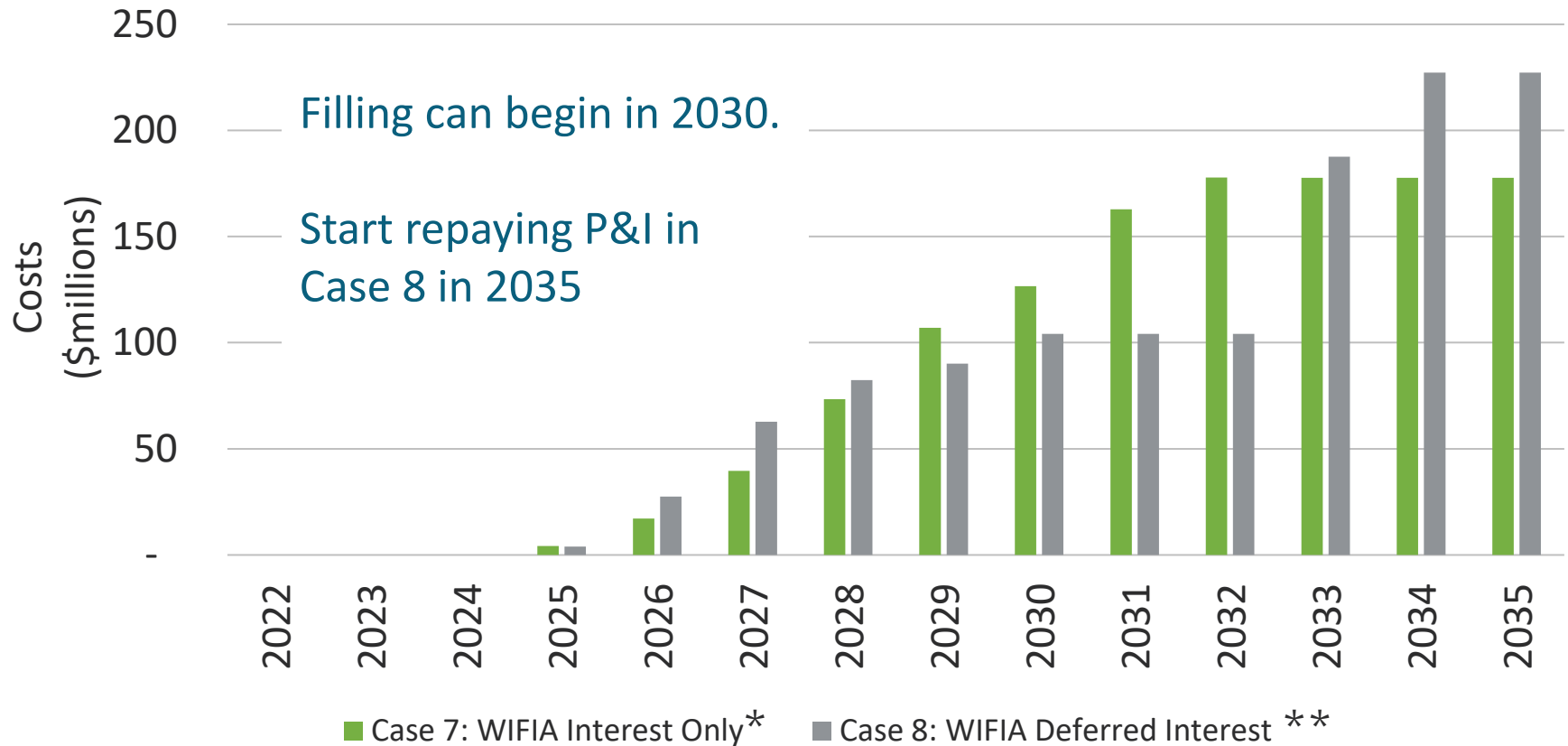


*WIFIA Interest Only (Case 7): WIFIA and revenue bonds interest only when issued, with principal payments starting 2032

**WIFIA Deferred Interest (Case 8): WIFIA Principal & Interest (P&I) begin in 2035, revenue bonds issued in 2027 have interest only payments until 2032, then P&I. Capitalizing WIFIA interest in this scenario uses \$630 million of the WIFIA loan capacity and requires the issuance of revenue bonds at their higher interest rate.

WIFIA provides options for repayment that could reduce costs during construction

(WIFIA Interest Only & WIFIA Deferred Interest)



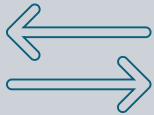
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Discussion



Would your agency be interested in evaluating a delayed repayment with WIFIA?



How would your agency evaluate the tradeoffs between **lower costs during and just after construction** and **higher debt service payments in operations** that would result if the Authority deferred repayment of the WIFIA loan?



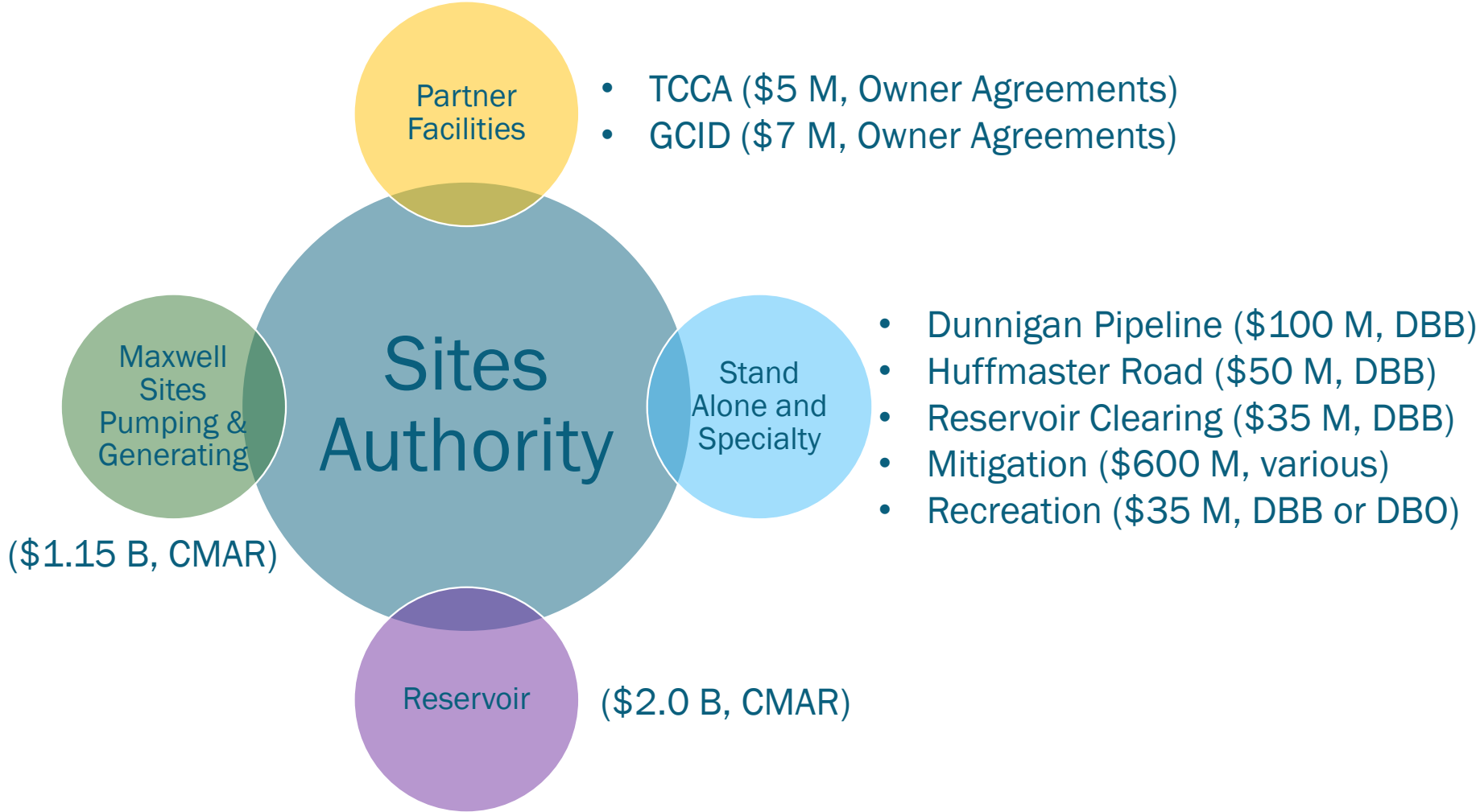
How will your agency approach sizing its storage account and how will the decision be influenced by the annual debt service?

Program Schedule & Delivery Methods



Summary of the Authority's Contract Strategy

Adopted July 2022 (Costs in 2021 \$)



Delivering certain projects using CMAR* improves cost certainty because...

- Contractors typically have better insight into the state of construction markets and prices
- CMAR allows contractor input early on (i.e., around 30% design) and in parallel with design development rather than only after completion of design
- Early input allows for cost saving strategies (such as design alternatives or alternative construction methods) to be developed to control costs
- Guaranteed maximum price(s) are set before completion of design

*The Authority's Contracting Strategy proposes delivering ~\$3B of construction using the Construction Manager At Risk (CMAR) method

Changes in escalation move the needle on affordability

	POF Schedule*	Extend Project By 2 Years	
	Cost Escalation increases 2.0% to 4.5%	Cost Escalation at 2.0%	Cost Escalation at 4.5%
Total Project Cost (Future\$)	17%	1.9%	4.4%
Long Term Debt Service Costs (Future\$)	25%	2.5%	5.8%

*“POF Schedule” is from the 2021 Draft Plan of Finance, which assumes construction through Dec-2031, and filling begins Oct-2031

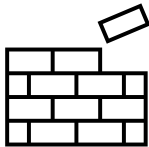
Note: these scenarios assume \$2.2B WIFIA, interest only payments and historical interest rates

What are you paying for when you build a major dam and what drives those costs?

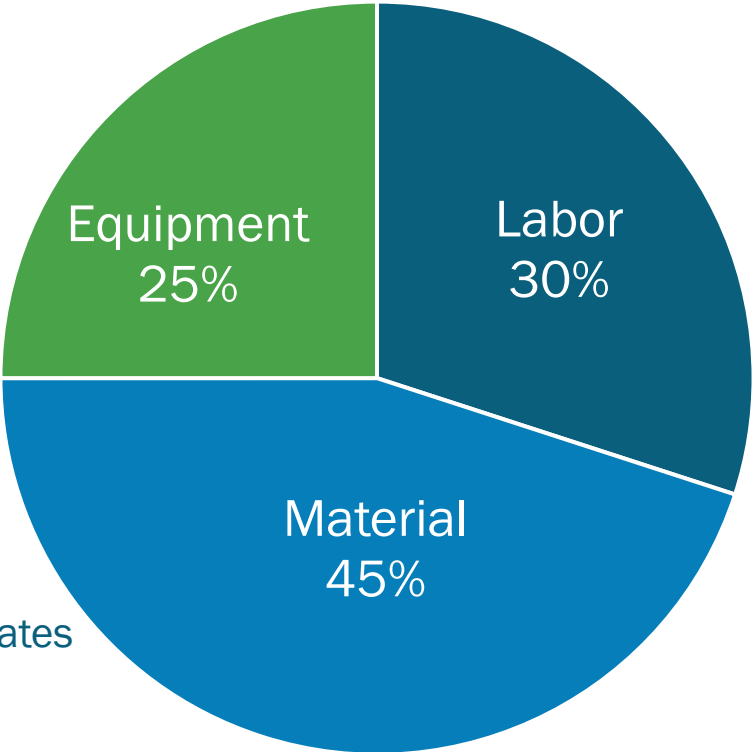
Approximate Breakdown of Cost Categories for Main Dams



- ✓ Fuel
- ✓ Depreciation or Rent



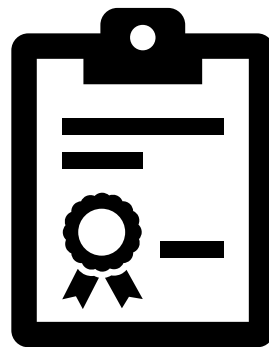
- ✓ Costs of Aggregates
- ✓ PPI Heavy civil Indices



- ✓ Wage Increases
- ✓ Cost of Living

The current investor commitment hinges on the Water Right, which...

- Is expected mid-to-late 2024 and is a process not controlled by the Authority
- Could be triggered by the completion of the SWRCB hearing (~April 2024)
- Results in as late as 2033 first fill date
- Staff is analyzing **costs and risks of options** to accelerate the schedule (pushing master schedule adoption from Q4 2022 to Q1 2023)



Discussion



Would your agency be interested in acquiring land, performing mitigation, and beginning some construction ahead of a Water Right if it could save 5-10% on the cost of Sites Water? What are the risks?



How does your agency view the current construction escalation environment? Does the conventional wisdom of “faster is cheaper” hold?



Is this project happening fast enough? Given current market conditions, is there a potential benefit in NOT accelerating the construction work?

Policy Decisions Discussion



These policy decisions move the needle on cost for Participants

(slide 1 of 2)



Timing of these decisions?



What is the right size storage allocation for my agency?



When should the Authority begin acquiring land (before or after water right)?



When should the Authority lock interest rates (short-term borrowing and hold on drawing WIFIA)?



How should the Authority approach loan repayment (WIFIA)?

These policy decisions move the needle on cost for Participants

(slide 2 of 2)



Timing of these decisions?



When should the Authority hire a CMAR for the dams (secures resources and may hedge some escalation)?



How much liquidity does the Authority need to have (October workshop)



Others?

Next Steps

Activities and Workshops



Save the dates

September:

- Sept 16th (Friday): Joint RC/AB Meeting
- Varies: Two-Way Financing Check Ins with Participants

October:

- (Date TBD): Plan of Finance Workshop (Credit and Reserves)
- Amendment 3 Work Plan Status Update

November: Update on Progress of Securing Revenues agency by agency

Questions?

Amendment 3 “rolling” Cost Estimate Milestones

