



Sites Reservoir Project

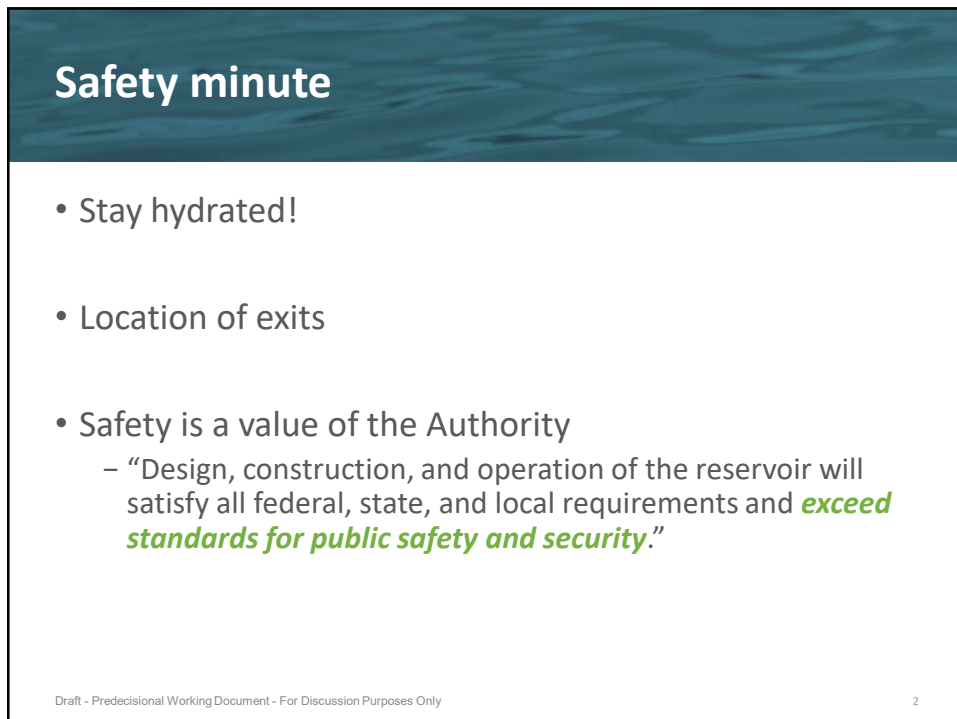
Mitigation Providers and
Construction Contractors Workshop

October 25, 2023

 Sites

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1



Safety minute

- Stay hydrated!
- Location of exits
- Safety is a value of the Authority
 - “Design, construction, and operation of the reservoir will satisfy all federal, state, and local requirements and **exceed standards for public safety and security.**”

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2

2

Agenda

- Introductions
- Objectives
- Project Overview
- Foundation for Terrestrial Biological Mitigation
- Terrestrial Biological Mitigation Contracting Strawperson
- Delivering the Sites Project
- Mitigation Next Steps
- Q&A

We want your
feedback



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3

3

Introductions – Sites Project Staff

Individual	Role
Jerry Brown, Sites	Executive Director
Alicia Forsythe, Sites	Environmental Planning and Permitting Manager
JP Robinette, Sites	Engineering and Construction Manager
Kevin Spesert, Sites	External Affairs Manager
Dawn Edwards, HDR	Integration Lead – Mitigation Planning
Henry Luu, HDR	Integration Lead – Engineering

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4

4

Objectives for today



Get connected
(fill out sign-in sheet/leave your business card at the door)



Present project updates and mitigation planning status



Request industry input on contracting and packaging plans for mitigation package/communicate next steps

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5

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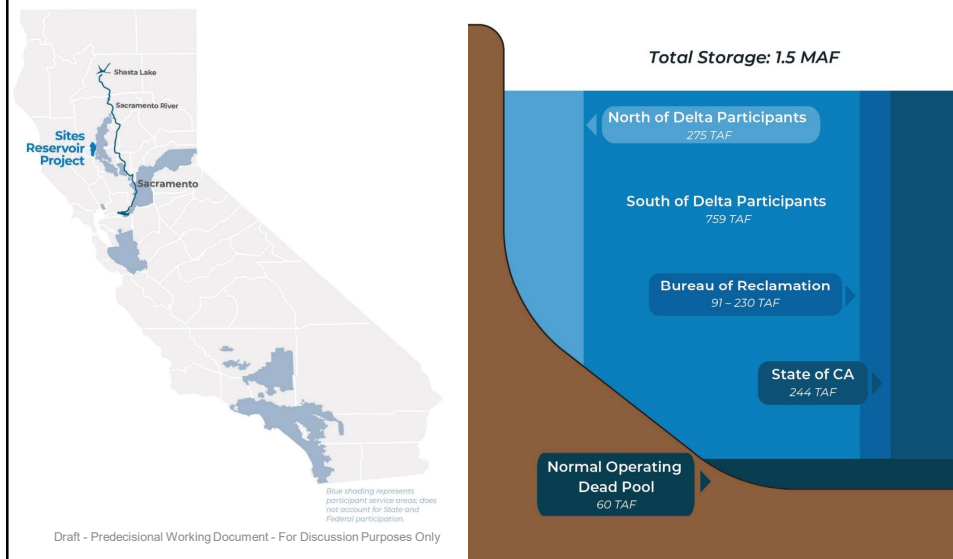
Project Overview

Ali Forsythe



6

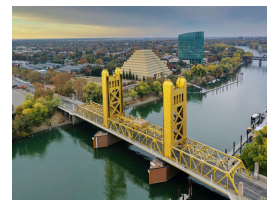
What is the Sites Project?



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Our Vision

Affordable water sustainably managed for California's farms, cities, and environment for generations to come



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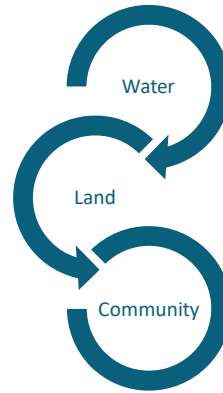
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Sites is a locally-led project

Respect for local communities...

It's how we work.

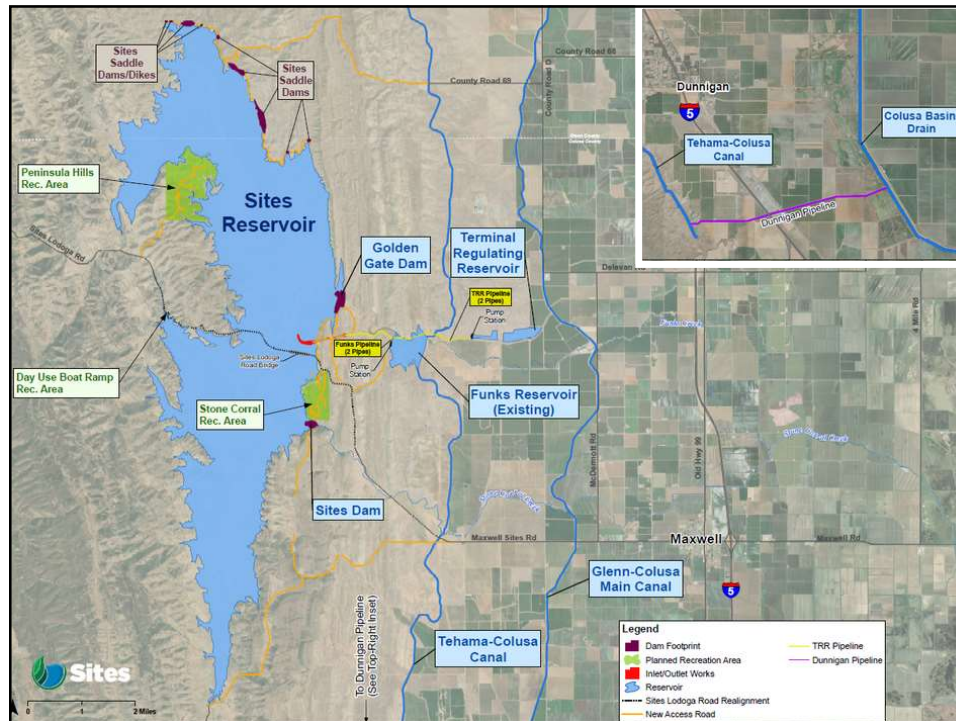
*"The Authority recognizes the **significant contributions of local Sacramento Valley landowners and communities** and will be a respectful, supportive partner and be a **good neighbor** throughout the project."*



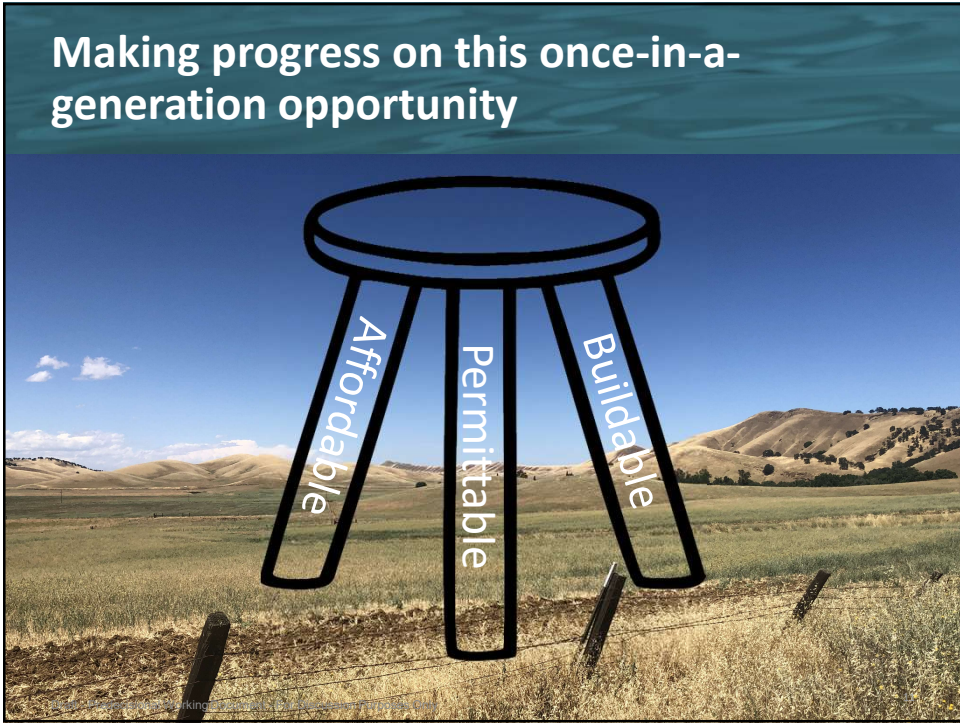
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9

9



10



11

Value planning resulted in an affordable project

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

- 1.5** million acre-feet of storage
- 9** new dams
- 11** miles of big pipes (9-12 foot)
- 20** million cubic yards of fill

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

Category	Amount	Percentage
Construction	\$2.77B	70%
Contingencies	\$0.58B	15%
Mitigation	\$0.58B	15%

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

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12

Project funding portfolio largely established

- Financing before Project Construction
 - Cash calls from Participants
 - Short-term bank line of credit
 - WIFIA loan
- Project Construction Financing
 - WIFIA loan(s): fund up to 49% of eligible project costs, estimated to be \$2.2B
 - State of California Proposition 1 Funding: \$875M
 - Federal WIIN Act funds
 - Long-term bonds
- Timing
 - Funding is limited until mid to late 2025

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13

Permitting well underway

- CEQA/NEPA
 - Revised Draft EIR/Supplemental Draft EIS (November 2021)
 - Final EIR/EIS in progress (November 2023)
- Water Right Application
 - Application submitted (May 2022 and supplemented in Jan 2023)
 - Protest period completed (August 2023)
 - Hearing expected in spring/summer 2024
- Federal and State Endangered Species Act
 - State and federal permits expected spring/summer 2024
- Clean Water Act
 - Submitting applications in December 2023
 - Expect permits late 2024


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14

14

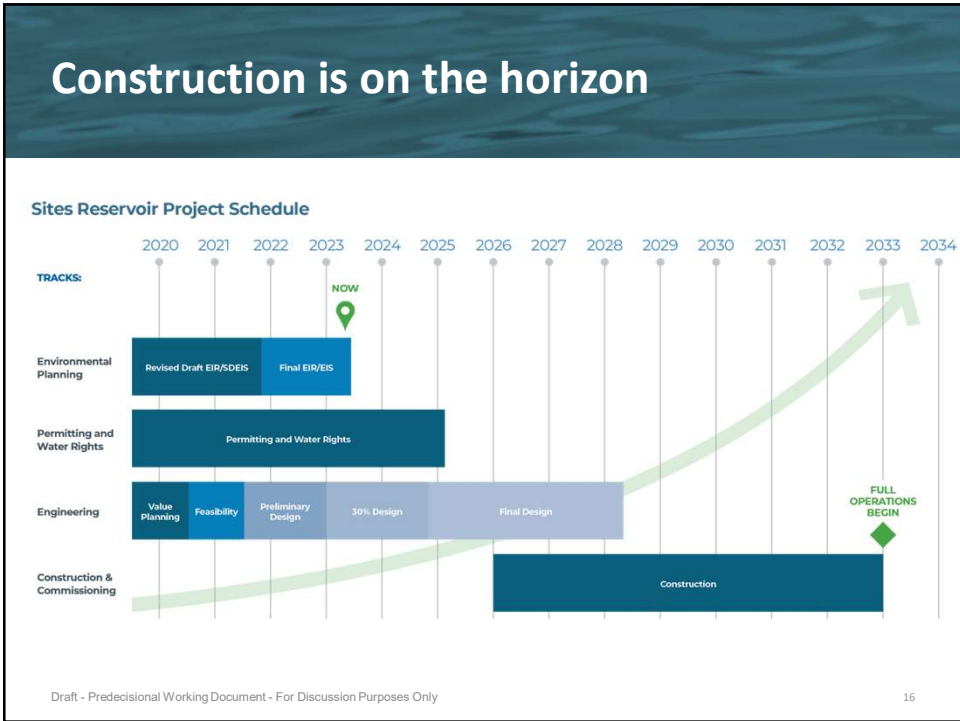
Design efforts in progress

- Completed feasibility-level design and associated cost estimate
- Anticipate completing 30% design in mid-late 2024
- Extensive geotechnical effort underway



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15



16

Foundation for Terrestrial Biological Mitigation

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17

Summary of key mitigation actions to be implemented by the Authority

Resource Area	Construction	Operations
Agricultural	Purchase conservation easements	--
Air Quality	MOU with air districts and offset emissions	MOU with air districts and offset emissions
Biological Resources		
- Terrestrial	Survey, design considerations, avoid, compensate	Monitor and avoid
- Aquatics	--	Monitor, adaptive management,
Cultural and Tribal Cultural Resources	Survey, avoid, minimize	
Greenhouse Gas Emissions	Calculate, minimize, offset emissions	
Water Quality	Pre-construction monitoring	Monitor and adaptive management

✓ Authority mitigating permanent impacts

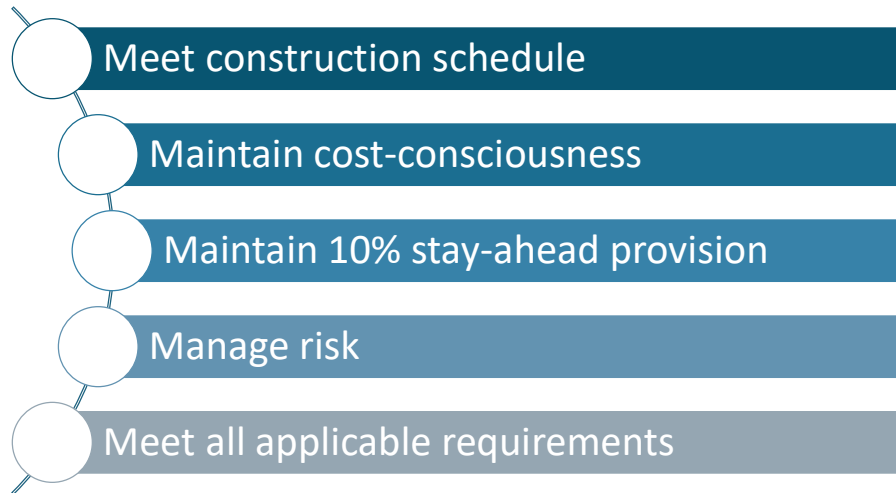
✓ Construction contractors will be responsible for temporary impacts

** Does not include mitigation actions and BMPs implemented by construction contractors

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18

Foundational needs – aka “must haves”



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19

We are open to a number of different approaches to providing mitigation

1. Purchase bank credits, conservation easements, or in-lieu fee
2. Permittee-responsible mitigation, Authority implement
 - For example, non-listed bat species
3. Permittee-responsible mitigation, Contractor implement
 - Contract type to be determined

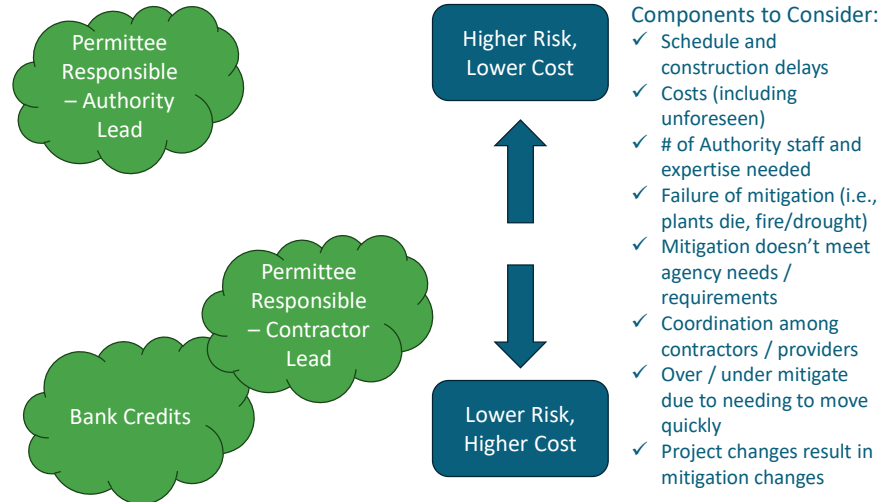
Likely that Authority would implement several approaches depending on construction schedule needs and species

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20

20

We realize there are trade offs in approaches and contracting



21

Mitigation contracting strategy needs to align with the July 2022 Contracting Strategy

- Effort undertaken in early to mid 2022 to develop the Authority's contracting strategy
- Established following values, reflecting high-level vision and preference for packaging work and delivery methods:
 - Oversight – to remain streamlined and efficient, the Authority will engage in an oversight role during design and construction
 - Construction Contracts – the number and size of construction contracts must prioritize qualified contractors and management of cost and risk
 - Project Cost – cost certainty must be established as soon as possible
 - Project Schedule – look for opportunities to expedite schedule to reduce Project Cost
 - Project Risks – balance risks with values

Our Board has said that these values are applicable to contracting for terrestrial biological mitigation

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22

22

Uncertainty in acres and impacts

- Limited land access
 - Existing information based mostly on remote sensing techniques
 - Assuming presence of species
- Once land access is obtained
 - Survey
 - Land cover types
 - Protocol-level species surveys
 - Refine impact numbers based on survey results
 - Avoid and minimize impacts where possible
 - Design refinements
 - Compensatory mitigation for impacts that cannot be avoided

Compensatory mitigation planning and contracting should begin early to minimize the risk of possible construction delays but needs to account for the uncertainty in #'s

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23

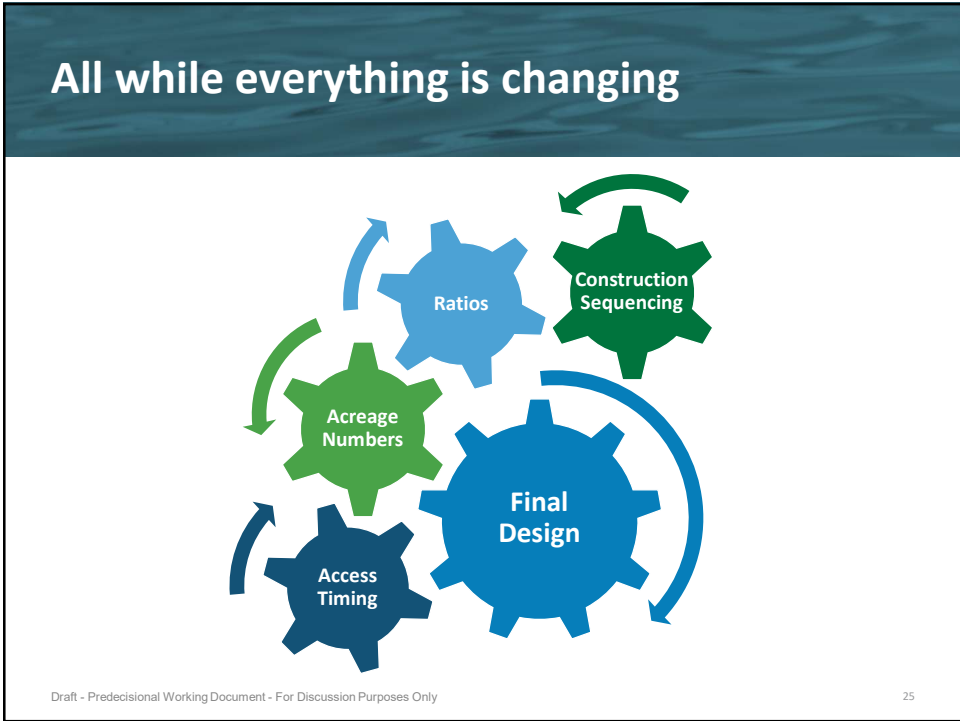
And we've got a lot of mitigation

Land Cover Type	Modeled Acres of Impact*	Listed Species that May be Found in the Project Area
Annual Grassland	12,997	Swainson's hawk, Tricolored blackbird, Red-legged frog, Golden eagle, Crotch bumble bee, Monarch butterfly
Oak Savanna	580	Swainson's hawk, Tricolored blackbird, Red-legged frog, Golden eagle, Crotch bumble bee, Monarch butterfly
Blue Oak Woodlands	278	Golden eagle
Stream and Riparian	284	Valley elderberry longhorn beetle, Tri-colored blackbird
Wetlands and Vernal Pools	301	Giant garter snake, Fairy shrimp (3 species), Rare plants
Pond/Marsh	163	Red-legged frog, Bald eagle, Western pond turtle

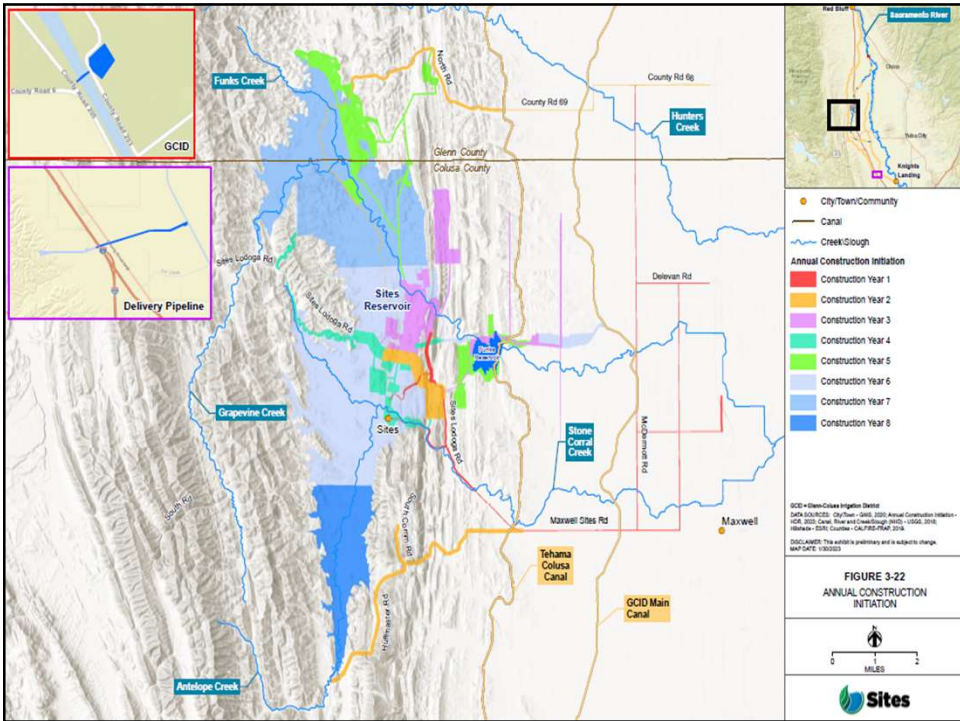
* Numbers are from a desktop analysis and preliminary engineering design and have been rounded. Mitigation ratios are still being negotiated – these numbers are subject to change.

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24



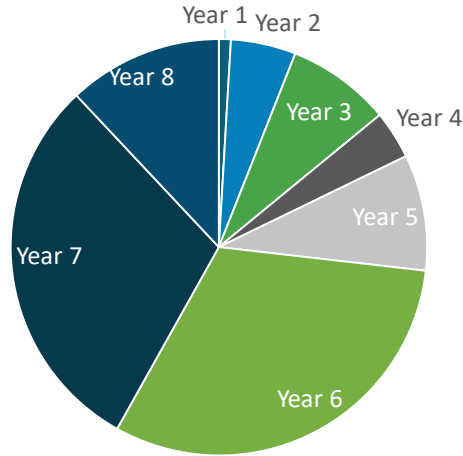
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26

Luckily, most mitigation is later in the Project schedule

Estimated Mitigation Needs by Construction Year



Year	Acres*	% Total
1	70	1%
2	450	3%
3	1,120	8%
4	550	4%
5	1,000	7%
6	4,890	33%
7	4,700	33%
8	1,840	12%
Total	14,600	--

* Numbers are from a desktop analysis and preliminary engineering design. Mitigation ratios are still being negotiated – these numbers are subject to change. 27

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Estimated land cover type affected by year

Year	Grassland	Oak Savanna	Blue Oak Woodland	Stream and Riparian	Wetlands & Vernal Pool	Pond and Marsh
1	60	3	1	2	2	1
2	350	48	28	5	17	1
3	1,067	-	1	27	19	5
4	459	39	32	13	7	1
5	885	-	-	12	54	49
6	4,371	273	112	76	40	15
7	4,107	183	94	97	130	80
8	1,698	34	10	52	32	11
Total	12,997	580	278	284	301	163

*Numbers are from a desktop analysis and preliminary engineering design and have been rounded. Assumes mitigation ratios proposed in Final EIR/EIS and/or permit applications. Mitigation ratios are still being negotiated – these numbers are subject to change.

Biggest numbers in the later years of construction – especially years 6, 7, and 8

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28

And by listed species (different habitat needs are lumped together here)

Year	CA Red Legged Frog	Crotch Bumblebee	Giant Garter Snake	Monarch Butterfly	Swainson's Hawk	Tricolored Blackbird	Valley Elderberry Shrubs
1	40	65	13	74	72	62	1
2	142	415	5	477	475	367	8
3	625	1,085	0	1,170	1,140	1,085	17
4	167	504	0	561	553	465	9
5	365	938	0	1,052	1,022	954	13
6	1,841	4,682	2	4,994	4,936	4,428	84
7	2,752	4,417	0	5,042	4,924	4,256	75
8	924	1,762	1	1,837	1,787	1,728	37
Total	6,857	13,867	20	15,206	14,909	13,345	244 bushes

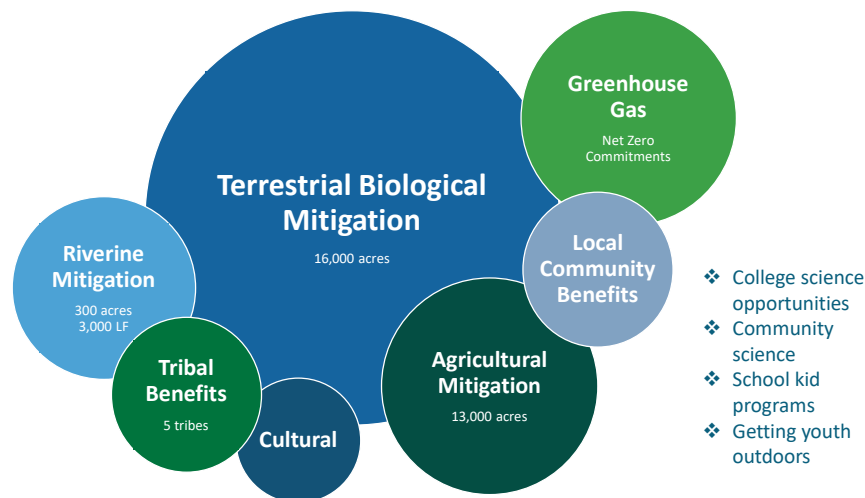
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29

Let's challenge ourselves to do more!



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30

Opportunities to challenge ourselves

- Create something meaningful
- Contribute to long-term species recovery
- Connect with local Tribal communities
- Collaborate with local communities
- Coordinate between resources

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31

31

Terrestrial Biological Mitigation Contracting Strawperson

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32

Focus on near-term; establish long-term

- Near-term construction – likely Years 1 and 2
 - Banking credits
 - Conservation easements
- Establish long-term – likely Years 3 and beyond
 - Permittee responsible
 - Issue long-term contract(s) for this in early 2025 (with/near first construction contract issuance which is for dam construction)

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33

33

Near-term terrestrial biological compensatory mitigation needs (acres)

- | | |
|--|--|
| <ul style="list-style-type: none"> • CA Red-legged frog <ul style="list-style-type: none"> – Year 1 → aquatic = 1; upland = 39 – Year 2 → aquatic = 3; upland = 140 • Crotch bumble bee <ul style="list-style-type: none"> – Year 1 → 65 – Year 2 → 415 • Giant garter snake <ul style="list-style-type: none"> – Year 1 → aquatic = 1; upland = 13 – Year 2 → aquatic = 0.1; upland = 5 • Monarch butterfly <ul style="list-style-type: none"> – Year 1 → 74 – Year 2 → 477 | <ul style="list-style-type: none"> • Swainson's hawk <ul style="list-style-type: none"> – Year 1 → foraging = 67; nesting = 5 – Year 2 → foraging = 397; nesting = 77 • Tricolored blackbird <ul style="list-style-type: none"> – Year 1 → foraging = 62; nesting = 0.15 – Year 2 → foraging = 367; nesting = 0.04 • Valley elderberry shrubs <ul style="list-style-type: none"> – Year 1 → 1 – Year 2 → 8 • Vernal pool <ul style="list-style-type: none"> – Year 1 → 2 – Year 2 → 17 • All values in acres, except elderberry shrubs, limited to listed species |
|--|--|

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34

34

Long-term terrestrial biological compensatory mitigation needs

- Authority open to different options on the landscape
 - Enhancement and/or restoration of areas
 - Easements on properties
 - Opportunities within the immediate watershed
 - Combination of all of the above and others
- Authority open to different contracting options
 - How would we address long-term operations and risk?
 - What contracting methods have worked best on other projects?
 - How do we address risk and over mitigation challenges?

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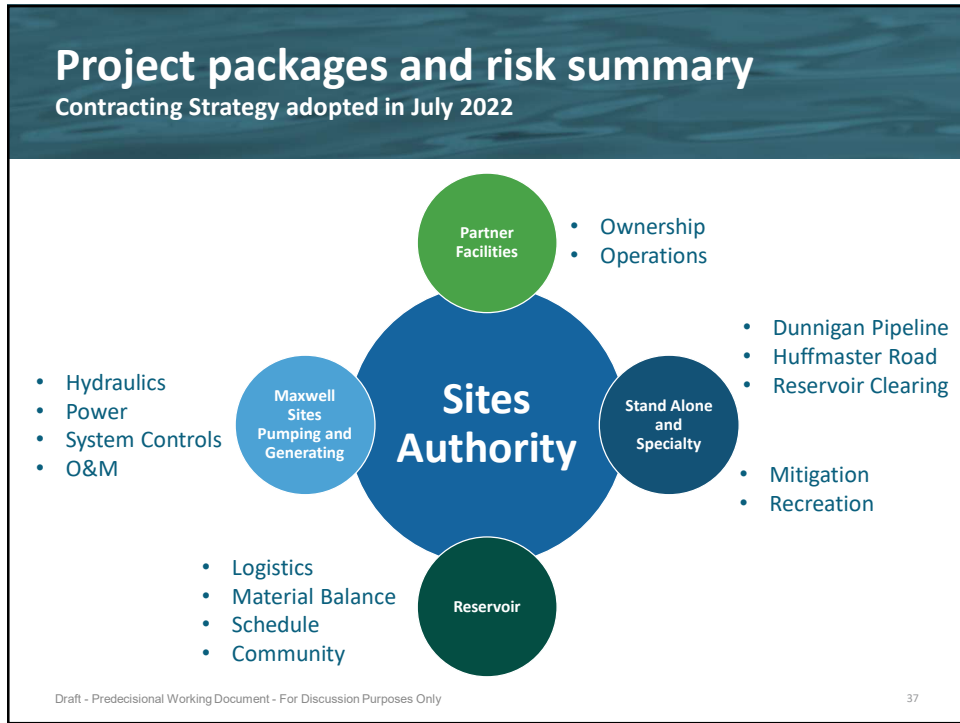
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Delivering the Sites Project

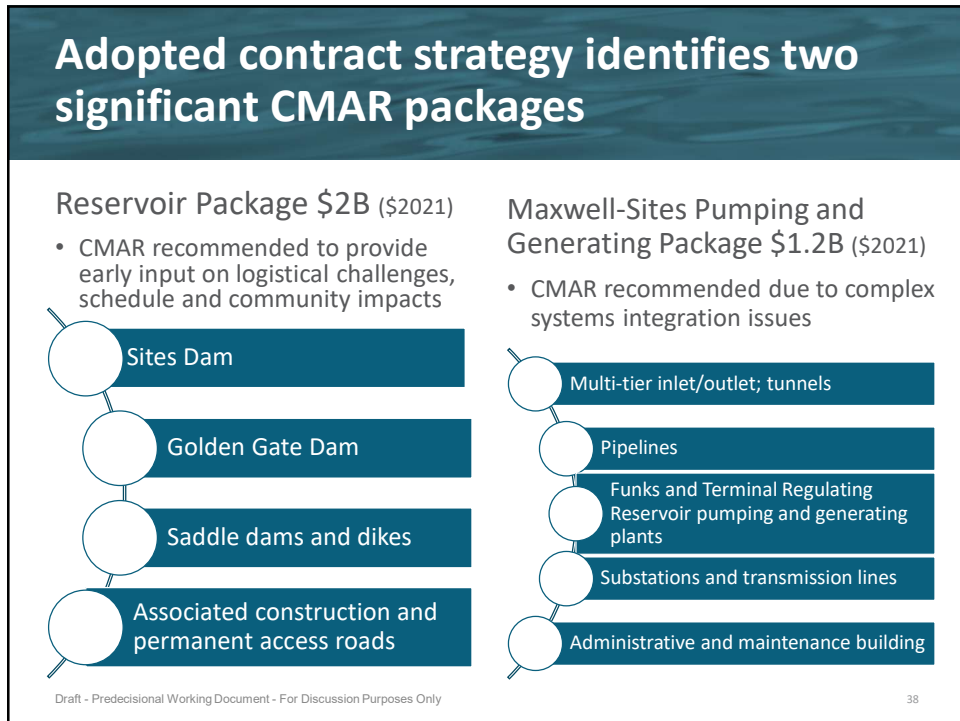
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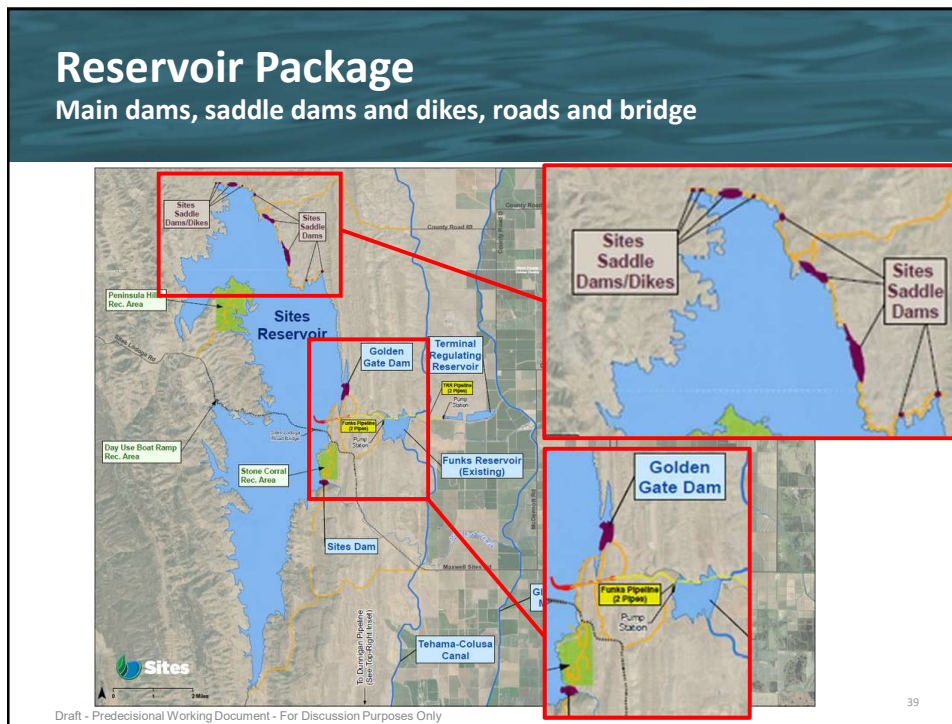
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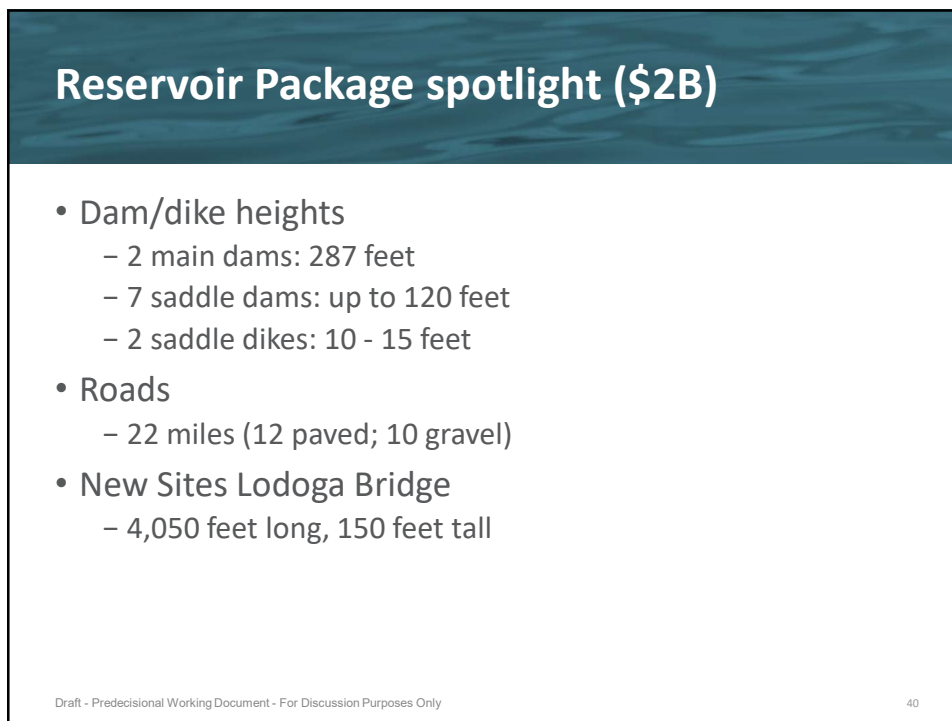
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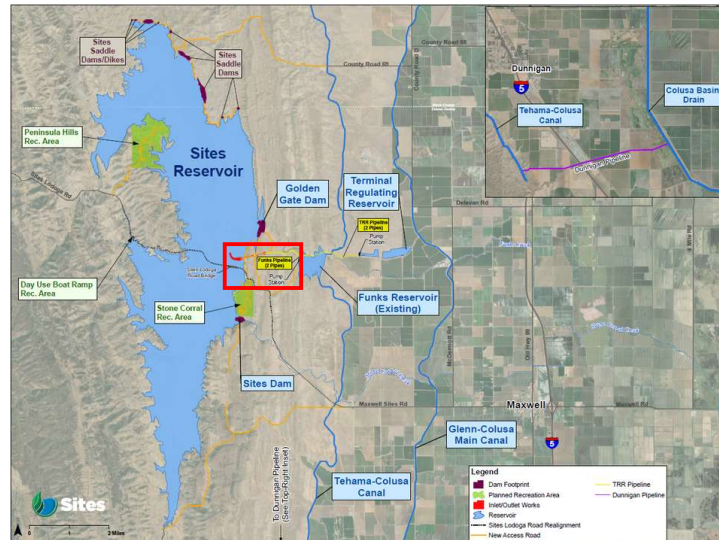


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40

Maxwell Sites pumping and generating



41

41

Conveyance goals and purpose

- Move water from the Sacramento River to Sites Reservoir for storage
- Release water from Sites Reservoir to the Sacramento River
- Generate power during the release of water from Sites Reservoir
- Provide flow path for a portion of emergency drawdown flows from Sites Reservoir

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42

Maxwell Sites pumping and generating spotlight (\$1.2B)

- 230 feet tall multi-tier
- Sloping inlet/outlet structure with 21 ports at 7 different levels
- 7 miles of 12' pipes
- 3,100 LF of 32' tunnel
- Mechanical/I&C building
- Transition manifold connecting 4 – 12' diameter pipes to 32' diameter tunnel
- 2 Pumping and generating plants
 - Funks: 12 pumps (8,000 HP each)
 - Terminal Regulating Reservoir: 13 pumps (9,000 HP each)
- 2 Power interconnection facilities

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43

Project phases

- Phase 1 – Formation of JPA and State funding Proposition 1 award **(Complete)**
- Phase 2 – Certification of environmental impact report and statement and acquisition of key permits **(In-progress)**
- Phase 3 – Final design and right-of-way acquisition (2024-2028)
- Phase 4 – Construction and commissioning (2026-2032*)
- Phase 5 – Construction close-out and operations (2033* and beyond)

*Goal is to complete sooner. Potential delays in securing permits or water rights could affect the construction schedule, which would be adjusted accordingly

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44

Reservoir Package CMAR planning support

- Potential early CMAR procurement for Reservoir Package
 - Assist in developing design
- Near-term schedule:
 - November 2023: Initiate legal counsel construction procurement
 - January 2024: Receive authorization for legal counsel construction support contract
 - April 2024: Initiate two-step procurement of CMAR Reservoir Package

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45

45

Mitigation Next Steps

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46

Where do we go from here with terrestrial biological mitigation?

- One-on-one meetings
 - Gather insights on pros/cons & risks/benefits regarding compensatory mitigation planning (two-way dialogue)
 - Authority team will have a list of questions
- Refine strawperson and develop into strategy
- Seek more feedback on strategy
- Implement strategy!
 - Right now, thinking initial mitigation contract issuance in early 2025 – timed with/around CMAR contract issuance

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47

Landowner interactions

Please be thoughtful, clear on who you represent, and empathetic to the uncertainty the Project presents when talking with landowners in and near the area



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48

48



49



50