

# Sites Reservoir Project

Construction Contractor Open House

6/9/2022



# 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.**”*

# Agenda

- Introductions
- Objectives
- Project Overview
- Preliminary Project Packages
- Contractor 1:1 Meeting Coordination
- Q&A

# Introductions – Sites Project Staff

## *Board and Reservoir Committee Members in Attendance*

<b>Sites Staff</b>	<b>Role</b>
Marcia Kivett	Sites Lead Admin
JP Robinette, PE	Engineering and Construction Manager
Kevin Spesert	External Affairs Manager
Joe Trapasso	Program Operations Manager
Sandra Yarbrough	Sites Admin

# Objectives for today



## Get connected

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



## Present preliminary project packages



Communicate expectations for follow on activities/feedback on preliminary project packages

# Poll Instructions

## 2 response methods

- Online via – [pollev.com/cheyanneharr909](https://pollev.com/cheyanneharr909)
- Text – CHEYANNEHARR909 to 22333

Anonymous Responses (no log-in required)

Results will be kept for future reference



# Project Overview



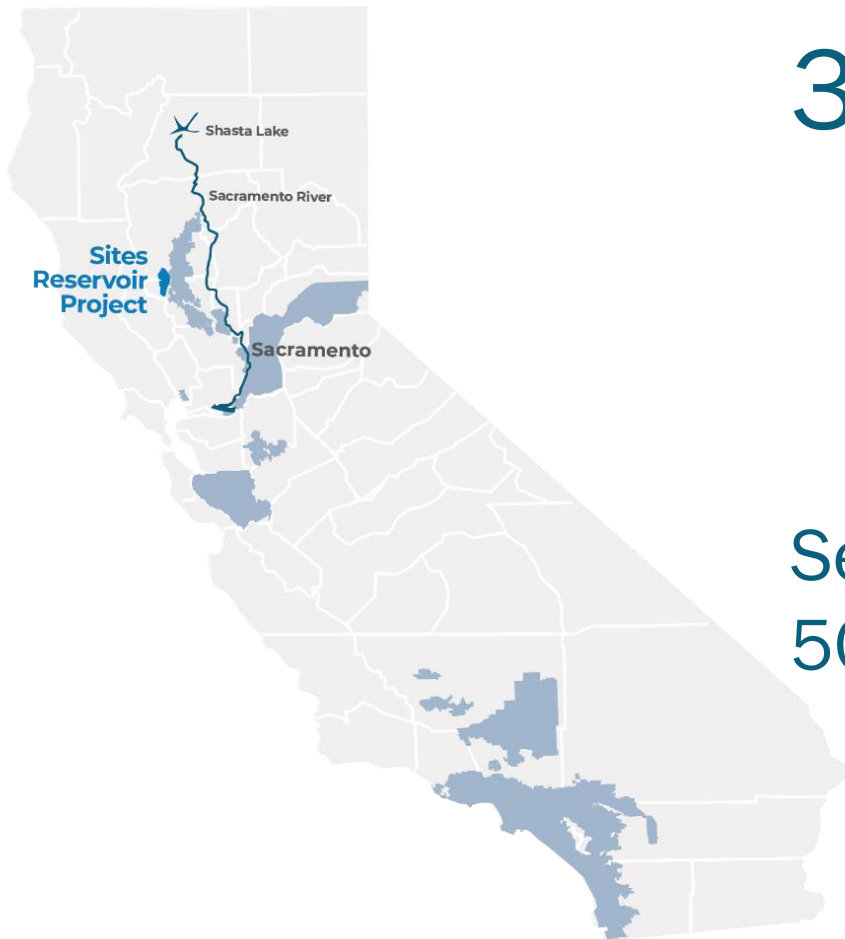


# Sites Reservoir...

... a generational opportunity to construct a **multi-benefit water storage** project that helps restore **flexibility, reliability, and resiliency** to our water supply



# Broad Statewide Participation



**30** Agencies

**9** JPA Members

**22** Reservoir Committee Members

Federal and State Agencies

Serving ~24.5 million people and  
500,000+ acres of farmland

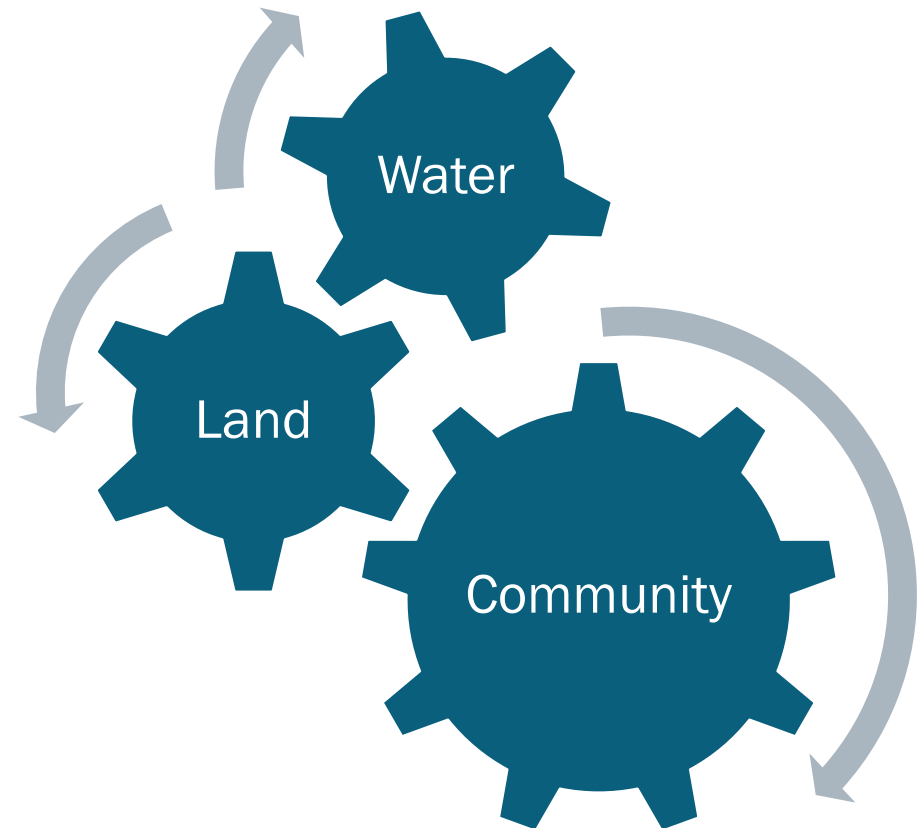
*Blue shading represents  
participant service areas; does  
not account for State and  
Federal participation.*

# Sites is a local 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."*



# Project Overview

Artistic rendering, not to scale. Not all facilities shown

## How water flows

1 - Existing Pumping Plants

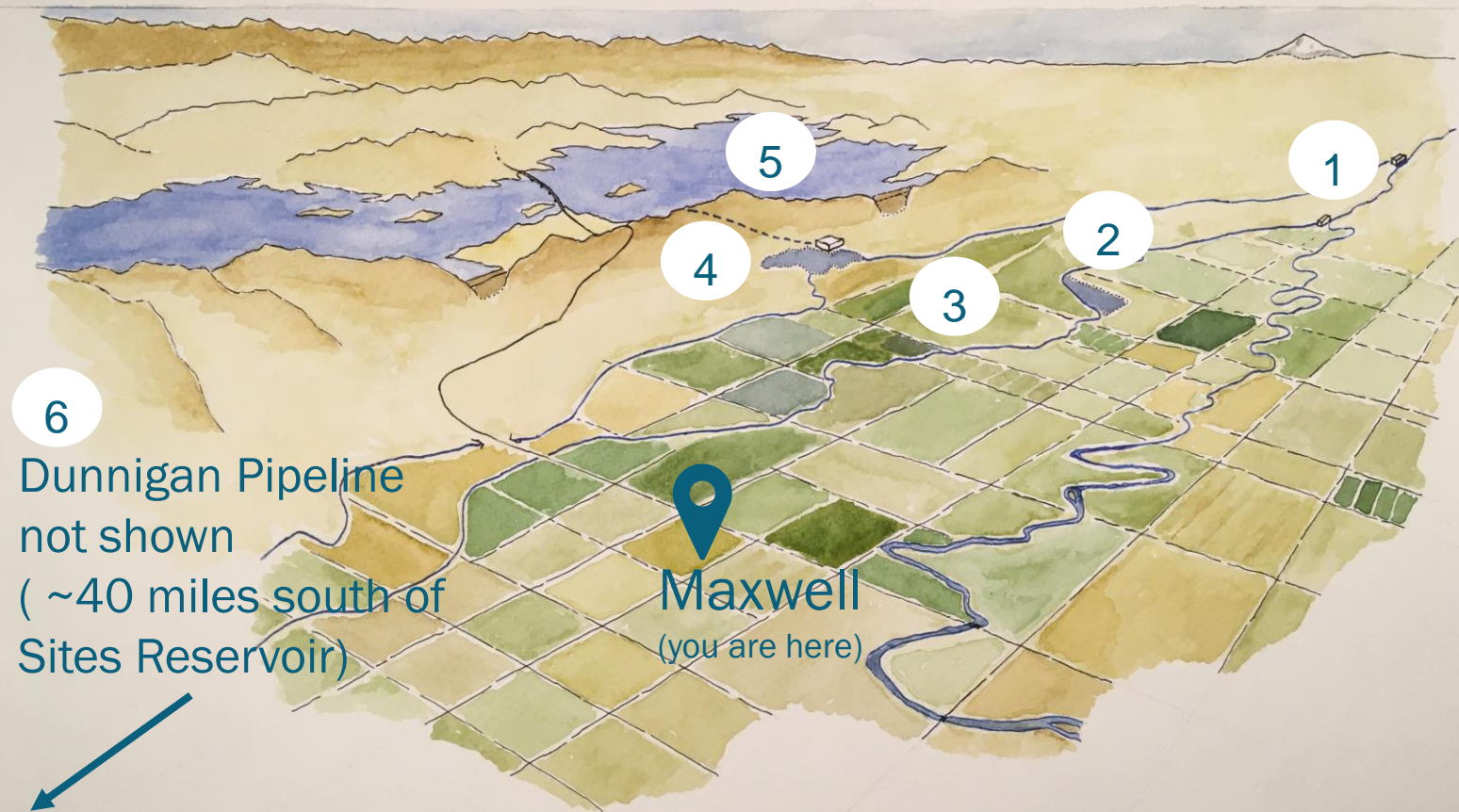
2 - Canals (Tehama Colusa & GCID Main)

3 - Regulating Reservoirs (Funks & Terminal Regulating)

4 - Pipelines, Inlet/Outlet, Transition Manifold

5 - Sites Reservoir

6 - Dunnigan Pipeline



6

Dunnigan Pipeline  
not shown  
( ~40 miles south of  
Sites Reservoir)

Maxwell  
(you are here)

# Feasibility Project Cost Estimate

approved June 2021

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

**1.5** million acre-ft of storage

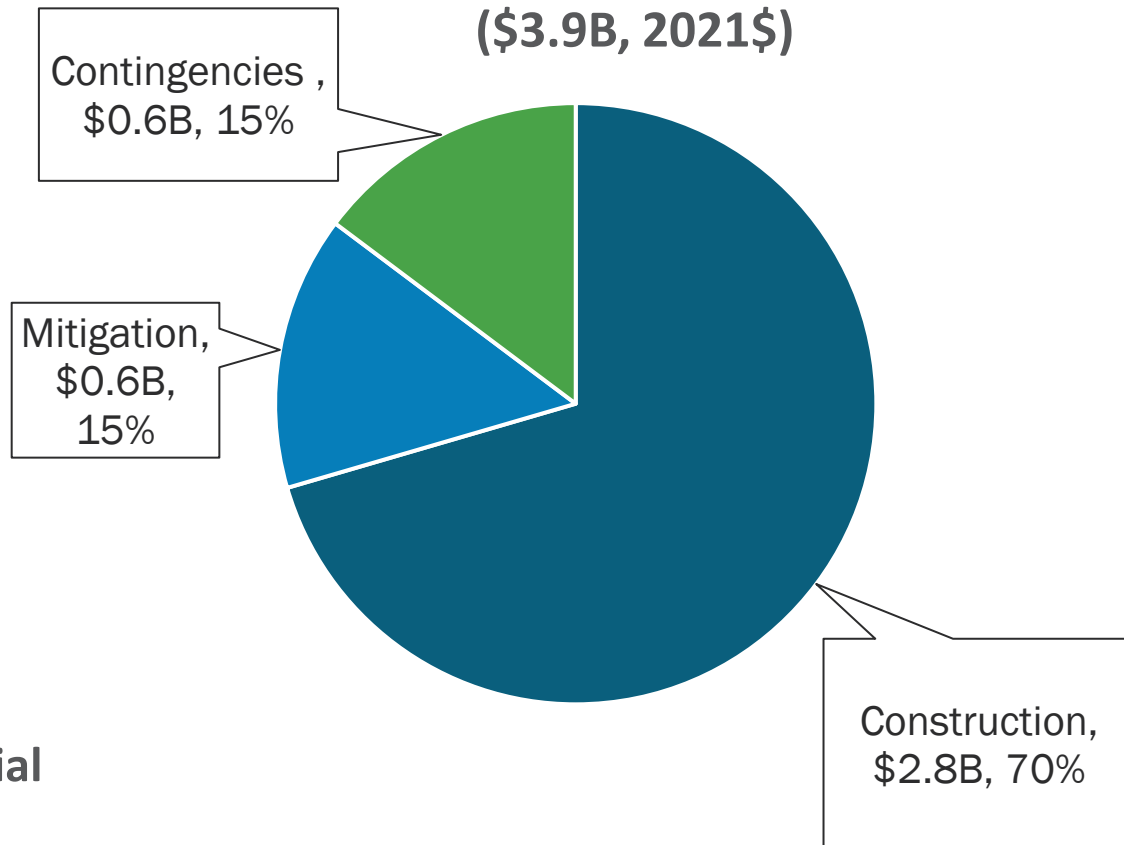
**9** new dams

**12** miles of big pipes (9-32ft)

**20** million cubic yards of material

## ESTIMATED PROJECT COSTS

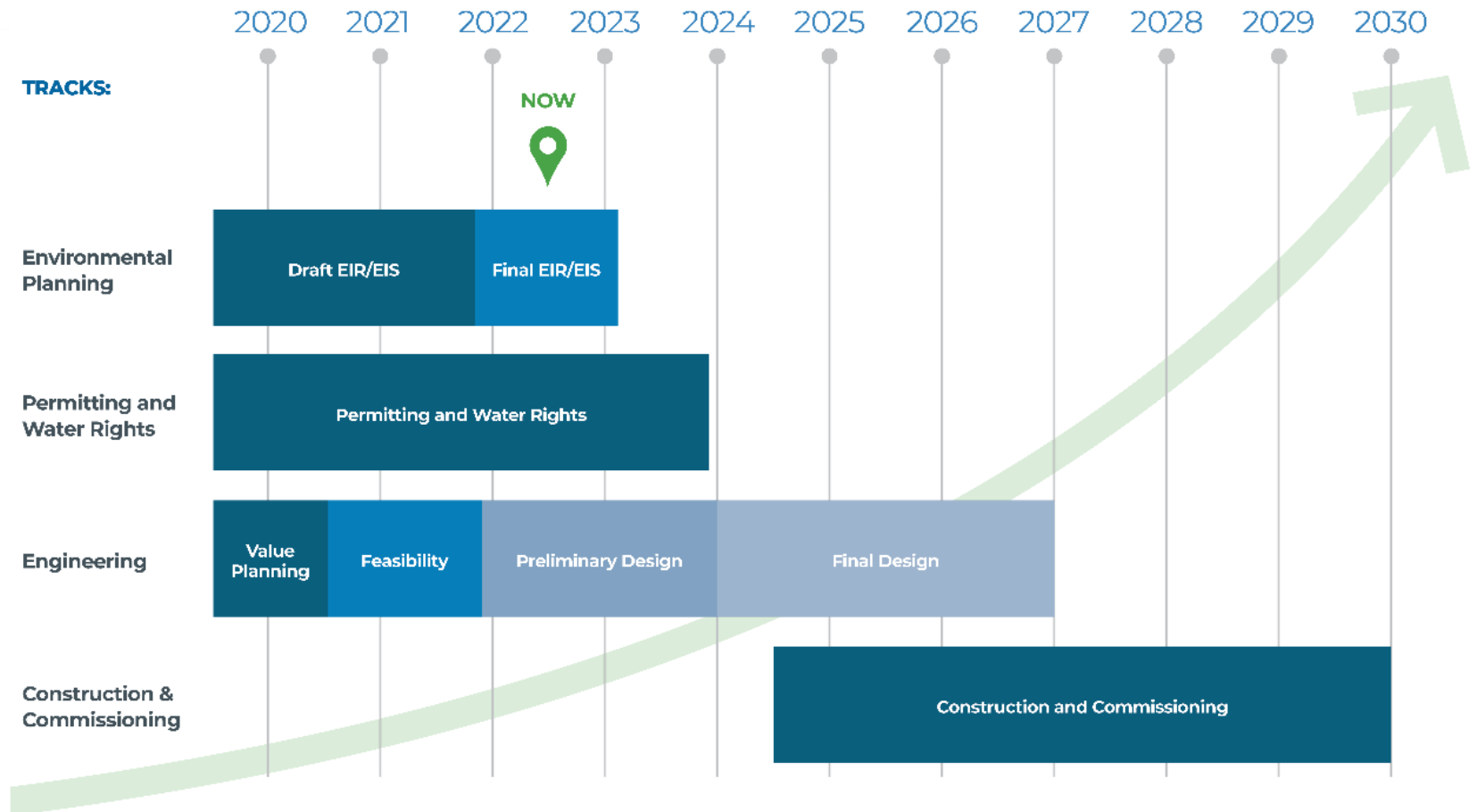
(\$3.9B, 2021\$)



*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*

# Project Schedule

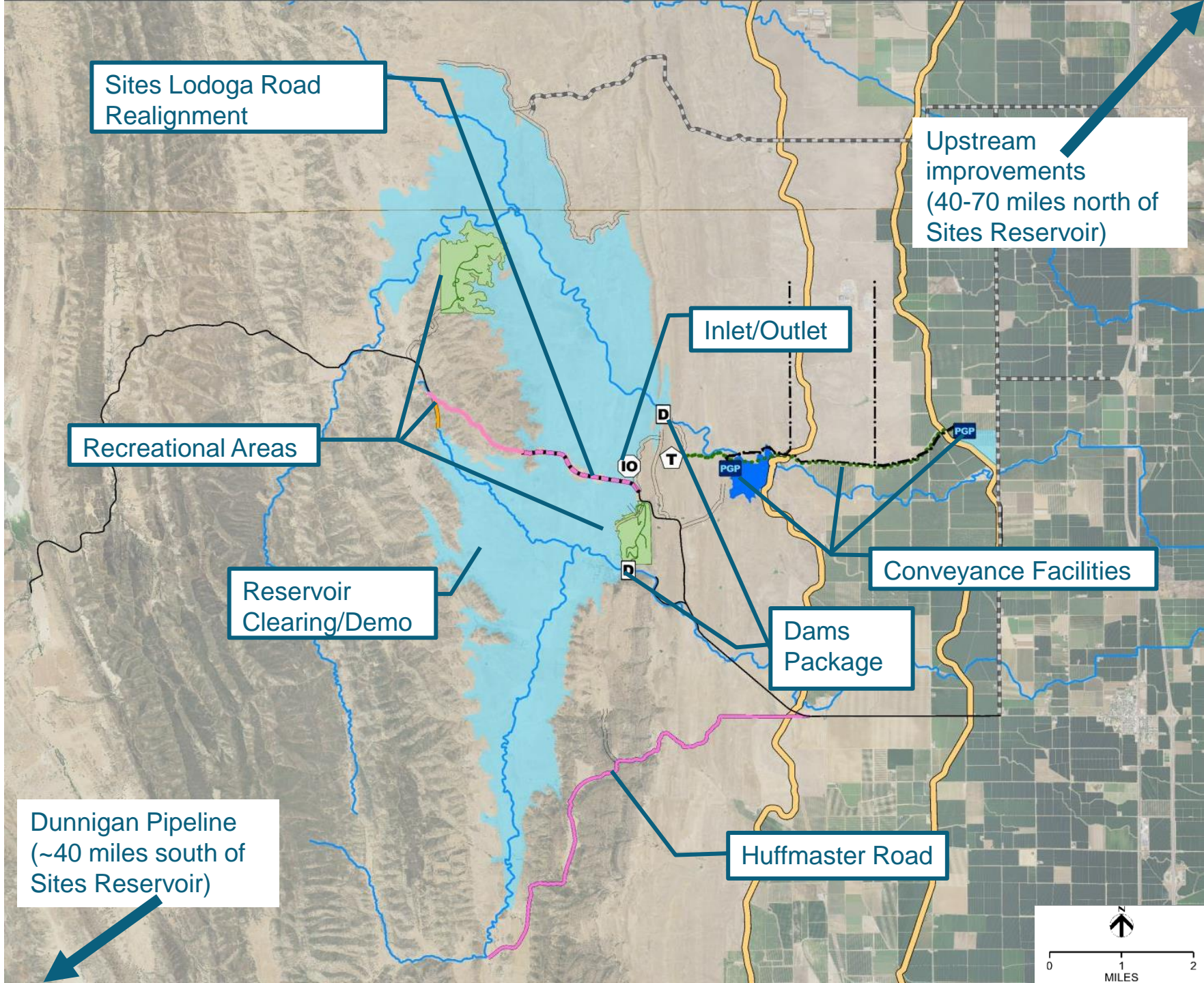
## Sites Reservoir Project Schedule



# Recent Project Achievements

- Revised Draft EIR/Supplemental Draft EIS (Nov 2021)
- Prop 1 Feasibility Determination - ~\$875 million (Dec 2021)
- WIFIA Loan Invitation - ~\$2.2 billion/49% of project costs (March 2022)
- Water Right Application submitted (May 11, 2022)

# Project Map

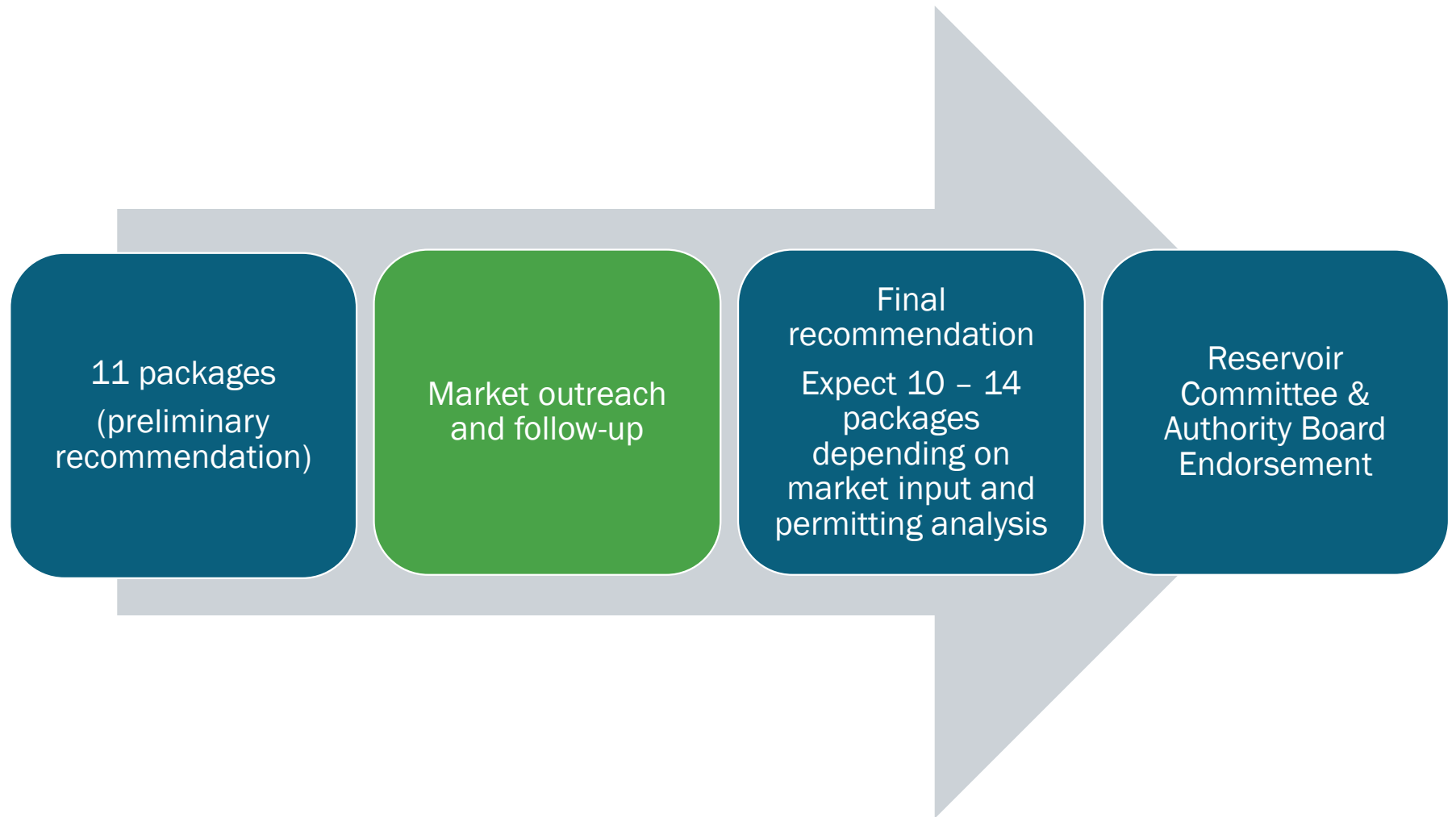




# Preliminary Project Packages

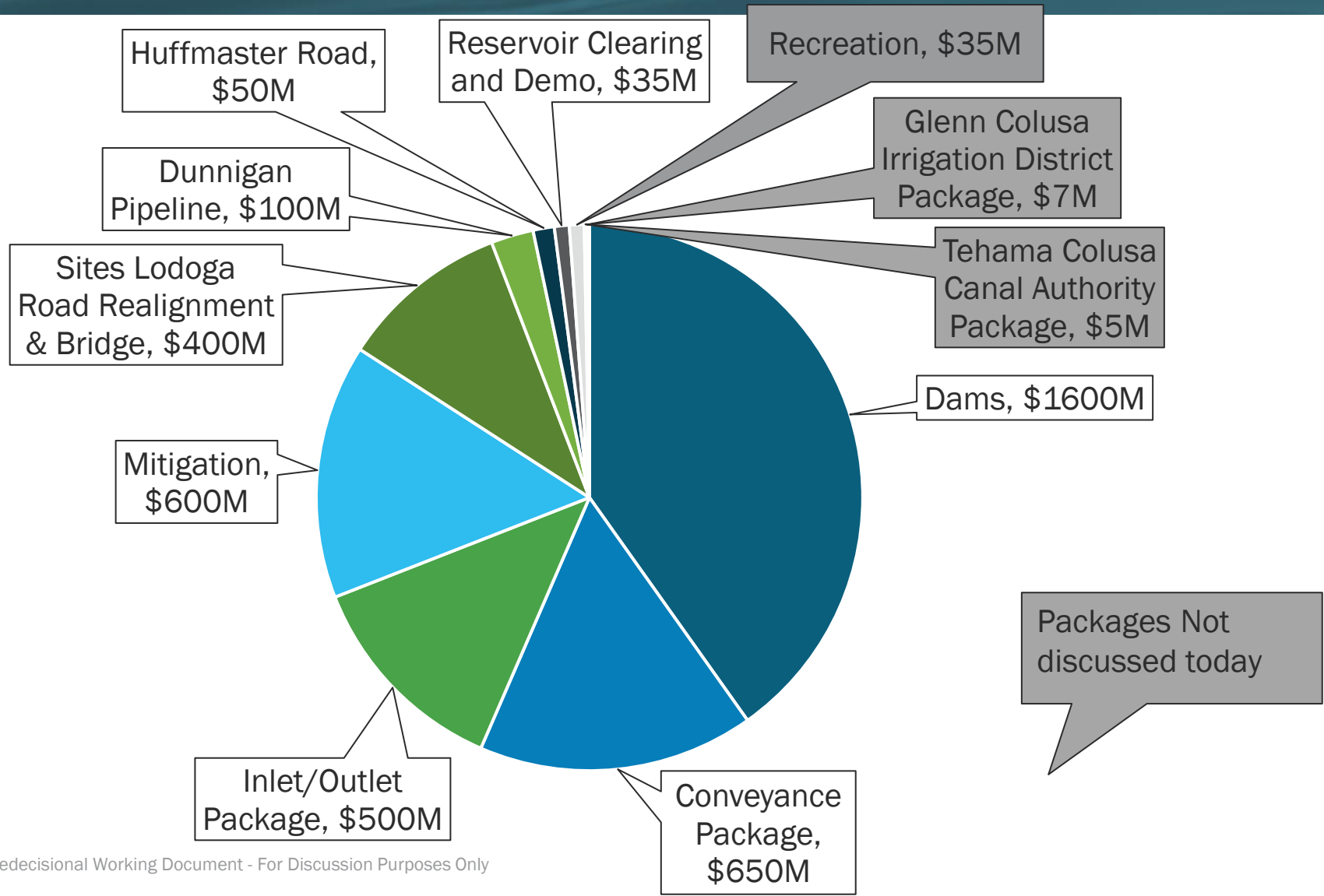


# Context on Project Packaging



# Preliminary Project Packages Overview

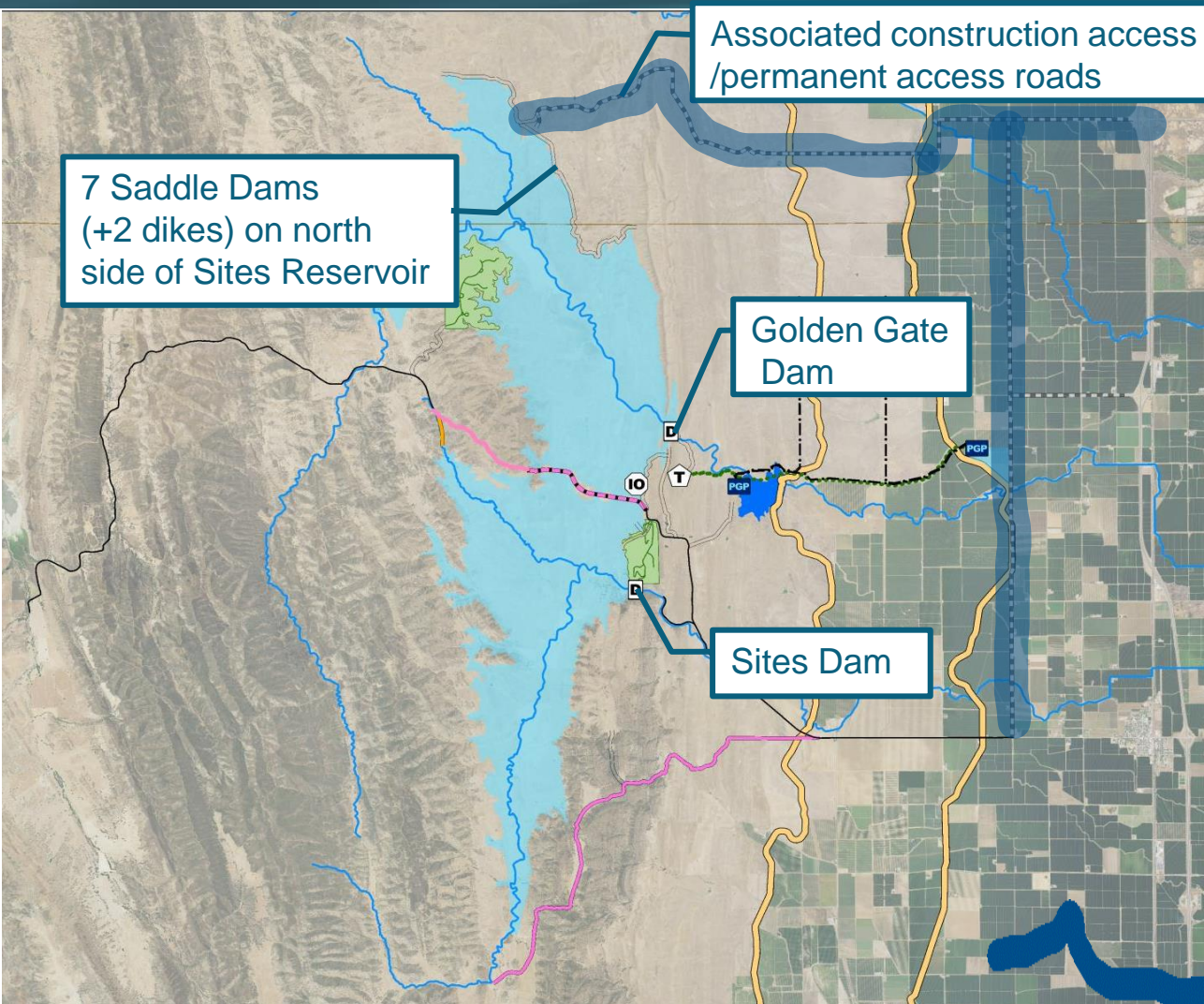
\$M, 2021\$



# Benefits of Preliminary Packaging Recommendations



# Initial Recommendations for Contract Packaging: Dams (\$1.6B)



## Package Highlights

- 9M CY of embankment
- 10M CY of rock

## Dam Heights

- 2 Main: 287 ft
- 7 Saddle: 107 ft
- 2 Saddle Dikes: 12 ft

## Roads

- 22 miles (12 paved; 10 gravel)

# Initial Recommendations for Contract Packaging: Dams

Package	Scope	Rationale
Dams Package (approx. \$1.6B)	<ul style="list-style-type: none"><li>• Sites Dam</li><li>• Golden Gate Dam</li><li>• Saddle Dams and Dikes</li><li>• Associated construction access roads and permanent access roads</li></ul>	<ul style="list-style-type: none"><li>• Combining all dam work together facilitates logistical planning, places responsibility for logistics with one party, and allows for less risk associated with management of excess / deficient soils at each dam site</li><li>• Combining access roads into Dams packages avoids potential interface risks / delay claims between Dams contractor and roads contractor</li><li>• All dam features are under Division of Safety of Dams jurisdiction</li></ul>

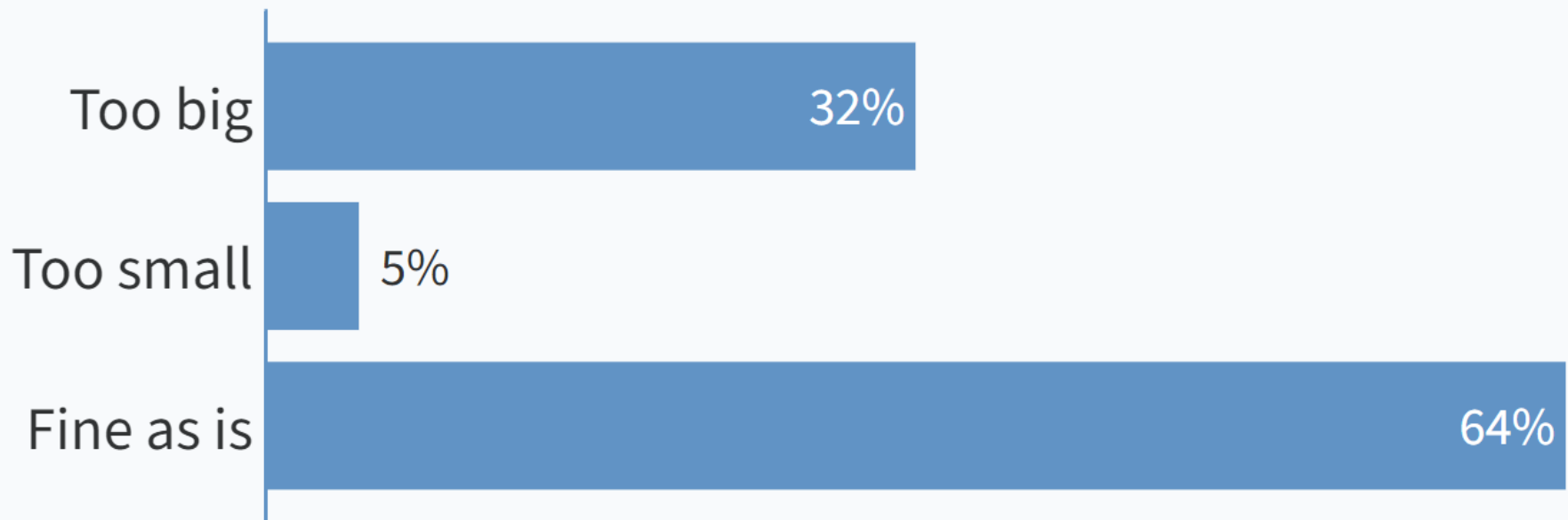
# Live Poll: Thoughts on the size of the dams package

When poll is active, respond at [Pollev.com/cheyanneharr909](https://Pollev.com/cheyanneharr909)

Text **CHEYANNEHARR909** to **22333** once to join



## Thoughts on the size of the dams package?



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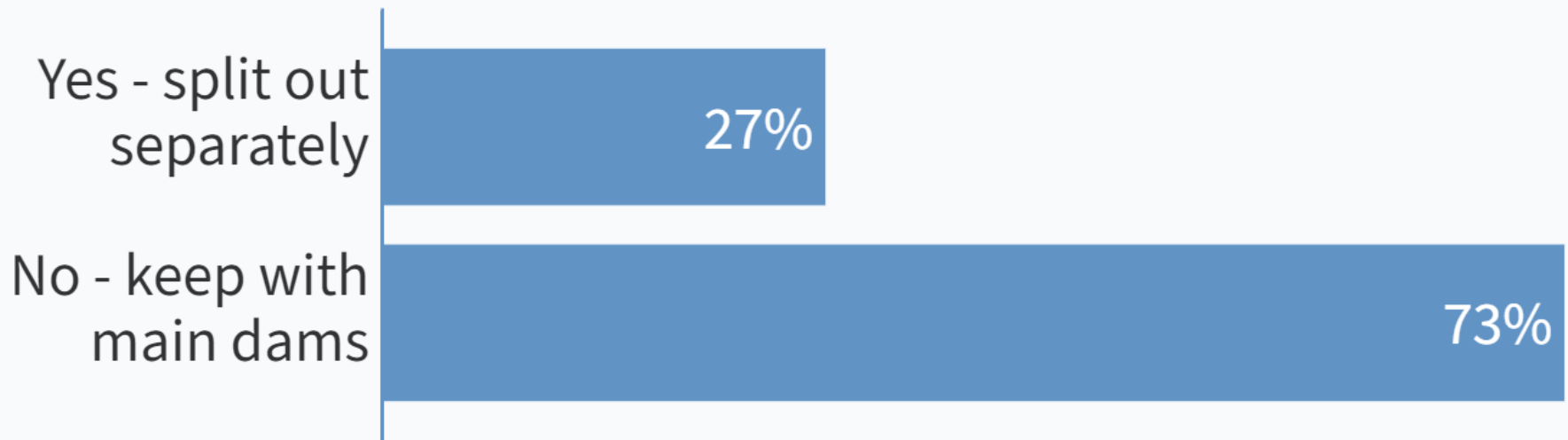
# Live Poll: Should the saddle dams/dikes be split from the main Dams package

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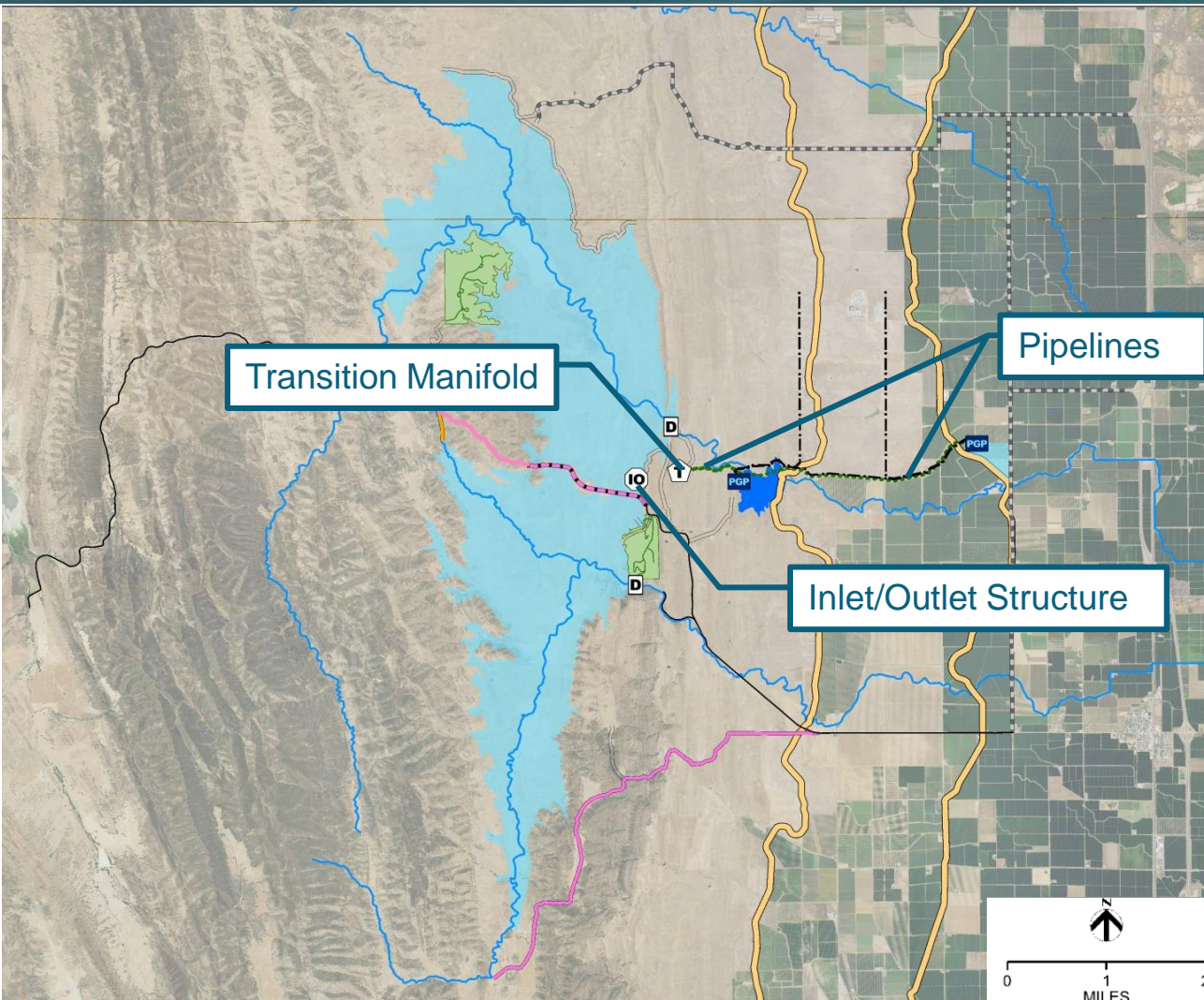
## Should the saddle dams/dikes be split from the main Dams package



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# Initial Recommendations for Contract Packaging: Inlet/Outlet (I/O) - \$500M



## Package Highlights

- ❑ 230 ft 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

# Initial Recommendations for Contract Packaging: I/O

Package	Scope	Rationale
I/O Package (approx. \$500M)	<ul style="list-style-type: none"><li>• I/O tower</li><li>• I/O tunnel</li><li>• I/O control building</li><li>• Pipelines &amp; energy dissipation to Funks Reservoir and TRR</li></ul>	<ul style="list-style-type: none"><li>• Places responsibility for complete I/O system with one contractor</li><li>• Pipelines and energy dissipation are included with other I/O features as they are all under Division of Safety of Dams jurisdiction</li></ul>

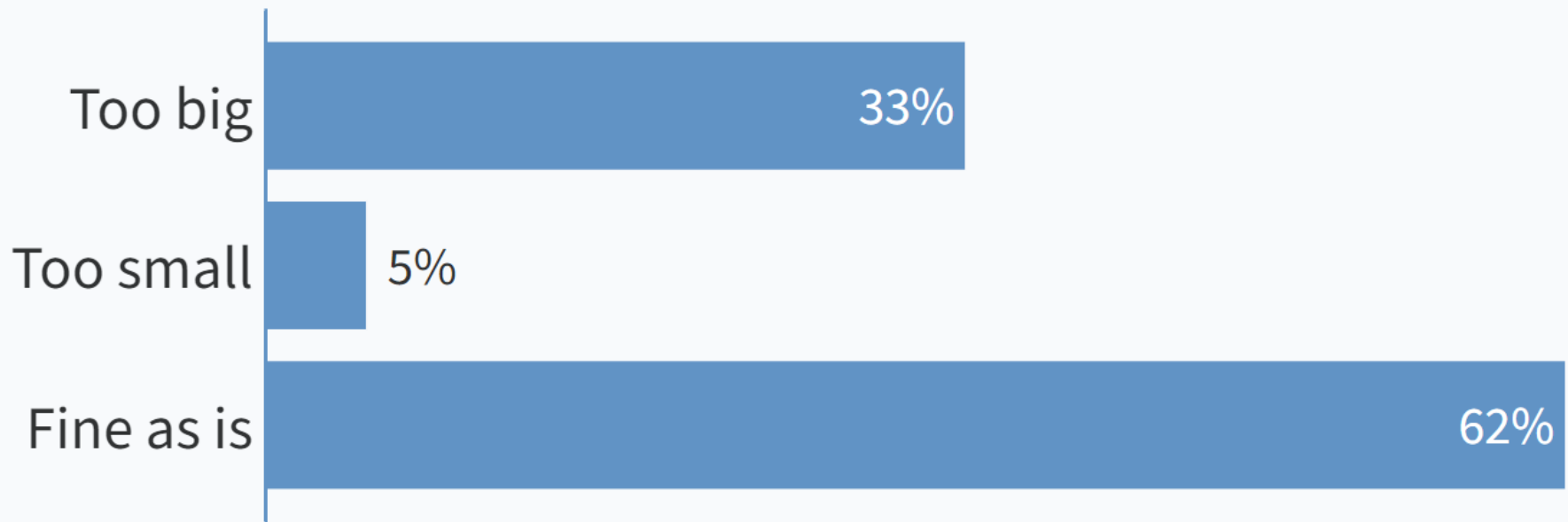
# Live Poll: Thoughts on the size of the inlet/outlet package

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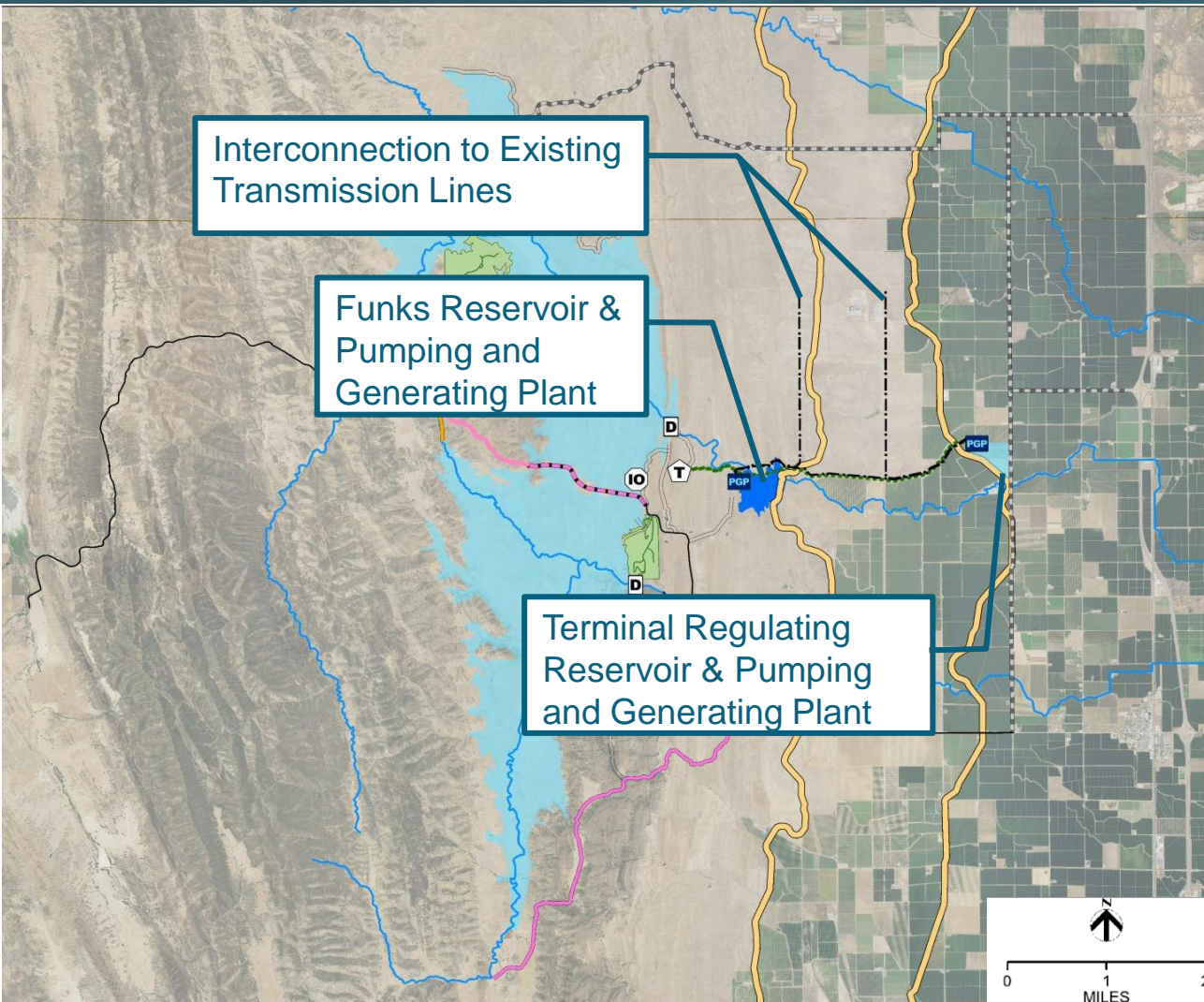


## Thoughts on the size of the inlet/outlet package?



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# Initial Recommendations for Contract Packaging: Conveyance (\$650M)



## Package Highlights

### Terminal Regulating Reservoir

- ❑ Excavate 8M CY of material to create new 600 acre-ft reservoir
- ❑ PGP: 13 x 9,000 HP pumping units; pumping capacity of up to 1,800 cfs
- ❑ Funks PGP – 13 x 8,000 HP pumping units; pumping capacity of up to 2,100 cfs

### Electrical

- ❑ 2 substations
- ❑ 17 miles of new overhead transmission lines
- ❑ 2 admin and maintenance buildings

# Initial Recommendations for Contract Packaging: Conveyance

Package	Scope	Rationale
Conveyance Package (approx. \$650M)	<ul style="list-style-type: none"><li>• TRR reservoir</li><li>• TRR pumping and generating plant</li><li>• TRR substation and transmission line</li><li>• Possibly Funks Reservoir dredging</li><li>• Funks pumping and generating plant</li><li>• Funks substation and transmission line</li><li>• Possibly admin and operations building and systems integration (may depend on where admin/ops building is located)</li></ul>	<ul style="list-style-type: none"><li>• Keeping non-jurisdictional (DSOD) conveyance elements together helps facilitate commissioning as an integrated system</li><li>• Reduces “interface” conflicts between contractors</li></ul>

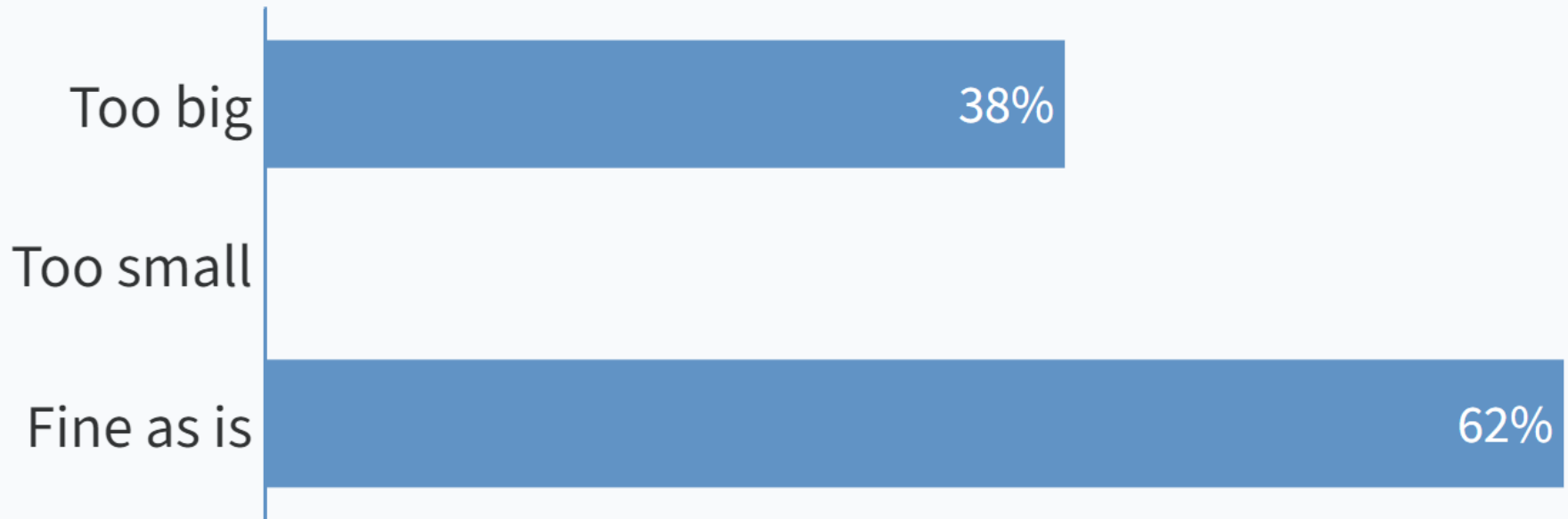
# Live Poll: Thoughts on the size of the conveyance package

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## Thoughts on the size of the conveyance package?



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# Live Poll: Thoughts on two conveyance packages (one for the Funks Reservoir area and one for the Terminal Regulating Reservoir area)?

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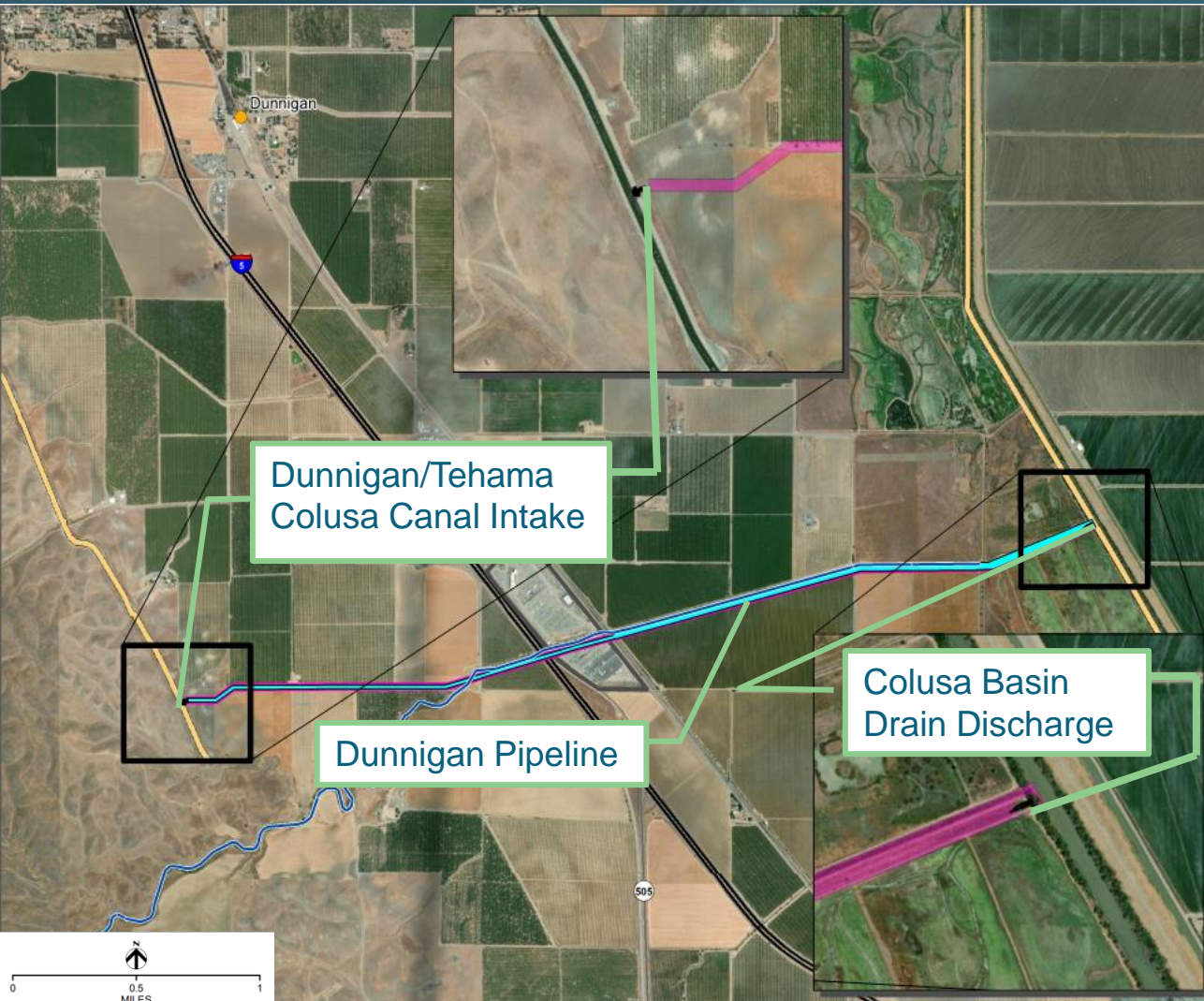


## Thoughts on two conveyance packages (one for the Funks Reservoir area and one for the Terminal Regulating Reservoir area)?



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# Initial Recommendation for Contract Packages: Dunnigan Pipeline (\$100M)



## Package Highlights

- ❑ 4 miles of 9 ft diameter pipe
- ❑ Concrete inlet and outlet structures
- ❑ 2 60-inch energy dissipating valves and hood



# Initial Recommendation for Contract Packages: Dunnigan Pipeline

Package	Scope	Rationale
Dunnigan Pipeline Package  (approx. \$100M)	<ul style="list-style-type: none"><li>• Connection to TCC</li><li>• 4-mile pipeline to CBD</li><li>• CBD energy dissipation structure</li></ul>	<ul style="list-style-type: none"><li>• Decouples design on first 4 miles of Dunnigan Pipeline so that it can proceed while possible use of CBD can be negotiated</li><li>• Increasing diameter of pipeline from 9 ft to 10.5 ft would allow for pipeline to be extended to Sacramento River if needed in the future</li></ul>

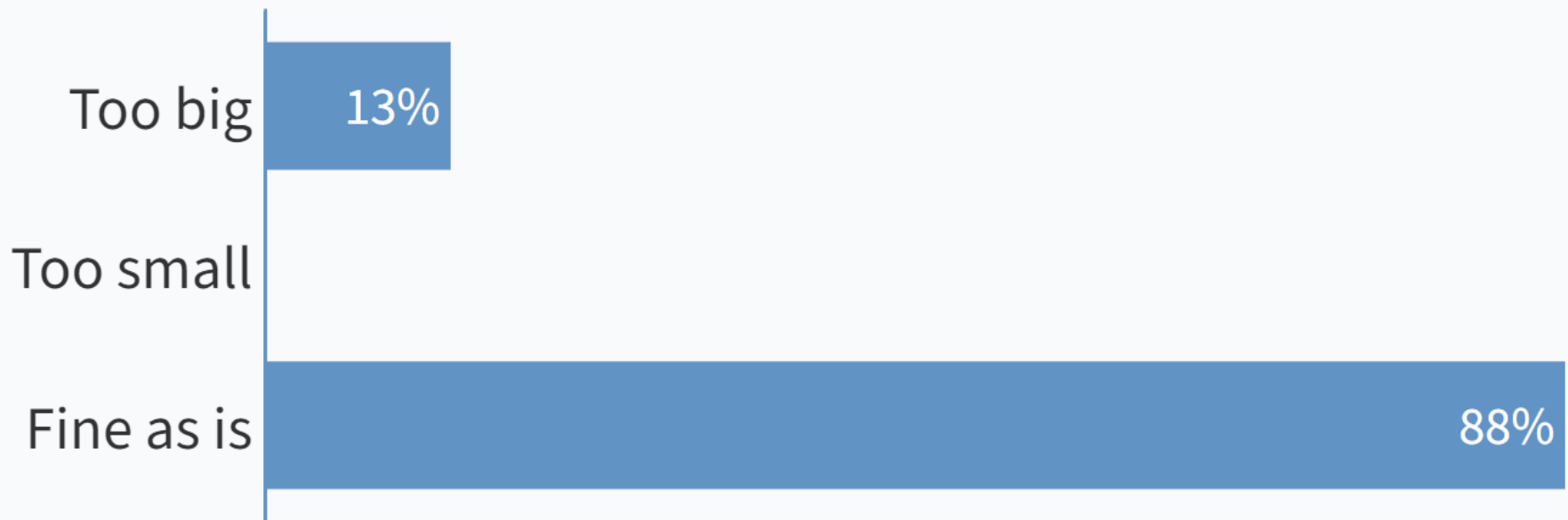
# Live Poll: Thoughts on the size of the Dunnigan Pipeline package

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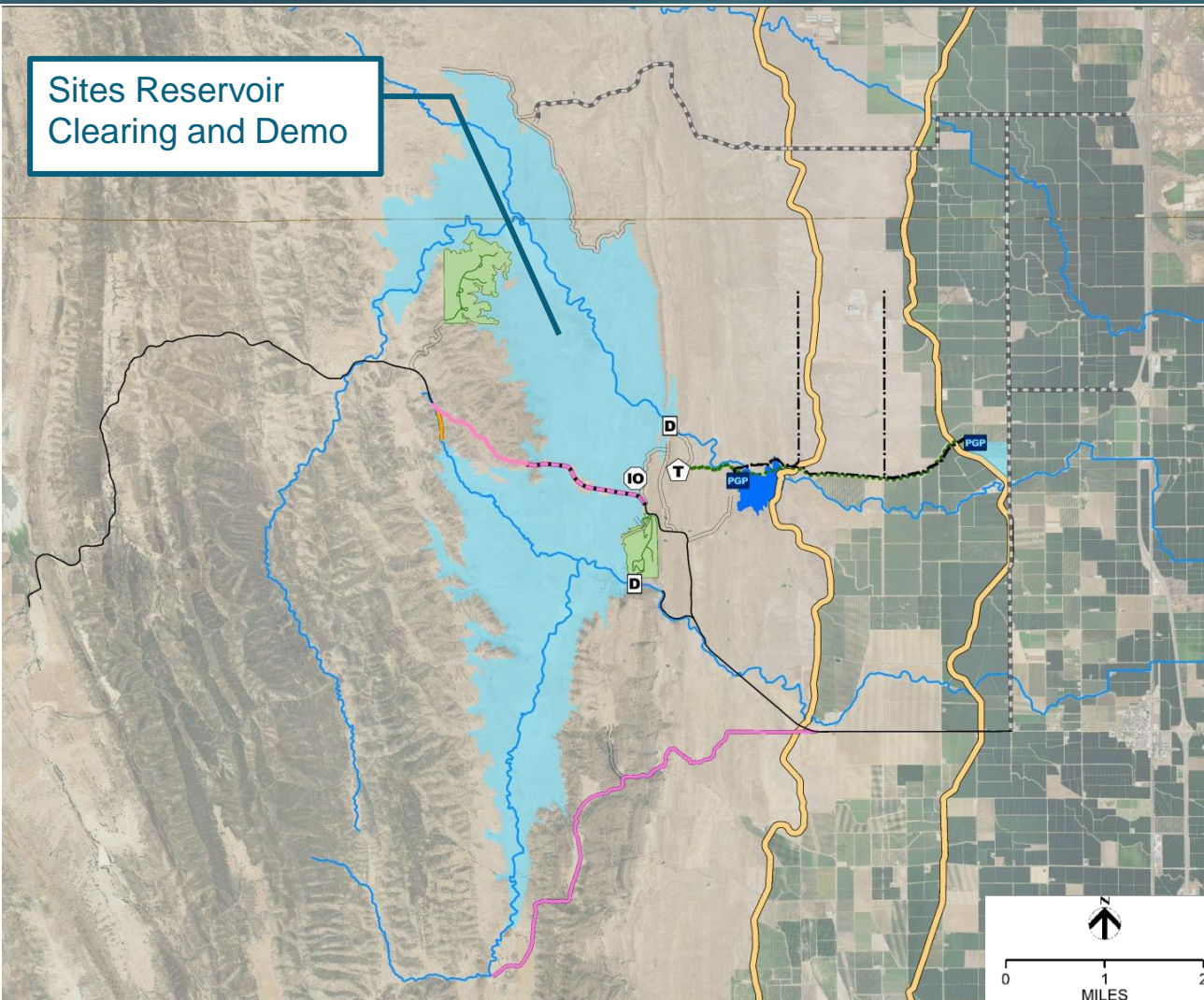


## Thoughts on the size of the Dunnigan Pipeline package?



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# Initial Recommendations for Contract Packaging: Reservoir Clearing and Demo (\$35M)



## Package Highlight

- Clearing and demolition of 13,200 acres

# Initial Recommendation for Contract Packages: Roads and Reservoir

Package	Scope	Rationale
Reservoir Clearing and Demo Package (approx. \$35M)	<ul style="list-style-type: none"><li>Clearing existing structures, facilities and vegetation from reservoir footprint</li></ul>	<ul style="list-style-type: none"><li>Opportunity for local contractor(s)</li></ul>

\* Packages are not presented in chronological order

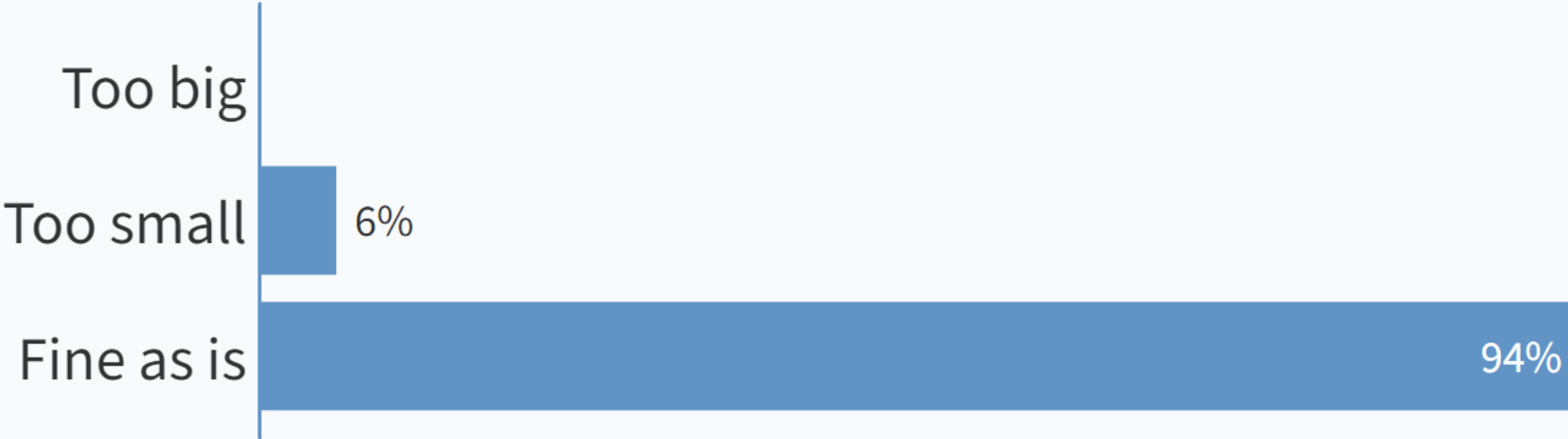
# Live Poll: Thoughts on the size of the Reservoir Clearing/Demo Package

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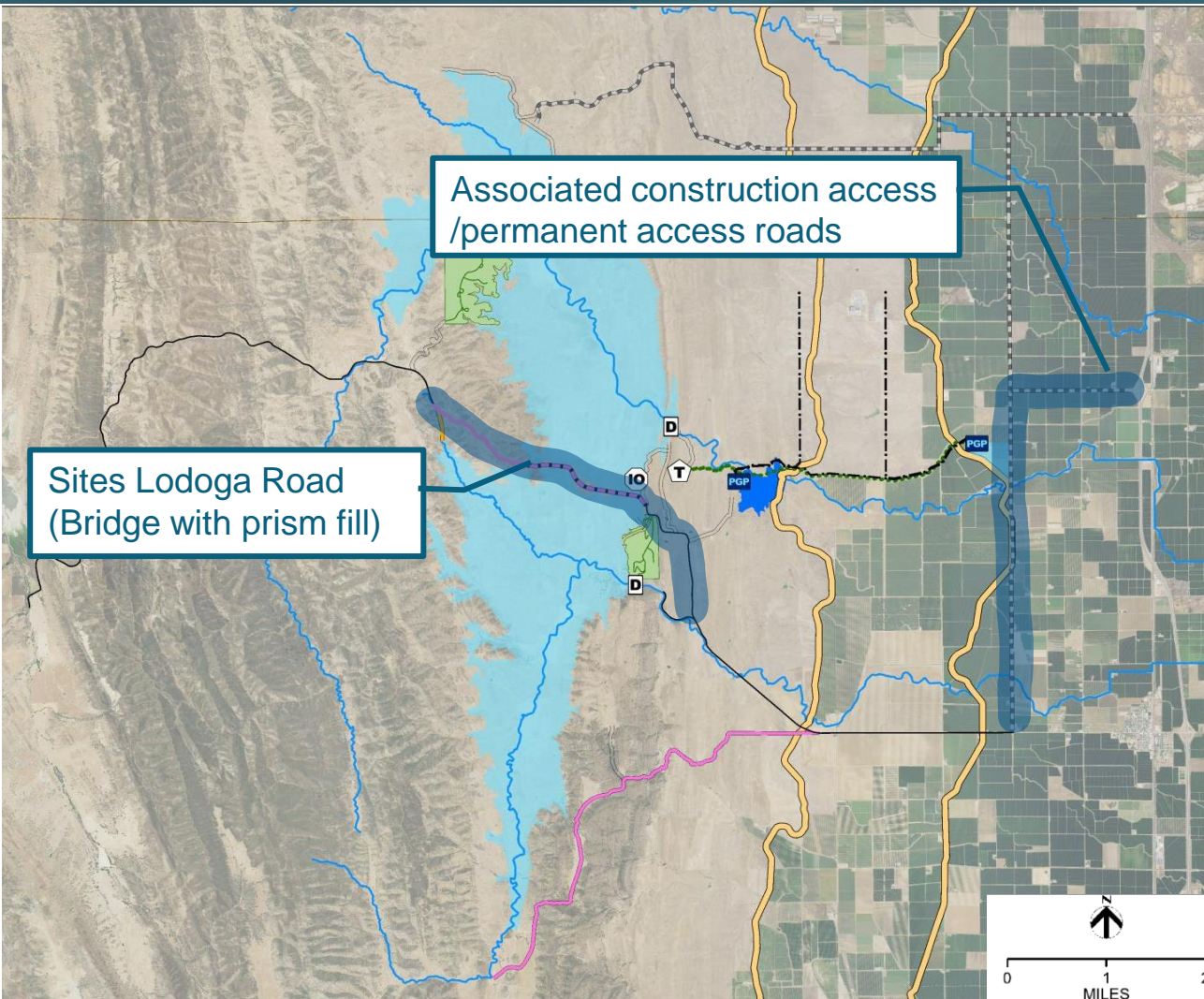


## Thoughts on the size of the Reservoir Clearing/Demo package?



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# Initial Recommendations for Contract Packaging: Sites Lodoga Road Realignment (\$400M)



## Package Highlights

Construct 5.5 miles of two-lane road

New bridge:

- ❑ 4,050 ft long
- ❑ 150 ft tall

Materials

- ❑ 6M CY of embankment
- ❑ 1.5M CY of rock
- ❑ 23,000 tons of asphalt
- ❑ 36,000 CY of aggregate base

# Initial Recommendation for Contract Packages: Roads and Reservoir

Package	Scope	Rationale
Sites Lodoga Road Realignment Package (approx. \$400M)	<ul style="list-style-type: none"><li>• Road realignment (new road)</li><li>• New bridge</li></ul>	<ul style="list-style-type: none"><li>• Opportunity for local contractor(s)</li></ul>

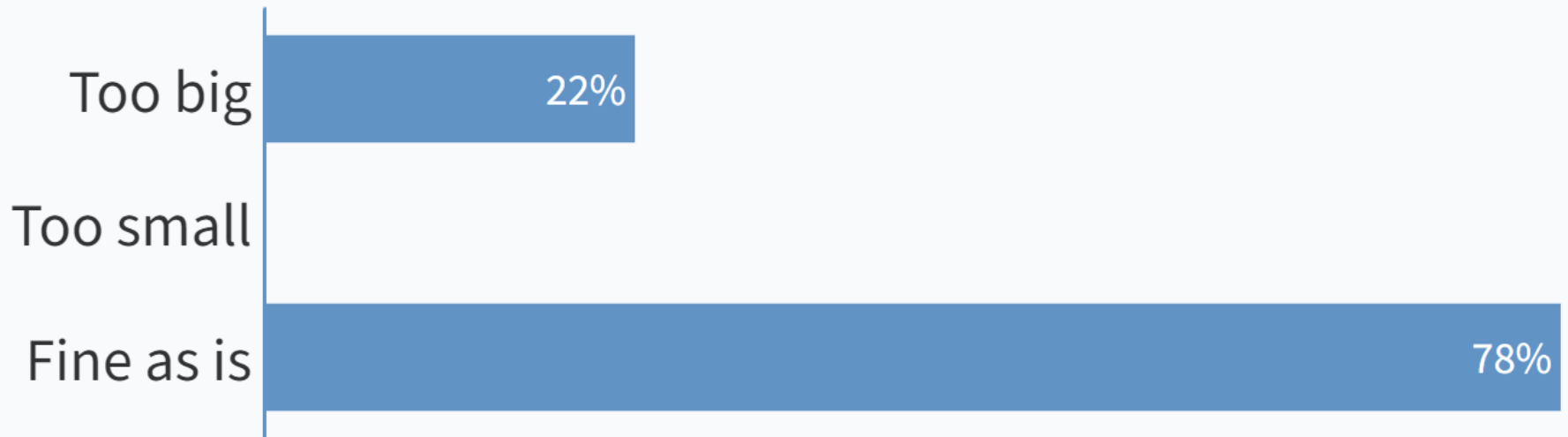
# Live Poll: Thoughts on the size of the Sites Lodoga Road Realignment package

When poll is active, respond at [Pollev.com/cheyanneharr909](https://Pollev.com/cheyanneharr909)

Text **CHEYANNEHARR909** to **22333** once to join



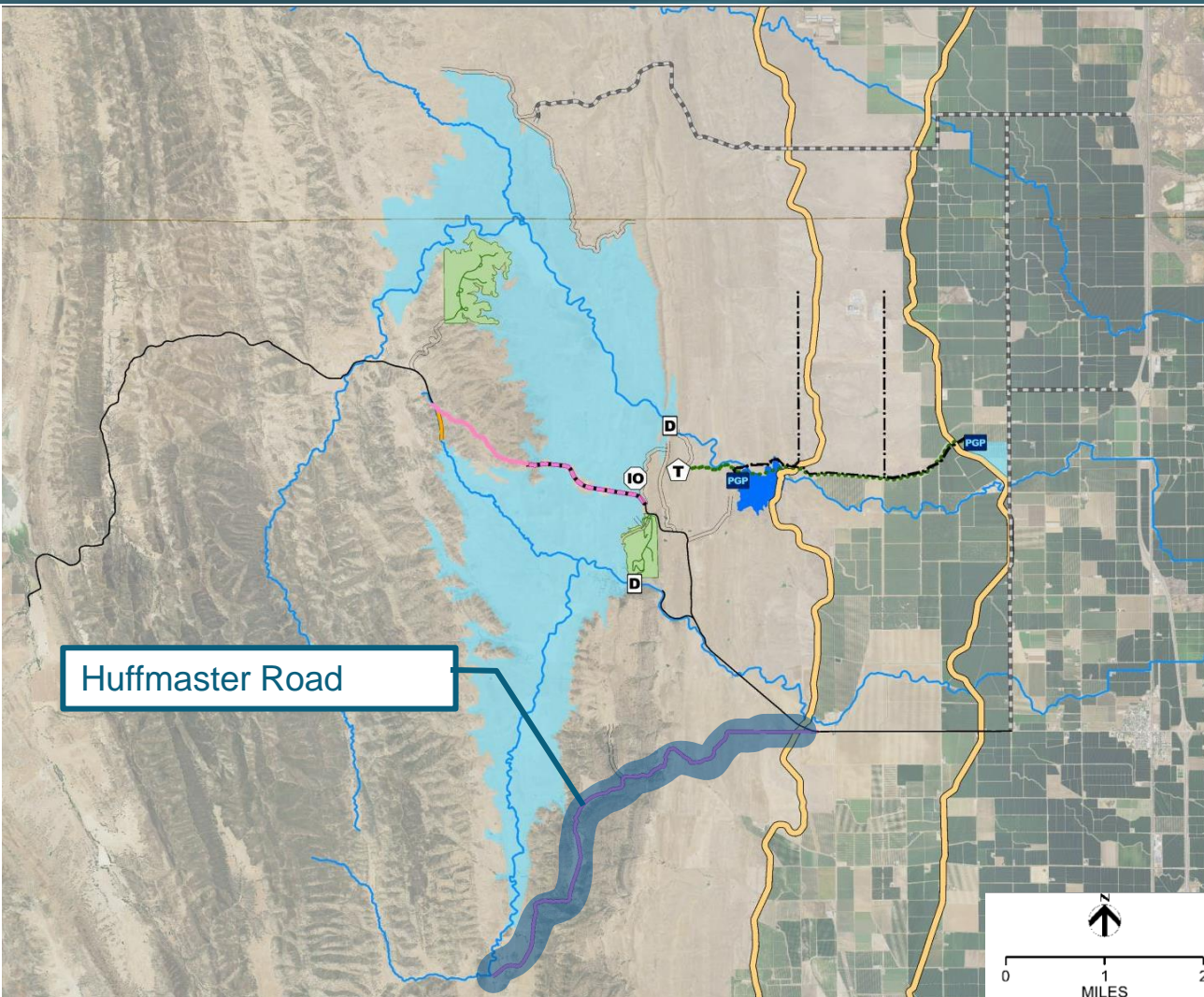
## Thoughts on the size of the Sites Lodoga Road Realignment package?



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# Initial Recommendations for Contract Packaging: Huffmaster Road (\$50M)



## Package Highlights

Construct 7.5 miles of gravel access road (16 ft wide)

Materials:

- 1.5M CY of excavation
- 0.5M CY of embankment
- 22,000 CY aggregate base

# Initial Recommendation for Contract Packages: Roads and Reservoir

Package	Scope	Rationale
Huffmaster Road Package (approx. \$50M)	<ul style="list-style-type: none"><li>• 16-ft wide gravel road</li></ul>	<ul style="list-style-type: none"><li>• Opportunity for local contractor(s)</li></ul>

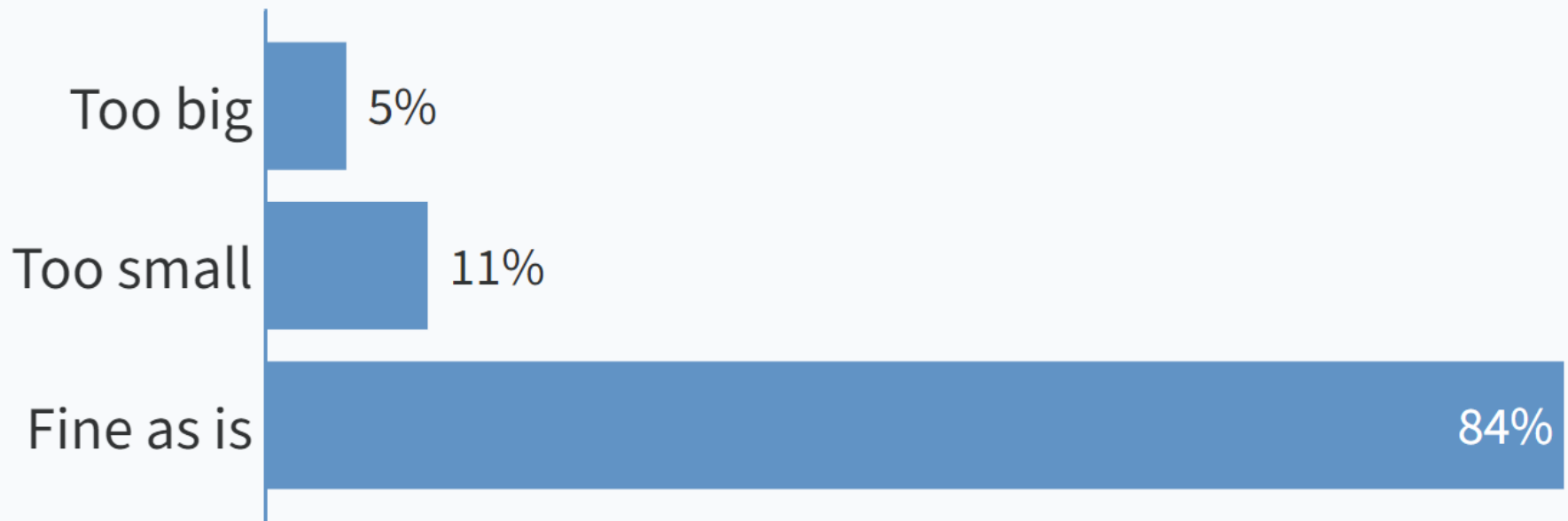
# Live Poll: Thoughts on the size of the Huffmaster Road Package

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Text **CHEYANNEHARR909** to **22333** once to join



## Thoughts on the size of the Huffmaster Road package?



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# Project Mitigation

Package	Scope	Rationale
Mitigation (approx. \$600M)	<ul style="list-style-type: none"><li>• Required for state and federal resource permits</li><li>• Planning, design, implementation and long-term management of mitigation lands</li><li>• Required in advance of impacts</li></ul>	<ul style="list-style-type: none"><li>• Combining all permanent mitigation together facilitates logistical planning, places responsibility for logistics with one party, and allows for less risk</li><li>• Transfer if long-term liability to contractor</li><li>• Reduces mitigation cost</li><li>• Reduces the potential for delays on Construction Contracts moving forward.</li></ul>

# Additional Packages

(to be covered later)

- Tehama Colusa Canal Authority Package (upstream improvements)
- GCID Package (upstream improvements)
- Recreational Areas

# Next Steps

Contractor 1:1 Meeting Coordination



# Contract Procurement: Surface Storage Projects receiving State funding

- Traditionally, Design-Bid-Build (DBB) has been the general approach for surface storage projects.
- **AB 2551** Chapter 760 authorizes the Sites Project to implement alternative delivery:
  - Construction manager at-risk (CMAR)
  - Design-build (DB: conventional, progressive, or target price)
  - Design-build-operate

# Contractor 1:1 expectations

- This is expected to be one of **many** meetings to gather industry inputs
- Focus of the upcoming 1:1 meetings are to gather insights on **pros/cons & risks/benefits** regarding preliminary packaging & applicable procurement methods (two-way dialogue)
- These slides will be posted to the Sites Project website the morning of **Friday 6/10**



# Sign-Up for a Contractor 1:1 Session (scan QR code)



# Q&A

