



United Water
CONSERVATION DISTRICT

SANTA FELICIA DAM Safety Improvement Project



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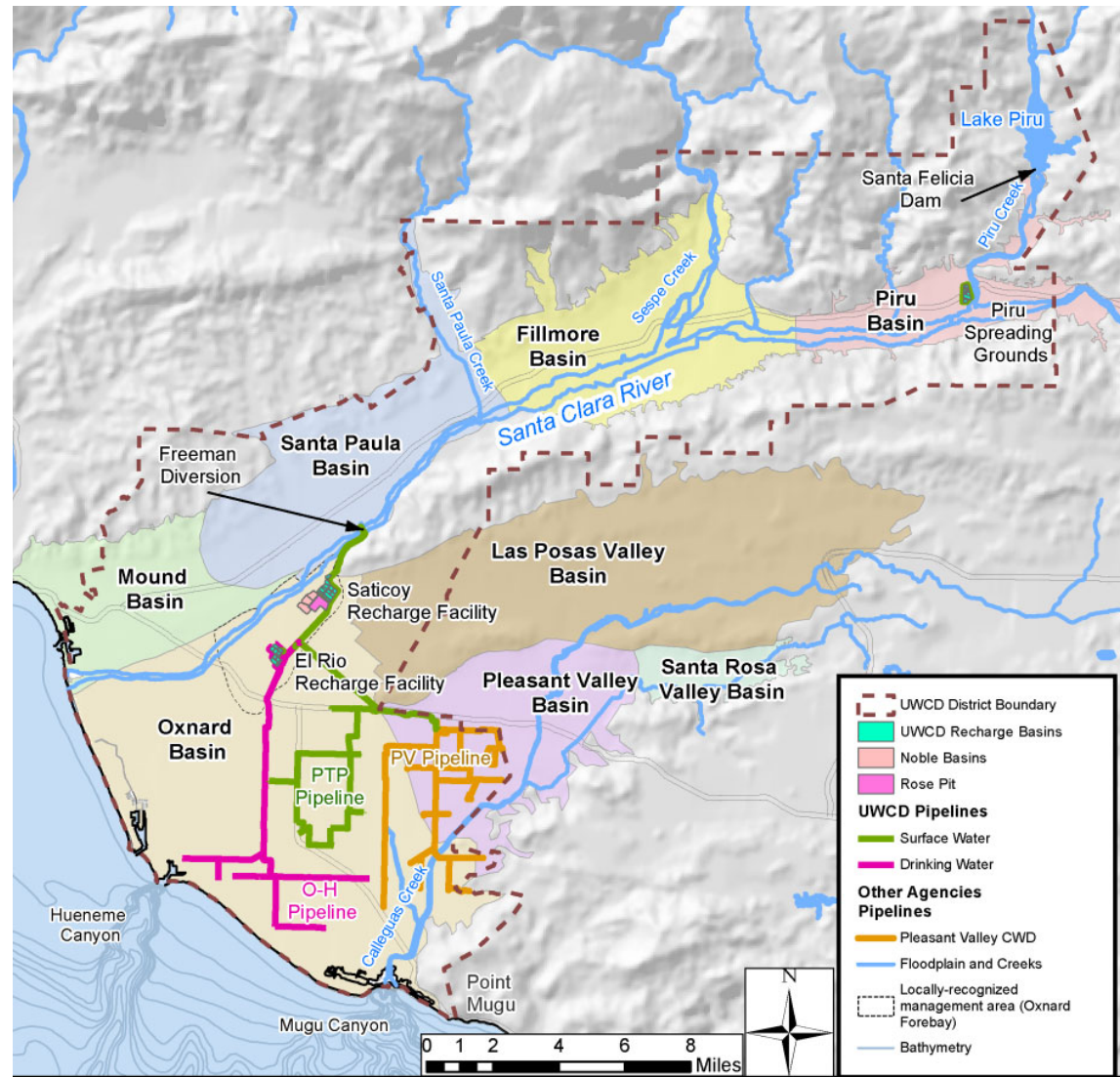
Background

Critical water infrastructure

- ◆ Essential storage structure
- ◆ Recharge benefits downstream basins
- ◆ Provides operational flexibility

Regulated by

- ◆ FERC under a minor license (< 1.4 MW)
- ◆ California DSOD (Permit No. 1005)
- ◆ Extremely High Hazard Dam due to high population (≈ 400,000) downstream
- ◆ DSOD downgraded from Fair to Poor condition
- ◆ CA Governor's Office of Emergency Services (CalOES) approval of EAP



Why SFD Safety Improvement Project?



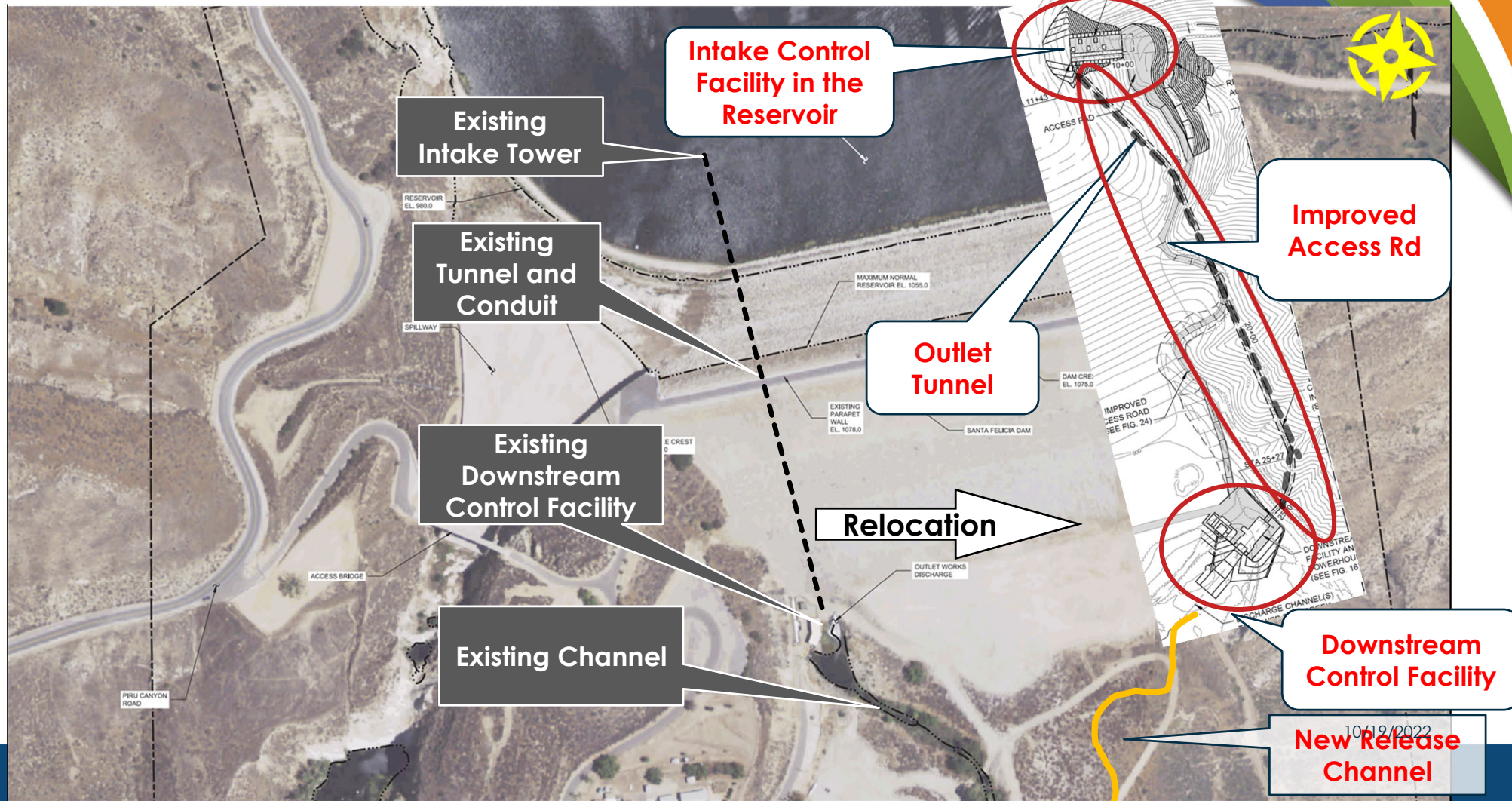
Deficiencies:

- ◆ Seismic Deficiency of Intake Tower and Penstock
- ◆ Ongoing Siltation in the Reservoir
- ◆ Insufficient Spillway Capacity to Safely Pass Inflow Design Flood (IDF)

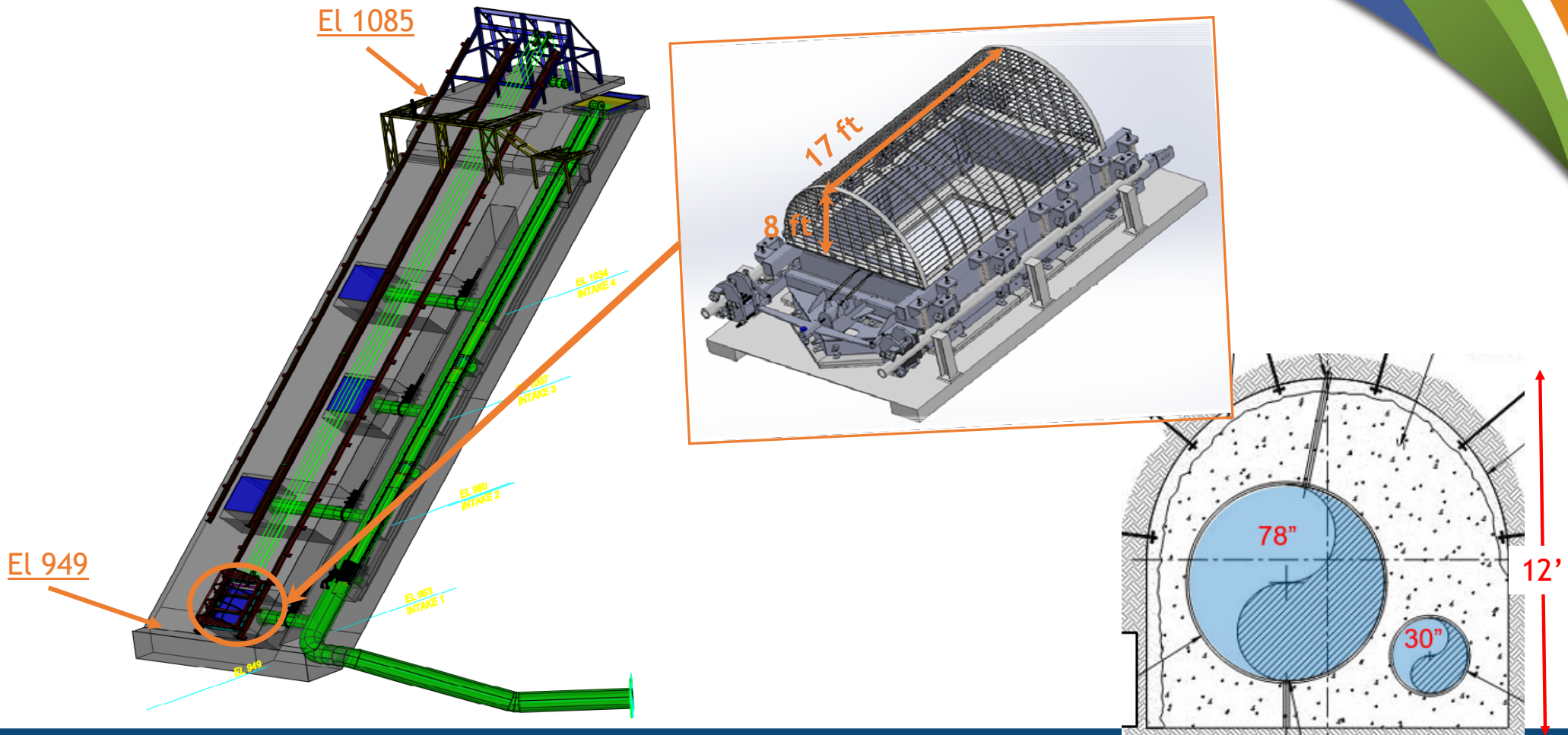
Improvements under design:

- ◆ New Outlet Works
- ◆ Spillway Improvements
- ◆ New Release Channel

New Outlet Works and Release Channel

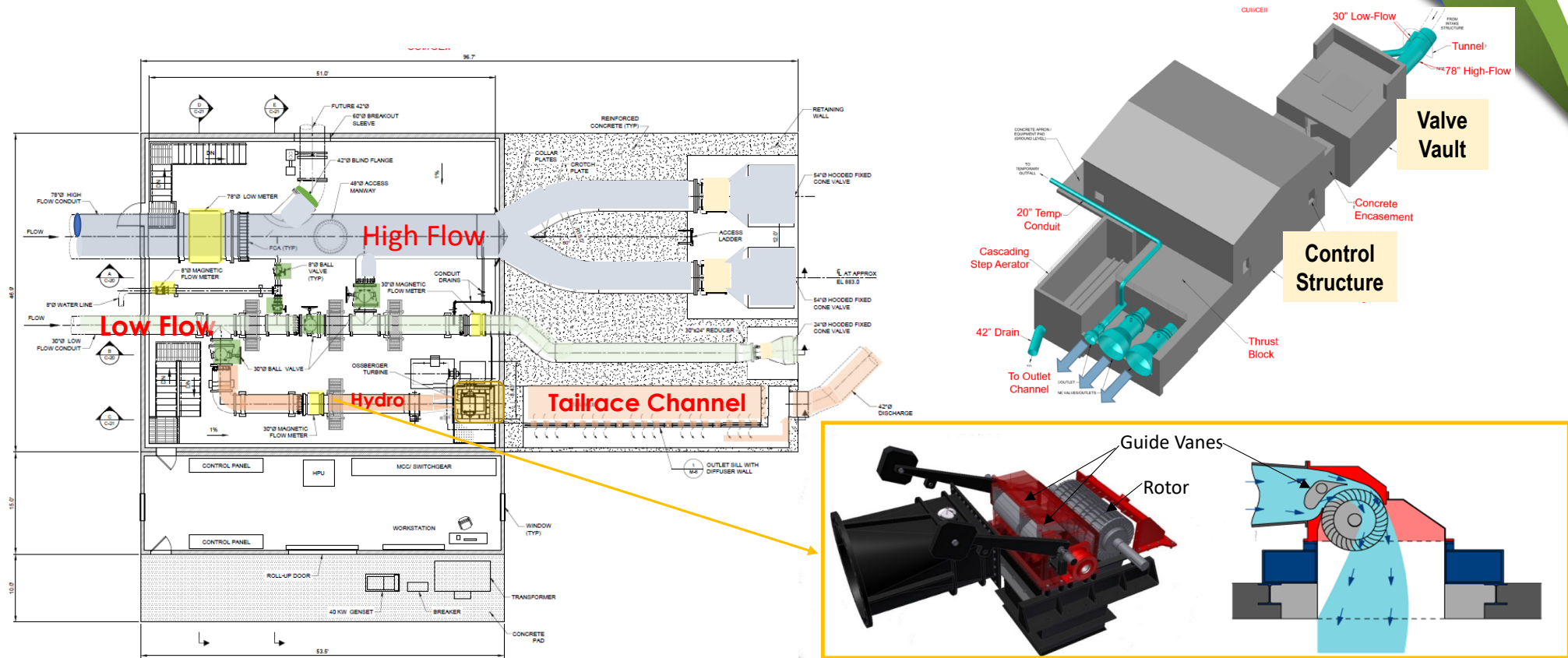


Intake Control Facility and Tunnel



10/19/2022

Downstream Control Facility Structure



Key Crossflow Turbine Components

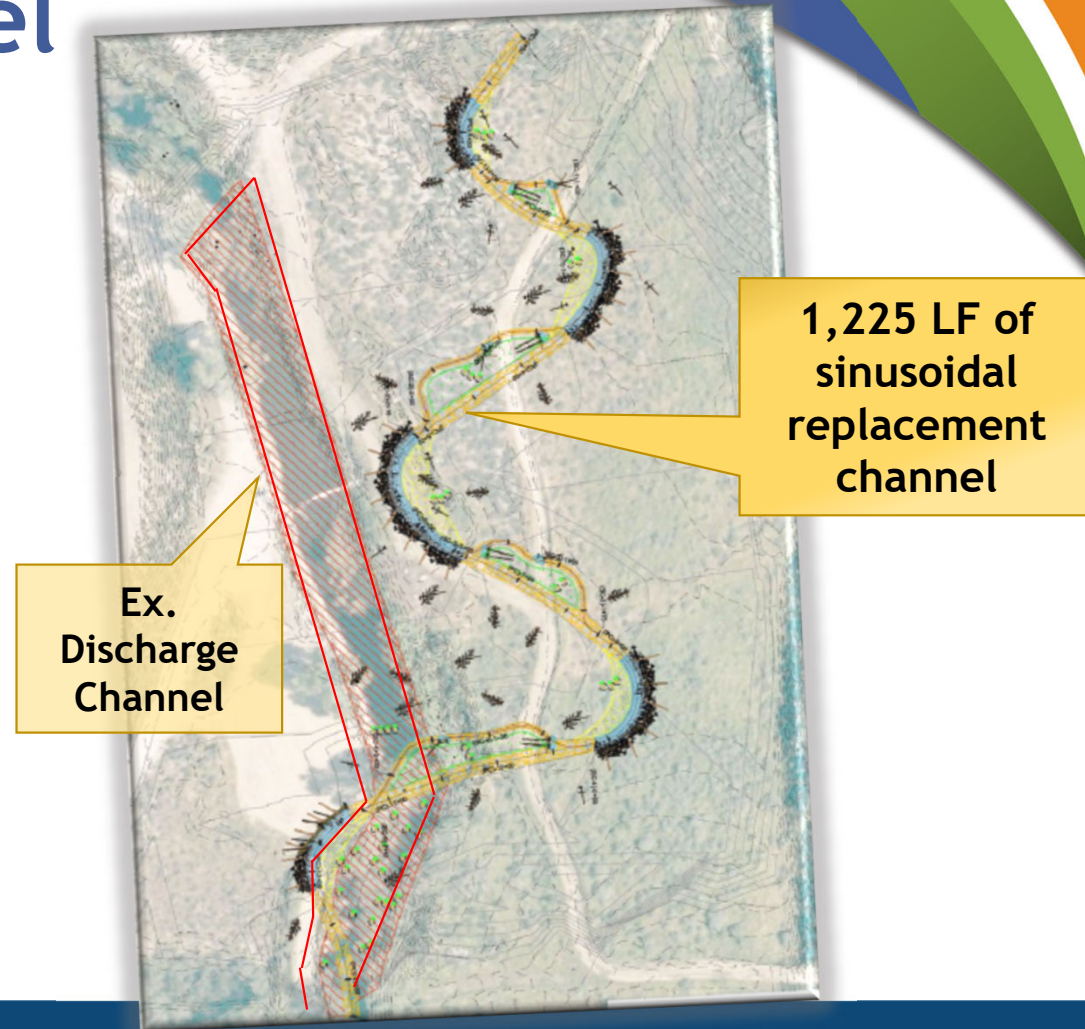
New Release Channel

(Single Main Channel with additional Side Channels)

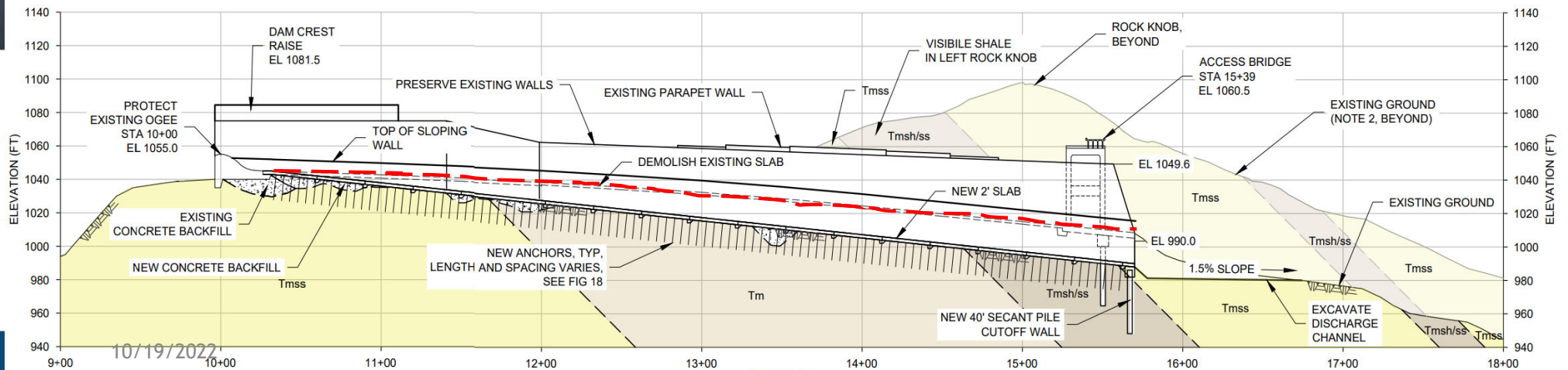
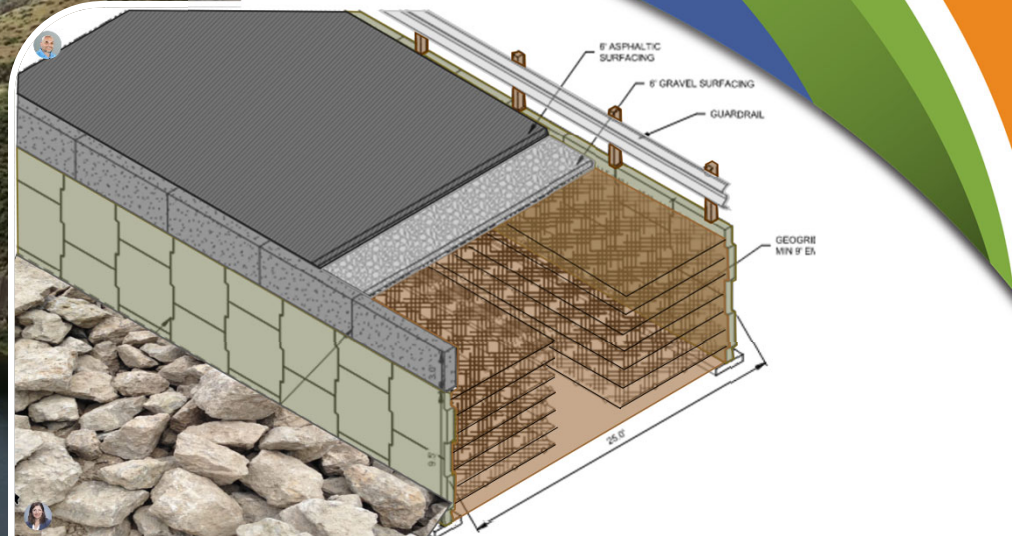
- ❑ High-quality spawning and rearing habitat
- ❑ Rich aquatic and riparian habitat
- ❑ Geomorphically stable channel
- ❑ Minimum 1:1 replacement length (new requirement)

References and Design Guidelines:

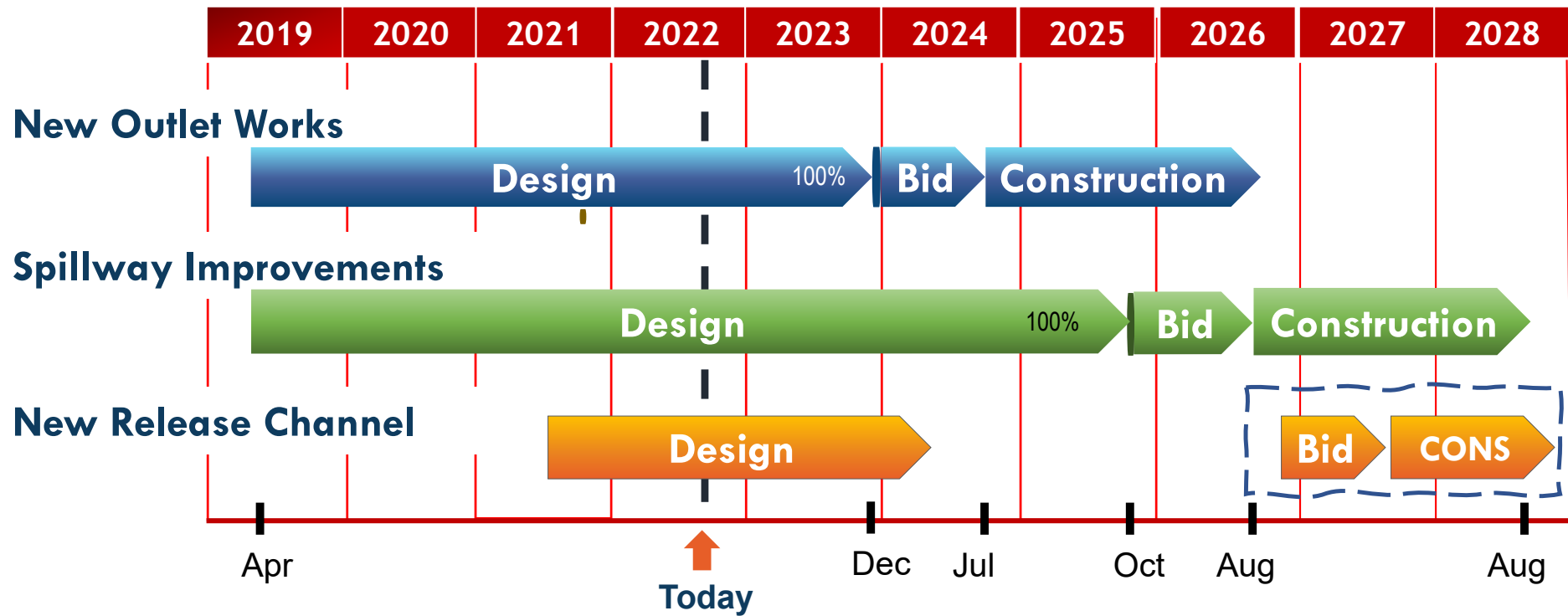
- Habitat Requirements of southern California steelhead
- California Salmonid Restoration Manual
- Stream Restoration Design - National Engineering Handbook (NRCS 2007)
- Other relevant design guidelines



Spillway Improvement

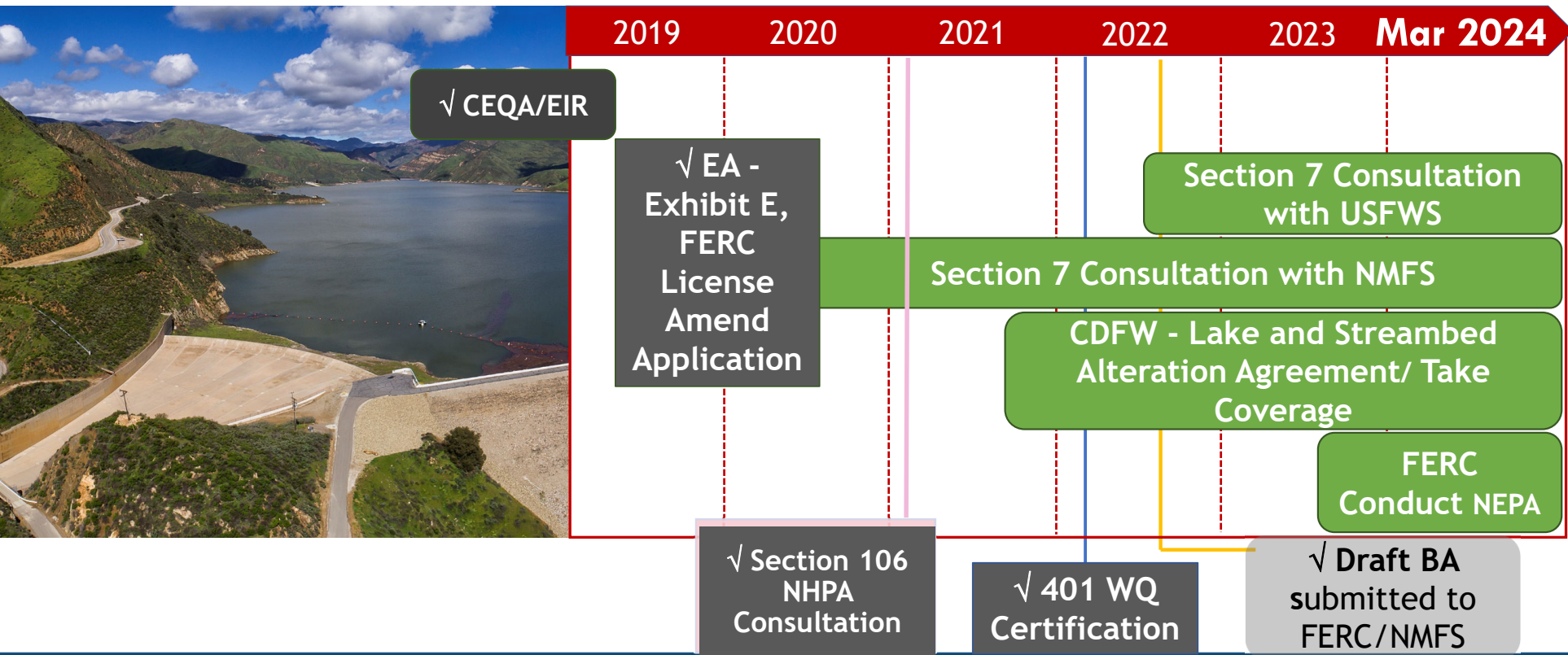


Project Schedule



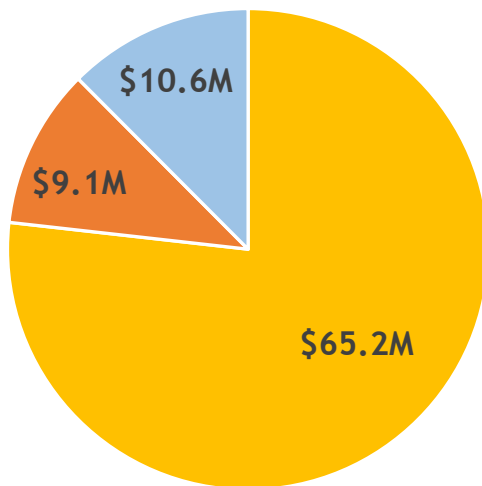
A FERC approved Board of Consultants provides oversight of the design development

Regulatory Compliance and Permitting Timeline

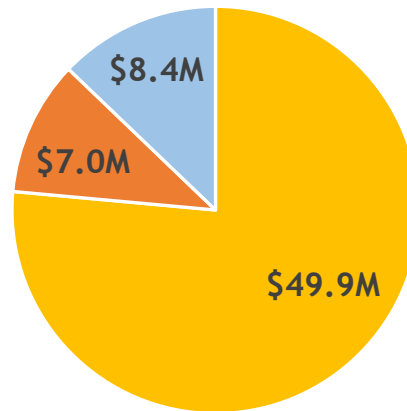


Project Cost

Outlet Works Cost



Spillway Cost



- Design
- Construction
- Construction Management

• Outlet Works	\$84.9M
• Spillway	\$65.3M
• Release Channel	\$1.9M
Total	\$151.1M

Grant Funding and Financial Support

Grant Funding
and Loan
Applications



Hazard Mitigation Grant Program

Application Submitted in Spring 2022
(\$68.3M)



WIFIA Loan

Application Submitted in
Summer 2022 (\$63.6M)



High Hazard Potential Dam Grant

Application Submitted in Summer
2022 (\$163K)



Clean Energy Generation - Hydropower

In Process (Available Funding \$5M)