

2022 SWP Construction Project Updates

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CALIFORNIA DEPARTMENT OF
WATER RESOURCES

Projects to be Discussed

- SWP Fire and Life Safety Modernization
- SWP Physical Security Upgrades
- Salmonid Habitat Restoration and Fish Passage (Big Notch)
- California Aqueduct Canal Liner and Embankment Repairs
- California Aqueduct Radial Gate Maintenance and Repairs
- Montezuma Slough Radial Gates Refurbishment
- Bethany Dams Restoration and Rodent Burrow Prevention
- Clifton Court Forebay Initial Burrow Remediation and Maintenance
- Oroville Dam River Valve Outlet System Rehabilitation
- Gianelli Pumping – Generating Plant Unit Refurbishment
- Dos Amigos Pumping Plant Unit Refurbishment and AVR Replacement
- Emergency Drought Barrier – West False River
- SB 626 – New SWP Construction Delivery Authorization



SWP Fire & Life Safety Modernization

Program implemented in response to the 2012 Thanksgiving Day fire at Thermalito (Robie) Pump-Generating Plant

Project Scope:

- Fire detection and alarms
- Fire suppression systems
- Protected egress routes
- HVAC modifications
- New domestic and water lines
- Emergency responder communications



SWP Fire & Life Safety Modernization (cont.)

Project Status:

Oroville Field Division

- Thermalito - completed.
- Hyatt - Project closeout in progress and to be completed by December 2022.

San Luis Field Division

- Built Environment and Archeological Report (Cultural Report) is under review by USBR. USBR to submit Cultural Report to SHPO early November 2022 for review and approval.
- CEQA NOP and Environmental Permits expected to be obtained by early December 2022.
- Construction to begin June 2023.

San Joaquin Field Division

- Design is ongoing with 30% plans completed for O&M Center, Lost Hills Sub-Center, Buena Vista PP, Teerink PP, and Chrisman PP.
- Procurement of CM/GC is in progress with construction planned to begin January 2025.



SWP Physical Security Upgrades

Program implemented to upgrade physical security systems at each Field Division throughout the State Water Project (SWP)

Project Scope:

- Security Operations Centers
- Guardshacks
- Impact rated gates, bollards
- Security fencing and cameras
- Hardened doors and windows
- Key card readers and door contacts



SWP Physical Security Upgrades

Project Status:

Oroville Field Division

- Upgrades installed at Oroville Dam, Hyatt, Thermalito Diversion Dam, O&M Center.
- Project closeout in progress and to be completed by March 2023.

Central contract Phase I (Delta and San Luis Field Divisions)

- Final design complete. Finalizing permit approvals for upgrades at Banks PP, Bethany Dam, Dos Amigos PP, and O&M Center Entrances.
- Contract advertising end of 2022, construction early 2023.

South contract Phase I (San Joaquin and Southern Field Divisions)

- 95% design complete. Beginning permitting applications for upgrades at Chrisman PP, Edmonston PP, Oso PP, Pearblossom PP, and O&M Center Entrances.
- Contract advertising fall of 2023, construction anticipated to start in 2024.



Salmonid Habitat Restoration & Fish Passage (Big Notch)

Project implemented to create critical floodplain habitat for juvenile fish and improve a migration corridor for adult fish required by the SWP Biological Opinion and Incidental Take Permit.

Project Scope:

- Intake Channel
- Headworks Structure & Control Building
- Transport Channel
- Pedestrian Bridge
- Electrical / Communications Connection to Adult Fish Passage Facility

Project Status:

- Contract awarded May 2022
- Construction completion November 2023



California Aqueduct Canal Liner and Embankment Repairs

Governor Edmund G. Brown California Aqueduct is approximately 700 miles in length with over 400 miles of canal

Repair sites were identified through SWP Condition Assessment Teams and were prioritized based upon risk.



California Aqueduct Canal Liner and Embankment Repairs (cont.)

Project Scope:

- 52 Sites completed 2022
- 40 Sites planned 2023
- Multiple panel replacement and repair methodologies
- Repairs scheduled based on operational constraints
- Project planned completion 2025



California Aqueduct Radial Gate Maintenance and Repairs

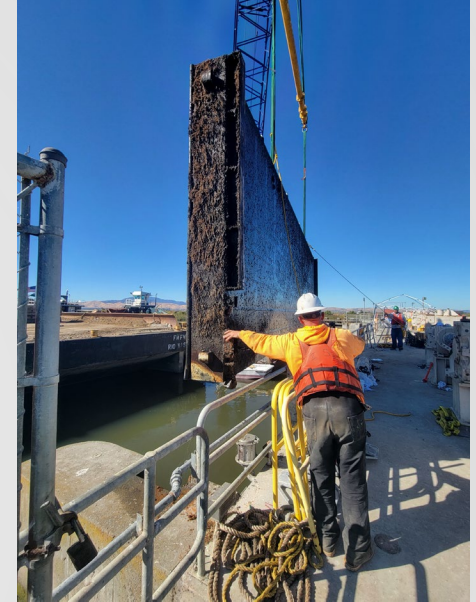
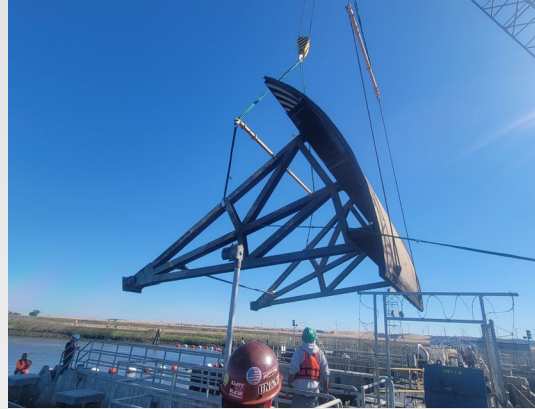
Ongoing improvements to condition assessment, maintenance, refurbishment and replacements to the radial gates along the CAAQ.



Montezuma Slough Radial Gates Refurbishment

Project Scope

- Refurbish all three gates at the Salinity Control Structure – Montezuma Slough
- Repair and recoat gate trunnions
- Fabricate stoplogs for bay isolation during gate outage
- Perform maintenance and repairs on gate hoists/gearboxes



Project Timeline

- Project was initiated in 2019 and began with stoplog design and fabrication
- All onsite work must occur between August-October of each year due to environmental permitting requirements
- Limited to work on one gate at a time due to environmental regulations and DWR operations
- Three stoplogs have been fabricated and are currently in service during gate outages
- Gate 3 has been refurbished and reinstalled
- Gate 1 is currently out and in shop for refurbishment and will be installed in August 2023
- Gate 2 will be the final gate to be refurbished and is expected to be finished by Sep/Oct 2024.



Bethany Dams Restoration and Rodent Burrow Prevention

Project Scope:

- Ensure dam safety and address Director's Safety Review Board recommendation by refacing dam with wire mesh and armoring with rip rap.
- Construction completed in 2022 on schedule.
- Included parking lot improvements for public recreation and access.



Photo by K. Grow, DWR Public Affairs Office



Clifton Court Forebay Initial Burrow Remediation and Maintenance

Project Scope:

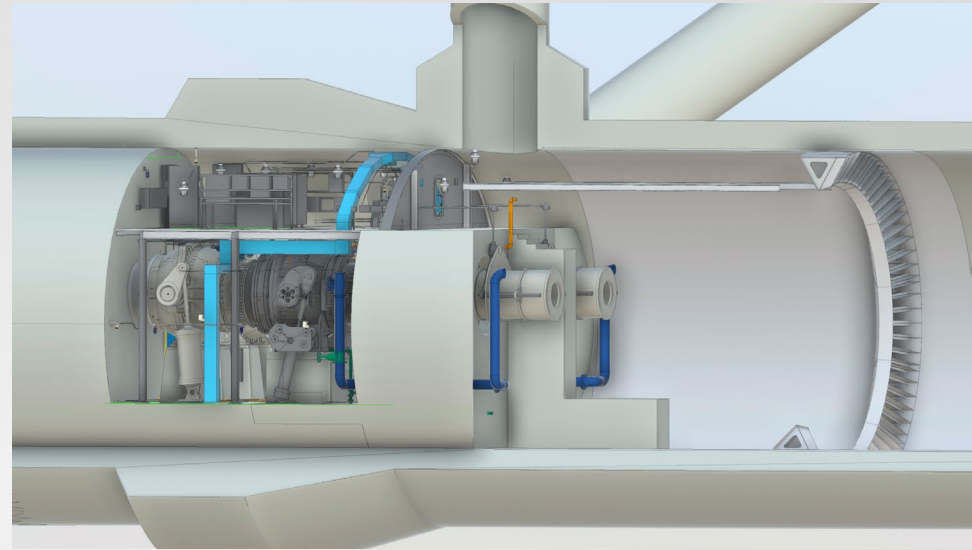
- Acquire necessary permits and perform rodent burrow maintenance at Dyer, Patterson and Clifton Court Forebay Dams
- Permits for Clifton Court Forebay Dam were received in September (20-month effort)
- Contractor has initiated work in October, expected to be completed by end of year
- Enhanced monitoring performed at all three dams until maintenance accomplished
- Significant mitigation costs



Oroville Dam River Valve Outlet System Rehabilitation

Project Scope:

- Procure two 72” Spherical Valves
- Install new spherical valves to provide additional isolation, in a 12-month construction schedule.
- To include demolition & reconstruction of thrust block, pressure relief wall, and existing hydraulic & electrical equipment.
- Will include new hydraulic system, electrical system, ventilation system & seat water system.



Timeline:

- Project is a multi-year planning effort requiring DSOD & FERC approval
- New Spherical Valves completed by Andritz Hydro and delivered to site June 2022
- Installation contract awarded in May 2022
 - * Phase I construction activities underway now, including ventilation, lighting and overhead crane rail installation
 - * Phase II construction start dependent on favorable water year



Gianelli Pumping-Generating Plant (PGP) Unit Refurbishment

Project Scope:

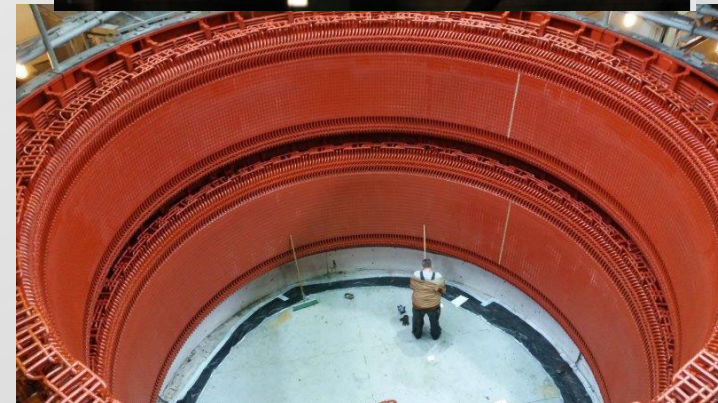
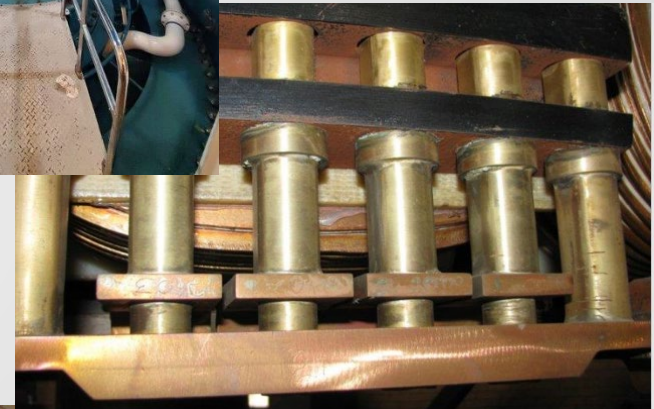
- Redesigning, replacing, and refurbishing rotating and embedded components to Original Equipment Manufacturer (OEM) Design
- Components are at the end of their service life
- Completed seven-out-of-eight-unit refurbishments to date

Equipment:

- Pump-turbine embedded components, head cover, and impeller refurbished to OEM Design
- Install new packing box and equalizing lines
- Discharge valve refurbishment (156" butterfly valve)
- Stator cores unstack/restack with new laminations and hardware to address issues with the core clamping system
- Stators winding replacement
- Rotor poles redesign and refurbishment, 120 RPM Units

Timeline:

- Project is a multi-year effort to complete the eight Units at Gianelli PGP. On schedule to complete Unit 4 in 2024



Dos Amigos Pumping Plant Unit Refurbishment and AVR Replacement

Project Scope:

- Redesigning, replacing, and refurbishing rotating and embedded components to Original Equipment Manufacturer (OEM) Design
- Components are at the end of their service life

Equipment:

- Refurbish Blade Trolley Cart, Impeller Stand, & other specialized maintenance equipment
- Deriaz variable pitch pump unit refurbishment
- Rotor poles redesign and refurbishment
- Automatic Voltage Regulators (AVRs) replacement
- Completed Stator Platform for maintenance access

Timeline:

Project is a multi-year effort to complete the six Units at Dos Amigos Pumping Plant, approximately one unit every two years. First unit (U3) scheduled for completion by end of 2023.



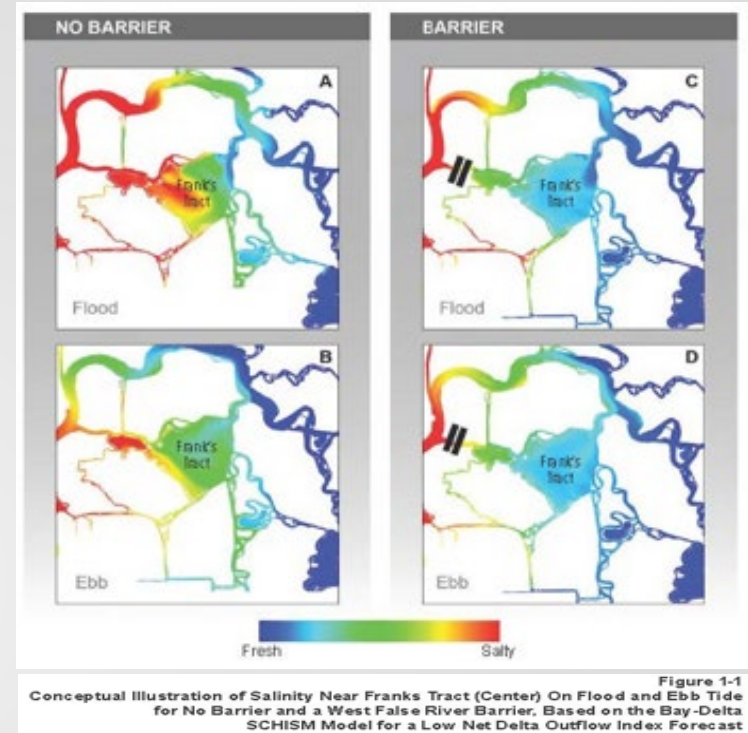
Emergency Drought Barrier, West False River

Background/Need:

- Extreme drought conditions
- Governor declares drought emergency
- The WFR barrier mitigates negative impacts of drought emergency and slows salinity intrusion with the release of less fresh water

Timeline:

- Decision to install barrier made on May 5, 2021
- Construct barrier June 3 to June 23, 2021
- Construct notch January 2022
- Refill notch April 2022
- Start of rock removal October 15, 2022
- Fully remove barrier by November 30, 2022



SB 626 – New SWP Construction Delivery Authorization

Background:

- 2 Additional Public Works Construction Procurement Methods
 - Construction Management/General Contractor (CM/GC)
 - Design – Build (DB)
- Effective: January 1, 2022
- Authorization ends: January 1, 2033
- Limited to projects necessary for the construction, maintenance, or operation of elements of State Water Facilities
- Not authorized for Delta Conveyance
- Limited to 7 projects under each procurement method



SB 626 – New SWP Construction Delivery Authorization

Updates:

- Workshops and Training
 - Project Delivery Selection Method (PDSM) Workshop
 - Project suitability evaluation and 2022 Pilot Project identification efforts
 - Initial (formal) training for SWP Staff on Collaborative Delivery
- CM/GC Pilot Project Procurement Development (2022)
 - Chippis Island Tidal Habitat Restoration
 - San Joaquin Field Division Fire and Life Safety Modernization
- Options for Design-Build Pilot Project (2023 Procurement)
 - Electric Vehicle Charging Station Phase 3



QUESTIONS?

