Anderson Dam Tunnel Project

Prequalification Conference (Optional)

August 27, 2020
Project Background
Anderson Dam Location & Existing Components

[Image: Diagram showing the location of Anderson Dam and its components, including spillway, outlet pipe, dam crest, and dam embankment.]

San Jose

Outlet Pipe

Dam Crest

Dam Embankment

Valley Water
Project Background
Anderson Dam Seismic Retrofit Project

• Anderson Dam forms Anderson Reservoir holds 90,000 acre-feet of water when full and is the largest of Valley Water’s reservoirs.

• In 2012, following a seismic stability analysis, Valley Water began plans to retrofit the dam to meet current safety standards, creating the Anderson Dam Seismic Retrofit Project (ADSRP)

• In 2016, following geotechnical and geological investigations during the design phase it became apparent that an extensive remediation involving the removal of most of the dam embankment and its replacement will be necessary. Also, after the 2017 incident in Oroville, the Anderson spillway was evaluated, and replacement to meet current safety standards will also be undertaken.

• The ADSRP design phase is currently developing the 90% documents.
Anderson Dam Seismic Retrofit Project Components

- **ADSRP Replace Spillway**
- **ADSRP Low Level Outlet Works**
- **ADSRP High Level Outlet Works**
- **ADTP Diversion System**

- **ADSRP Remove all liquefiable material and reconstruct embankment**
Project Background
Valley Water Response to FERC Order

On February 20, 2020, the Federal Energy Regulatory Commission (FERC) issued an Order to Valley Water to undertake early implementation of interim risk reduction measures associated with ADSRP immediately, which are as follows:

• Immediately lower the reservoir to a restriction elevation of 565 feet;

• Lower reservoir to deadpool beginning no later than Oct 2020;

• Expedite design and construct a new outlet tunnel (Anderson Dam Tunnel Project); and

• Implement dam safety directives while securing water supplies and minimize environmental effects until completion of the ASDRP.

• In June 2020, Valley Water creates the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project (FOCP) and adopts a CEQA Exemption to safely drain and maintain the lowest practicable reservoir operating level while minimizing water supply and environmental impacts.
Anderson Dam FOCP
Objectives

Minimize impacts to the environment and water supply from revised interim operations of Anderson Reservoir prior to the construction of the ADSRP.

Provide the ability to better control the operating water surface elevation within Anderson Reservoir.

Reduce public safety risk to communities downstream of Anderson Dam prior to the construction of the ADSRP.

Safely, reliably and expeditiously drawdown Anderson Reservoir and maintain a lower water surface elevation.
Anderson Dam FOCP
Project Construction Delivery

The construction improvements for the Anderson Dam FOCP all must be completed prior to initiating construction for the ADSRP and have been grouped into 5 construction sub-projects:

• Anderson Dam Tunnel Project;
• Coyote Percolation Dam Replacement Project;
• Cross Valley Pipeline Extension Project;
• Coyote Creek Flood Management Measures Project; and
• Coyote Creek Stream Augmentation Fish Protection Measure Project
Project Description
Anderson Dam Tunnel Project

The ADTP consists of the following improvements:

- Anderson Dam Diversion Tunnel;
- Coyote Creek & Bank Erosion Modifications;
- Anderson Reservoir Band and Rim Stability Improvements; and
- Anderson Dam Existing Intake Structure Modifications.
Project Site Overview
Anderson Dam Site Area

EXISTING INTAKE STRUCTURE MODIFICATIONS

ANDERSON DAM TUNNEL IMPROVEMENTS

COYOTE CREEK CHANNEL AND BANK EROSION CONTROL MODIFICATIONS
Rim Stability Improvements

Potential Road Maintenance

Potential Landslide Mitigation
ADTP Diversion System Plan

MTBM Lake Tap
STA 3+20 to 3+50
3” Steel Pipe

MTBM Operation Chamber
STA 3+50 to 4+50
Contractor Designed 19-foot Horseshoe

Diversion Tunnel
STA 4+50 to 17+60
19-foot Horseshoe

13” Steel Pipe
STA 13+50 to 17+60

Diversion Outlet
2 - 11” Fixed Cone Valves
1 - 2” Sleeve Valve

Valley Water

ADTP Sheet C-001
ADTP Diversion System Profile

ADTP Sheet C-001

ADTP Sheet C-002
ADTP Diversion Tunnel Geology
Baseline for E&S Classes will be:

- III - 30%
- IV - 55%
- V - 15%
Diversion Tunnel/LLOT Transition – Initial Support
ADTP Lake Tap Intake – Dredging

ADTP INFORMATION FOR PRE-QUALIFICATION

NOT FOR CONSTRUCTION

John radcliff

DESIGN OF DRAINAGE AT BREAKOUT LOCATIONS

1. EXCAVATION AT BREAKOUT LOCATIONS TO BE DESIGNED AND CONSTRUCTED IN CONJUNCTION WITH THE INTENTION TO REMOVE THE MACHINE IN THE WET SEE SHEET DESIGN.

2. REFER TO SECTION 14 OF SPECIAL PROVISIONS FOR RESERVOIR LEVELS DURING CONSTRUCTION.

3. REFER TO SHEET 2-100 FOR DREDGING ORIGINAL OUTLINE.

4. PROVIDE SLT CURVATURE AROUND AREA OF DREDGING AND AREA OF DREDGING ORIG.

SURFACE. SLT CURVATURE TO BE DESIGNED PER SHEET 2-100 FOR AREA OF DREDGING AND SLT CURVATURE TO SPECIFICATION SHEET 2-100 FOR SLT CURVATURE REQUIREMENTS.

5. 10 FEET OF 6 INCH STEEL DRAINING DRAINING IN EXISTING HOLE TOP OF DRAINING MAY BE EROSION UP ARED RAINING.
ADTP Diversion Tunnel Final Lining Sections

UPSTREAM 400'

MIDDLE 900'

DOWNSTREAM 400'

ADTP Sheets C-016, C-017
Future Connections to ADSRP HLOW and LLOW
Future Connection to ADSRP HLOW

HLOW Drop Shaft
ADTP – High Level Construction Sequencing

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The chart shows the sequencing for the years 2021 and 2022.
Overall Project Schedule (Tentative) – ADTP & ADSRP
Questions ?

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