AUTHORITY BOARD
AGENDA ITEM 3.4
ENGINEERING FEASIBILITY APPROACH

AUGUST 26, 2020

Sites

Improved Cost Estimate Certainty

- Value planning efforts resulted in an estimated project cost savings of over $2 Billion
- Progression of feasibility design has resulted in identification of technical data gap that may influence design assumptions and project cost estimate
- A high-level gap analysis was prepared on the focus areas that may have the greatest near-term impact on project feasibility and cost certainty

Improved Cost Estimate Certainty: Geologic and geotechnical data

- Uncertainty
  - Feasibility design and assumptions are currently based on limited historical geologic and geotechnical data
- Implications
  - Insufficient geologic and geotechnical data may misinform design approach, which affects project cost and affordability certainty
- Mitigation Strategy
  - Staff is coordinating with the Bureau of Reclamation for support of additional geologic and geotechnical investigations to inform and verify feasibility design

Improved Cost Estimate Certainty: Colusa Basin Drain (CBD) Feasibility

- Uncertainty
  - It has not been verified if the CBD can accommodate project releases of up to 1,000 cfs
  - If the CBD cannot accommodate project flows, then alternative project features will need to be design and constructed for releases to the Sacramento River
- Implications
  - Difference in cost certainty between the alternatives
- Mitigation Strategy
  - The engineering team is currently preparing a hydraulic model of the CBD to verify conveyance capacity and identify potential hydraulic impacts

Improved Cost Estimate Certainty: Emergency Drawdown and Release Impacts

- Uncertainty
  - Regulatory requirements for emergency drawdown releases may result in localized flooding, but the extent is currently unknown
- Implications
  - The need for flood easements and/or impacts mitigation may increase project cost
- Mitigation Strategy
  - As part of upcoming Phase 2 work, the engineering team will perform a flood analysis of the release areas to determine the extent of impacts due to emergency drawdown releases
  - This analysis will inform requirements for coordination with property owners to obtain flood easements and/or refine project components

Improved Cost Estimate Certainty: Power Transmission and Delivery

- Uncertainty
  - Pacific Gas & Electric (PG&E)
    - Potential transmission and power delivery provider
  - Western Area Power Administration (WAPA)
    - Can provide transmission, but no capacity for power delivery
  - There has been minimal coordination for interconnection with PG&E or WAPA facilities
- Implications
  - There is insufficient data regarding PG&E and WAPA facilities to inform design and cost estimates for project interconnection
- Mitigation Strategy
  - Staff has initiated contact with PG&E and WAPA. Next steps include submitting interconnection application with PG&E and WAPA to perform required studies that will inform facilities design and cost estimates

Improved Cost Estimate Certainty: Salt Lake

- Uncertainty
  - Saline water has been observed to seep from underground springs in the vicinity of the valley floor within the proposed inundation area of Sites Reservoir
    - Forms Salt Lake
    - Wetted area is seasonal and varies from 0 to 30 acres
- Implications
  - Mitigation measures for Salt Lake may be required for regulatory approvals
    - Affects permit ability and cost certainty
- Mitigation Strategy
  - The project team is working on identifying mitigation approaches to present for regulatory concurrence

Improved Cost Estimate Certainty: Agency Coordination and Review

- Uncertainty
  - DWR DSOD approvals
    - Geotechnical investigation work plan
    - Design criteria / dam type selection
- Implications
  - DWR DSOD concurrence of jurisdictional project features are required for project acceptance
- Mitigation Strategy
  - The engineering team will develop and execute an engagement plan with DWR DSOD as part of the upcoming Phase 2 work
    - Early engagement will assist with expediting reviews and acceptance of project features
    - Provide better assurance of cost certainty as part of early design efforts

Improved Cost Estimate Certainty

- Operations and Engineering Workgroup identified an additional consideration – material needs and source sufficiency
- Focus areas will be priority for the upcoming Phase 2 work
- A well-developed feasibility study is essential for obtaining project cost certainty and affordability