Engineering, Operations, & Technology Committee

Mills and Jensen Finished Water Reservoir Rehabilitation

Item 7-1

January 13, 2025

Item 7-1
Mills & Jensen Finished Water Reservoir Rehabilitation

Subject

Authorize an increase of $5.55 million to an agreement with Arcadis U.S. Inc. for a new not-to-exceed total amount of $7.55 million for final design to rehabilitate the finished water reservoirs at the Henry J. Mills and Joseph Jensen Water Treatment Plants

Purpose

Improve the reliability of the Mills and Jensen reservoirs

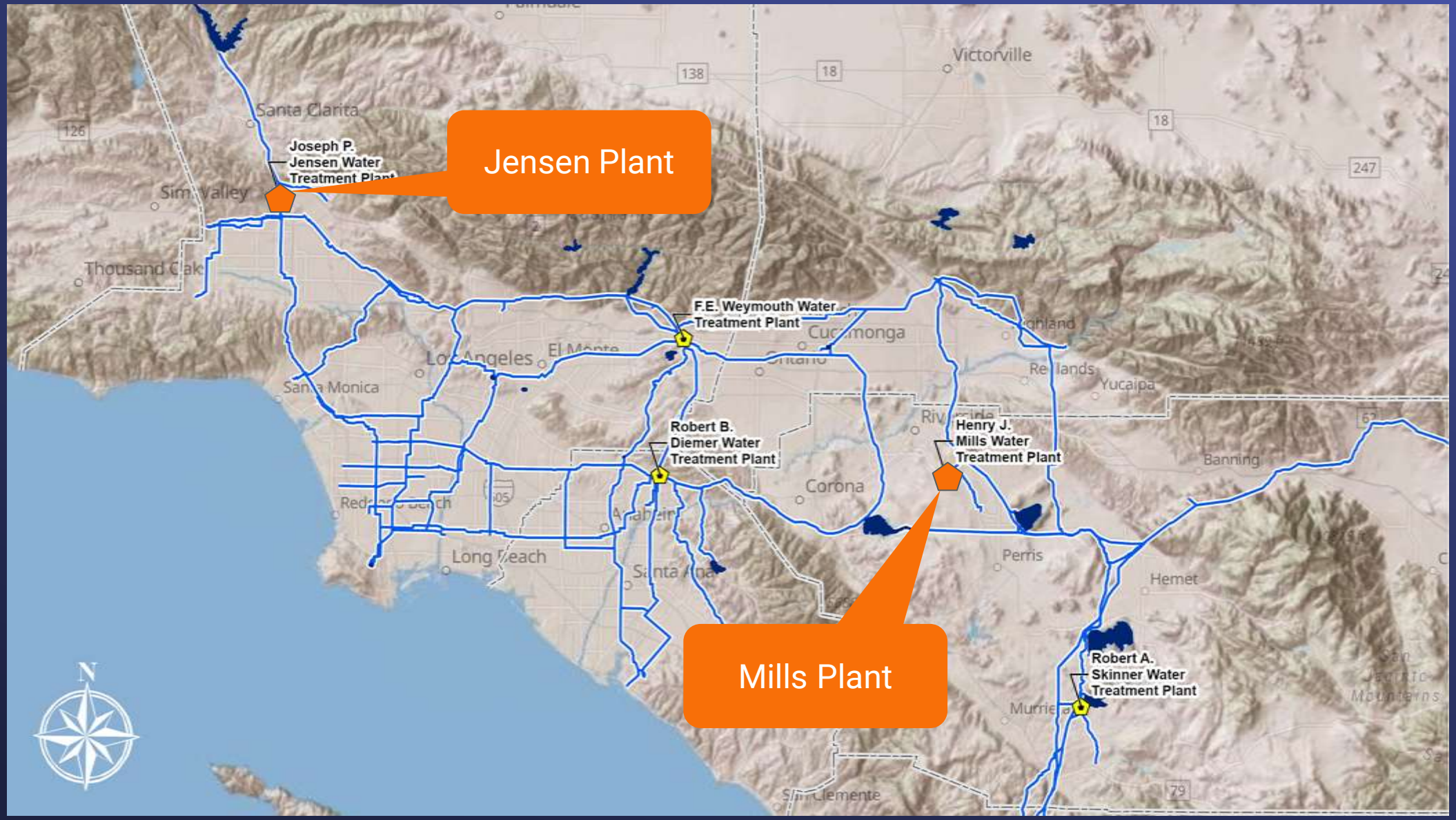
Recommendation and Fiscal Impact

Authorize an amendment to an existing agreement for final design of finished water reservoirs at the Mills and Jensen plants

Fiscal Impact of $8.4 Million

Budgeted

Location Map



Finished Water Reservoirs

Henry J. Mills Water Treatment Plant

Joseph Jensen Water Treatment Plant

Mills & Jensen Finished Water Reservoir Rehabilitation

Floating Covers

- Mills & Jensen finished water reservoirs floating covers were installed in 1996 & 1997
  - Mills classified as a jurisdictional dam under DSOD
- Floating covers at both plants have exceeded the recommended 20-year service life

2024 EOT inspection trip at Mills reservoirs

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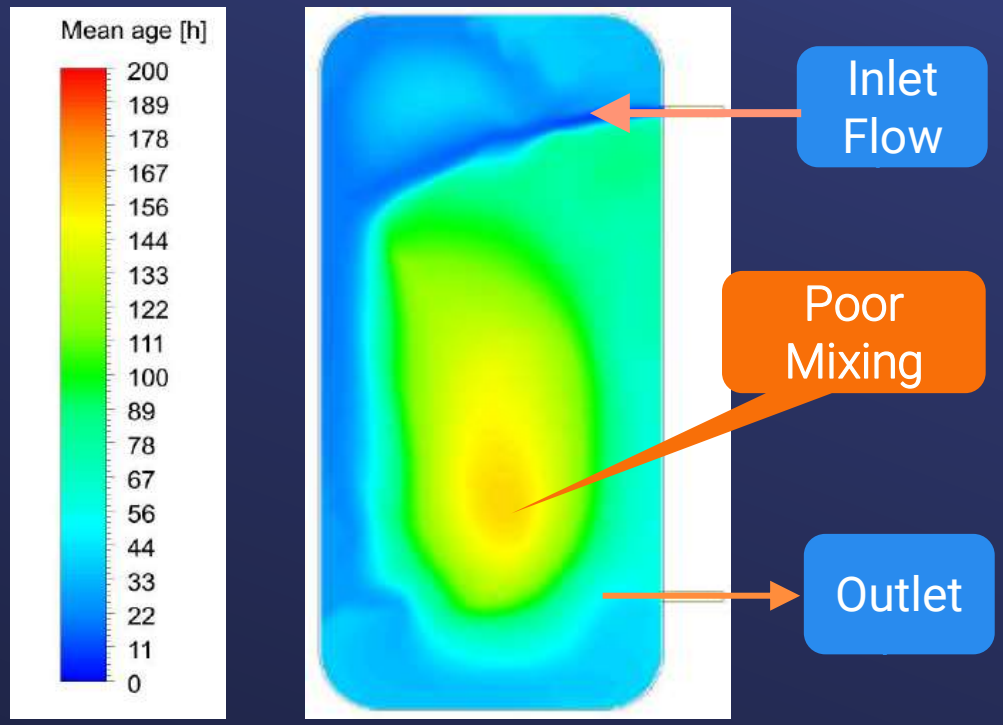
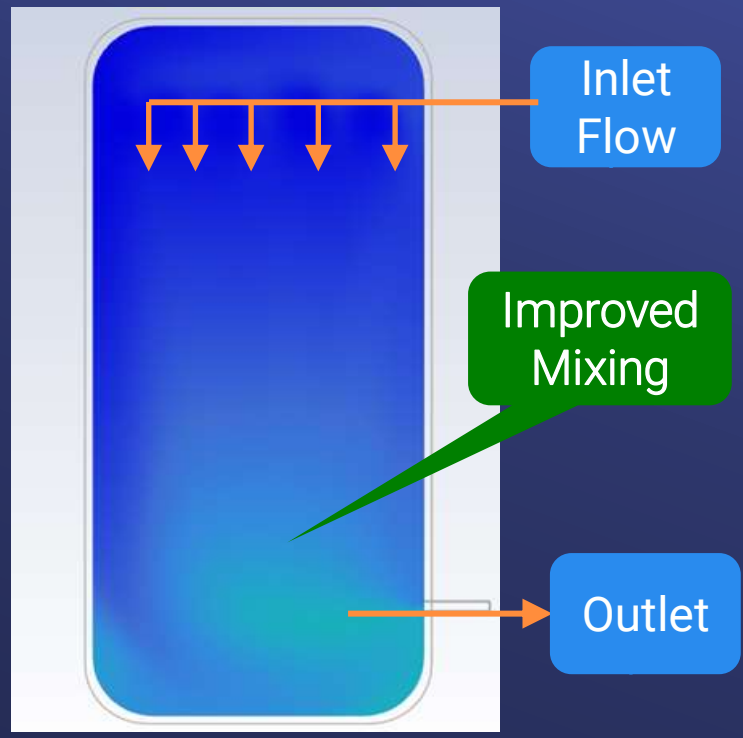
Finished Water Reservoir Rehabilitation

Mixing Improvements

- During low flow conditions, poor water circulation in the reservoirs can lead to potential water quality challenges including nitrification
- Hydraulic modeling shows that inlet flow modifications can improve mixing and reduce water age



Existing Mills FWR No. 2



Proposed Configuration for Mills FWR No. 2

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Other Critical Components

- Slide isolation gates & actuators
- Motor control center electrical panels & structures
- Water quality sample lines & sampling equipment structure
- Rainwater & dewatering systems

Existing Gate at Mills FWR No. 1

Outlet at Mills FWR No. 1

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Reservoir
Rehabilitation

Planned Improvements

- Reservoir rehabilitation
  - Implement inlet flow modifications to improve water mixing
  - Replace floating covers & liners
  - Replace instrumentation & control panels
- Upgrades to other critical components
  - Water quality sample & testing equipment
  - Reservoir isolation gates
  - Upgrade rainwater & dewatering systems

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Alternatives Considered

- Metropolitan staff to complete all final design activities
  - Resource needs exceed staff availability, additional specialized simulation expertise required
- Selected Alternative
  - Use both a professional services agreement to perform specialized portions of design & staff to perform instrumentation design

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Arcadis U.S. Inc. – Agreement

- Competitively selected under RFP No. 1328 for preliminary design
- Recommended amendment
  - Perform final design
    - Preparation of drawings & technical specs
    - Construction cost estimate
  - Amendment amount: $5.55 M
  - New NTE amount: $7.55 M
- SBE participation level: 25%

Mills & Jensen
Finished Water Reservoir Rehabilitation

Metropolitan Scope

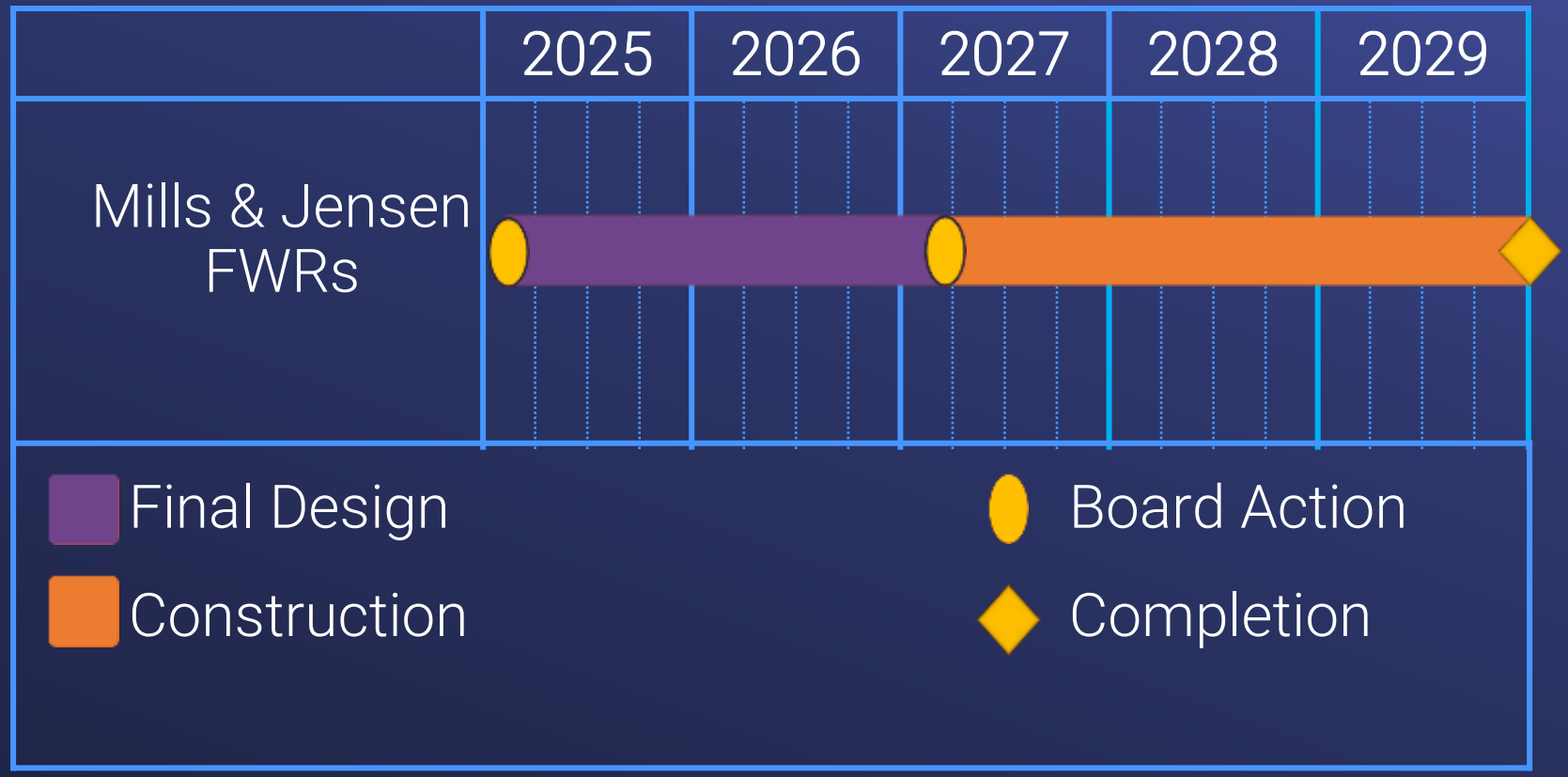
- Piping & instrumentation design
- Project management, permitting, & technical oversight
- Shutdown planning & value engineering

Allocation of Funds

Mills & Jensen Finished Water Reservoir Rehabilitation

Metropolitan Labor	
Final Design	$ 1,420,000
Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)	870,000
Professional/Technical Services	
Arcadis US Inc.	5,550,000
Constructability review	130,000
Remaining Budget	430,000
Total	$ 8,400,000

Project Schedule – Finished Water Reservoir Rehabilitation



Board Options

- Option #1

  Authorize an increase of $5.55 million to an agreement with Arcadis U.S. Inc. for a new not-to-exceed amount of $7.55 million for final design to rehabilitate the finished water reservoirs at the Henry J. Mills and Joseph Jensen Water Treatment Plants.

- Option #2

  Do not proceed with the project at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928