



## One Water and Stewardship Committee

### Update On Treatment Approaches, Contingencies, and Amendments to the High Desert Water Bank Program Agreement

Item 9-3

February 10, 2025

# Item #9-3

## AVEK High Desert Water Bank

### Subject

Update On Treatment Approaches, Contingencies, and Amendments to the High Desert Water Bank Program Agreement

### Purpose

AVEK HDWB Program could store up to 280,000 acre-feet of SWP Table A or other supplies in the Antelope Valley groundwater basin in an account designated for Metropolitan. This is to provide an update status on treatment approaches and amendments on the project agreement.

# Original Authorization



- Board authorized in April 2019
- Capital costs up to \$131 million
- Program size:
  - Storage capacity of 280,000 AF
  - Put/take capability of 70,000 AFY
  - Would more than double existing direct pump-back
- Agreement term: 2019 - 2037
  - 20-year no cost option to extend

# Board Updates and Additional Authorization



- Authorization of additional \$80M for increases to capital costs
  - Total authorization \$211M
- Information on changes to water quality
  - Arsenic concentration, treatment, costs
  - Other constituents of concern
- Additional modeling needed
  - Evaluate recharge and recovery performance
  - Impacts to surrounding wells
  - Potential water quality changes over time and treatment



# Evaluation of HDWB Performance with Phase 3 Groundwater Model

- Modeling confirmed single-year recharge and recovery goal of 70,000 acre-feet
  - Recharge capacities may decrease due to mounding resulting from continuous recharge
  - Recovered volume will depend on the frequency of recovery and available stored water
- Continuous recharge may have impacts to SWP resulting in the need for modification to recharge operations

Evaluation of  
Recharge and  
Recovery  
Performance

# Impacts to Surrounding Wells

## Tejon Ranch Model Simulations

- Nearby Domestic Wells and Tejon Ranch Wells
  - Levels in all nearby wells expected to rise and drop during full recharge and full recovery events
  - May require modification of well operations and potential added costs
  - If necessary, Metropolitan and AVEK will work with Watermaster to develop options to mitigate and monitor potential impacts



# HDWB Groundwater Treatment - Design Development Study

- Objectives
  - Answer key technical questions and prepared an updated cost estimate for arsenic treatment system
  - Develop a conceptual nitrate management option including treatment alternatives and cost

Constituents of Concern	Proposed Treatment Process	Estimated Capital Cost (\$ Million)	Estimated O&M Cost (\$ Million / year)
Arsenic	Coagulation and Sedimentation	\$44M - \$55M	\$6M - \$11M
Nitrate	Ion Exchange	Up to \$250M	\$4M

Water Quality  
Changes and  
Treatment



# Arsenic and Nitrate Treatment Facilities

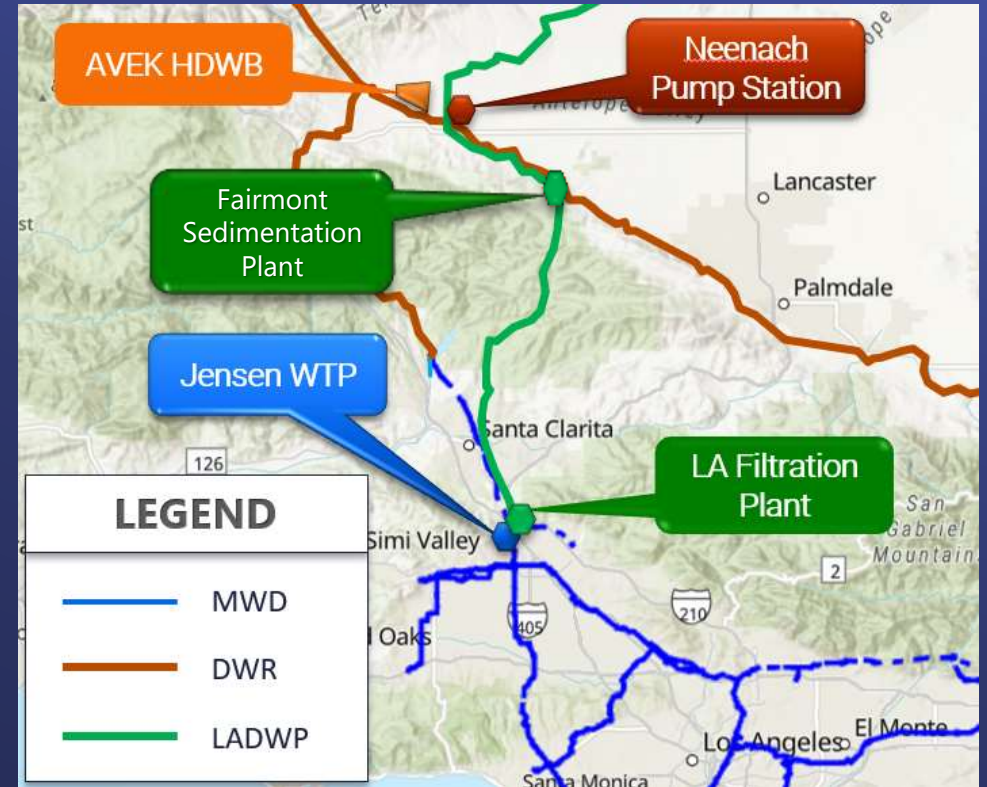
- Identified location within project footprint for construction of arsenic treatment system
- Nitrate treatment facility may be co-located





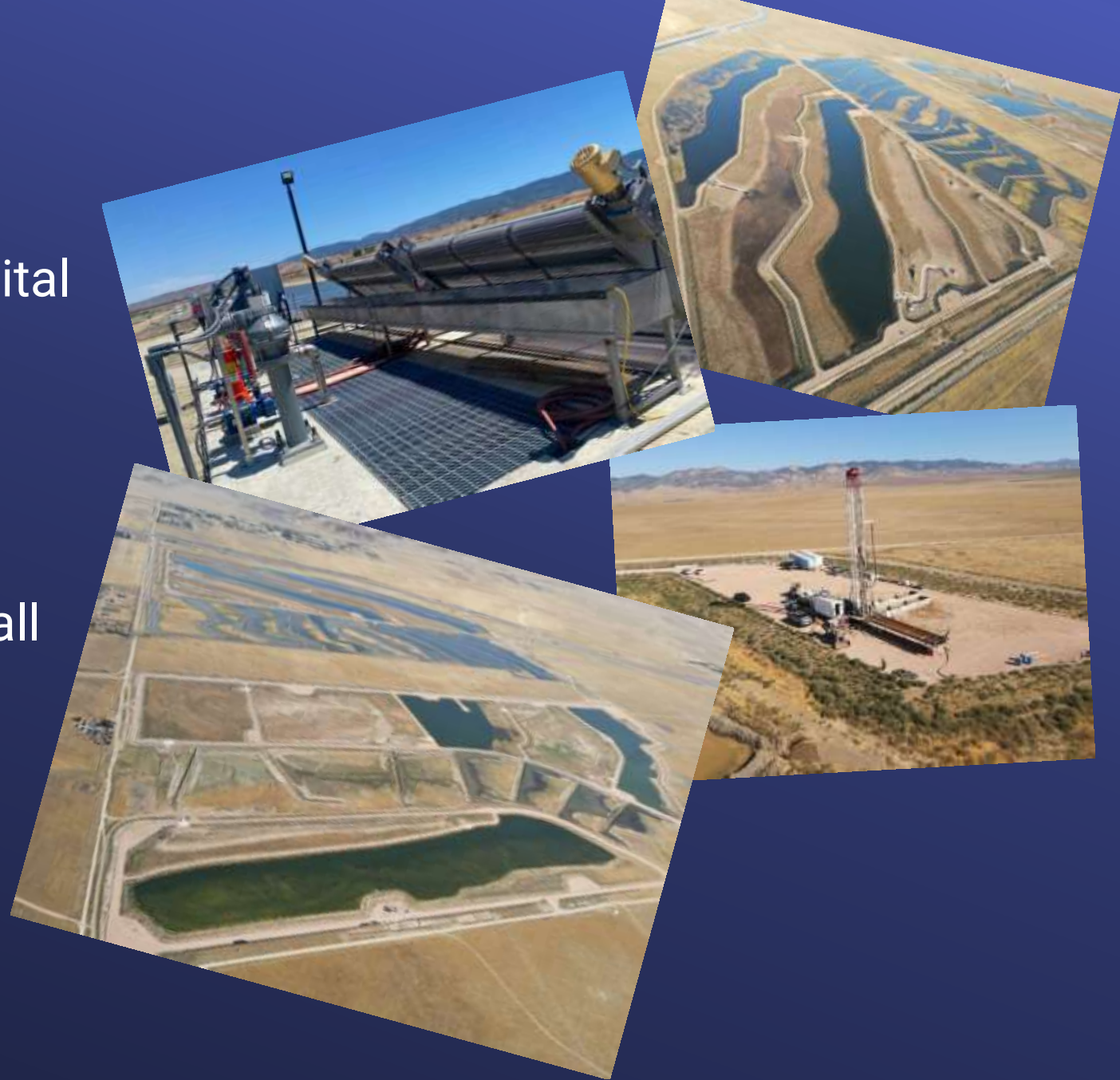
# Potential Partnership with LADWP

- Opportunity to deliver water from HDWB to LA Aqueduct through Neenach Pump Station
- Could address water quality issues
  - Arsenic could be treated at the Fairmont Sedimentation Plant
  - Nitrate levels in LAA with AVEK pump in would not be significantly degraded
- Ability to move water to West side of Metropolitan's service area
- Developing a Memorandum of Agreement to collaborate, explore, and potentially develop a mutually beneficial water supply management solution



# Project Status

- As of January 2025, Metropolitan provided about \$101 million for capital and about \$1 million for O&M
- Completed construction of 10 recovery wells, 5 monitoring wells, pipelines, turn-in/out facilities, and all recharge basins
- Stored about 45,000 acre-feet





# Status of Federal Funding

- Board Authorized entering into agreement with USBR
- System Conservation Implementation Agreement (SCIA) was executed in December 2024
- Eligible for up to \$82 Million
  - In exchange for 168,000 acre-feet of Colorado River water stored in Lake Mead
- Funding will pay for infrastructure such as wells, recovery facilities, water treatment facilities, and on-site power
  - Scheduled payment #1 anticipated in Q3 of 2025
- Update on environmental documents



## Agreement Amendments

February 10, 2025

- Anticipated Changes to the HDWB Program
  - Modification of funding language to include language on debt capacity and debt service coverage, and required payment provisions for HDWB
  - Extend agreement term by 20 years (exercise no cost option already authorized by Board)
  - Include requirements to comply with the SCIA
  - Add new language to include the design changes, operation and maintenance responsibilities and costs, and responsibilities for water treatment facilities



# Summary

- Project has begun recharging and there is stored water in the bank
- Evaluation of models on project performance, impacts on nearby wells, and water quality is almost complete
  - Confirmed treatment process and updated costs for arsenic
  - Identified treatment process and costs for nitrate
  - If necessary, develop options to mitigate impacts
- The Metropolitan and LADWP project partnership could remove the need for direct treatment and move water to the west side
  - The estimated cost for partnership with LADWP is not determined yet
  - Developing Memorandum of Agreement with LADWP

# Next Steps

- Continue to develop Project partnership with LADWP
- Determine whether arsenic and nitrate treatment facilities are necessary
- Complete evaluation of groundwater modeling
- Continue to monitor the USBR funding status
- Additional Board action: Return the Board for additional costs for either treatment or LA partnership option and amendment to the agreements

