



# Water Forward 2024 Water Supply Strategies

Austin Water | 12/10/2025

Water and Wastewater Commission

# Water Forward 2024 Water Supply Strategies



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  - Aquifer Storage and Recovery
  - Brackish Groundwater Desalination
  - Indirect Potable Reuse
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# **Water Forward 2024 Supply Strategies Overview**

# Water Forward 2024 Portfolio



## Utility-Side Water Loss Control

- Production meter improvements
- Expanded active leak detection programs
- Additional analysis of smart meter data

## Customer Side Water Use Management



- Expanded customer incentives for conservation
- Use of smart meter data for customer-side leak identification, education, and outreach
- Water use budgeting



## Native & Efficient Landscapes

- New landscape ordinances & incentives
- Irrigation efficiency incentives
- Landscape conversion programs



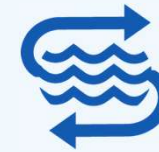
## Non-Potable Reuse

- Onsite Water Reuse Systems
- Decentralized Reclaimed
- Centralized Reclaimed

## Water Supply Storage

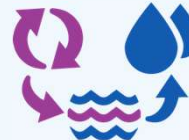


Aquifer Storage and Recovery



Lake Walter E. Long On Channel Reservoir

## Potable Reuse



Indirect Potable Reuse

Strategies reliant on Colorado River and LCRA supplies

## New Water Supplies



Brackish Groundwater Desalination

# Water Supply Strategies



Strategy	2030 - 2080 Portfolios					
	All volumes in max annual yield, acre-feet per year					
	2030	2040	2050	2060	2070	2080
Aquifer Storage and Recovery	0	44,500	44,500	44,500	44,500	44,500
Lake Walter E. Long Reservoir	0	18,300	18,300	18,300	18,300	18,300
Indirect Potable Reuse	***	***	22,400	22,400	22,400	22,400
Brackish Groundwater Desalination	0	0	0	0	20,000	40,000
<b>TOTAL</b>	<b>0</b>	<b>62,800</b>	<b>85,200</b>	<b>85,200</b>	<b>105,200</b>	<b>125,200</b>



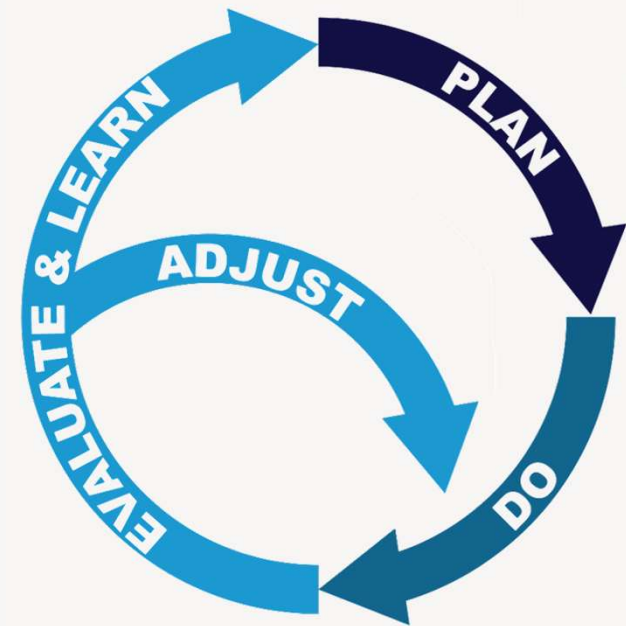
# **Adaptive Management Approach**

# Water Forward 2024

## Adaptive Management Approach



- Update plan every five years using an adaptive management approach
- Between updates: Implement, evaluate and adjust strategies
- Plan alternate pathways to respond to lessons learned and changing conditions



# Adaptive Management Approach



- Excerpt from the Water Forward 2024 Plan

Metric	Adaptation Triggers	Possible Adaptation Actions
Annual strategy yield	Annual strategy yield falls below target levels for two years in a row	<ul style="list-style-type: none"><li>• Identify supply project delivery methods and tasks that can be accelerated</li><li>• Evaluate possible alternative supply project configurations or approaches</li><li>• Accelerate implementation of emergency supply strategies</li><li>• Re-evaluate staffing and funding levels for projects and programs</li></ul>
Strategy implementation progress	Progress falls behind action timeline	
Combined lake storage	Combined lake storage remains below 750,000 AF for four months or longer	

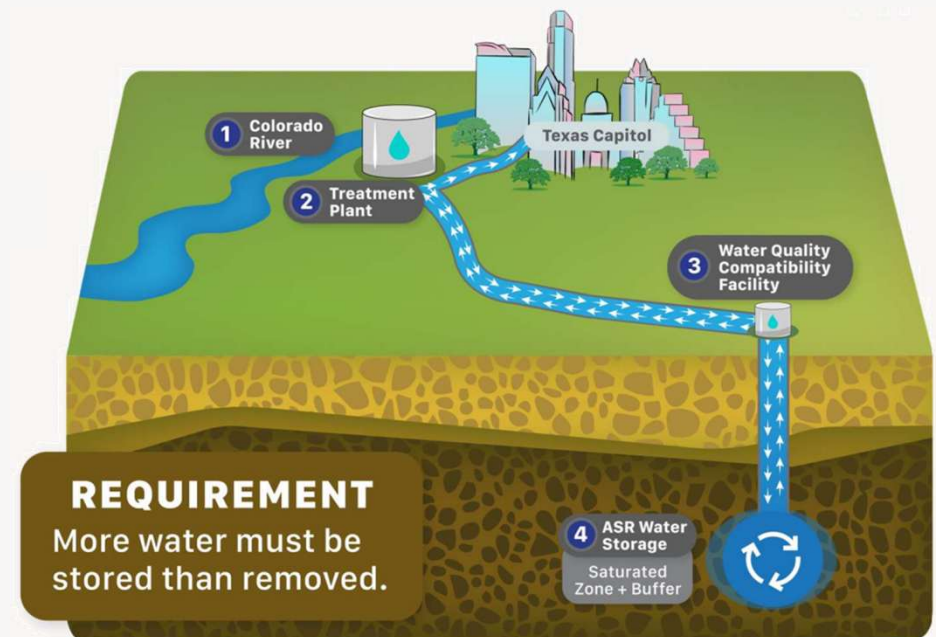


# **WF24 Year One Implementation Updates by Strategy**

# Aquifer Storage and Recovery (ASR) Strategy Description

- Aquifer Storage and Recovery (ASR) is a proven method of safely storing water in an aquifer to use later

1. Austin's Water Supply: Colorado River and Highland Lakes
2. Water Treatment Plants treat water to drinking standards
3. Water Quality Compatibility Facility conditions water to be compatible with aquifer
4. Water pumped underground and stored – more water is always added than used



# Aquifer Storage and Recovery (ASR)

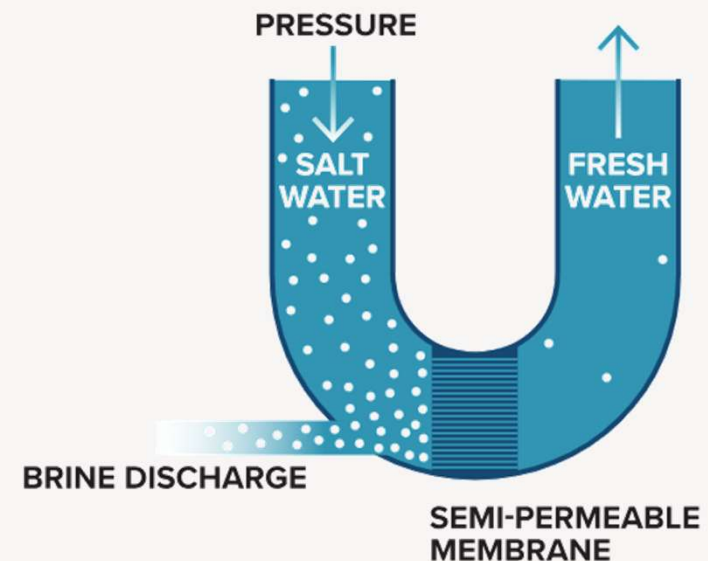


- Nov. 20 Council Item withdrawn (Bastrop County ASR collaboration agreement)
- Field testing for an ASR project in Bastrop County will not proceed
- Austin Water will continue to evaluate other options for field testing for an ASR project
- Near term plans include field testing in eastern Travis County in the Trinity Aquifer on COA-owned land

# Brackish Groundwater Desalination (BGD) Strategy Description

- This strategy involves the withdrawal of brackish (salty) groundwater from deep underground
- Water would be treated by advanced processes such as reverse osmosis to be compatible with Austin's drinking water
- The treatment process creates a very salty byproduct (brine) that requires disposal in accordance with state regulations

## REVERSE OSMOSIS

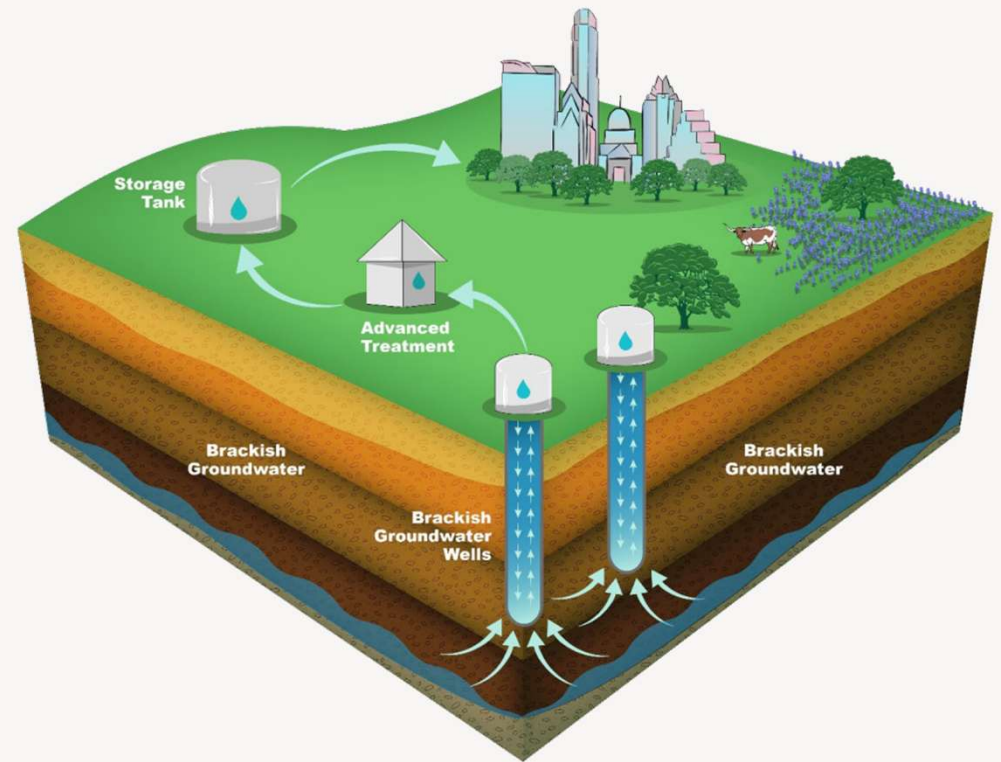


Example Water Desalination Process

# Brackish Groundwater Desalination (BGD)



- Planned to be online by 2070 in Water Forward 2024
- AW is exploring accelerating the timeline for this strategy
- Field testing in eastern Travis County in the Trinity Aquifer will provide data to inform possible piloting



Water Forward Plan includes Brackish Groundwater Desalination project in Travis County.

# ASR and BGD Field Testing



- Revised Phase 1B Field Testing Scope will include field testing for ASR and BGD in eastern Travis County on City-owned land:
  - Design and drill a Trinity-Hosston test well, with groundwater and core sampling
  - Conduct lab analysis of groundwater, core samples, and Austin’s drinking water
  - Form an ASR and BGD Technical Advisory Group (TAG) to support testing
  - Engage the community throughout the process
  - Develop plans for future pilot projects based on test results
- AW will use data to plan projects that meet Water Forward goals, including potential wellfields for both ASR and BGD

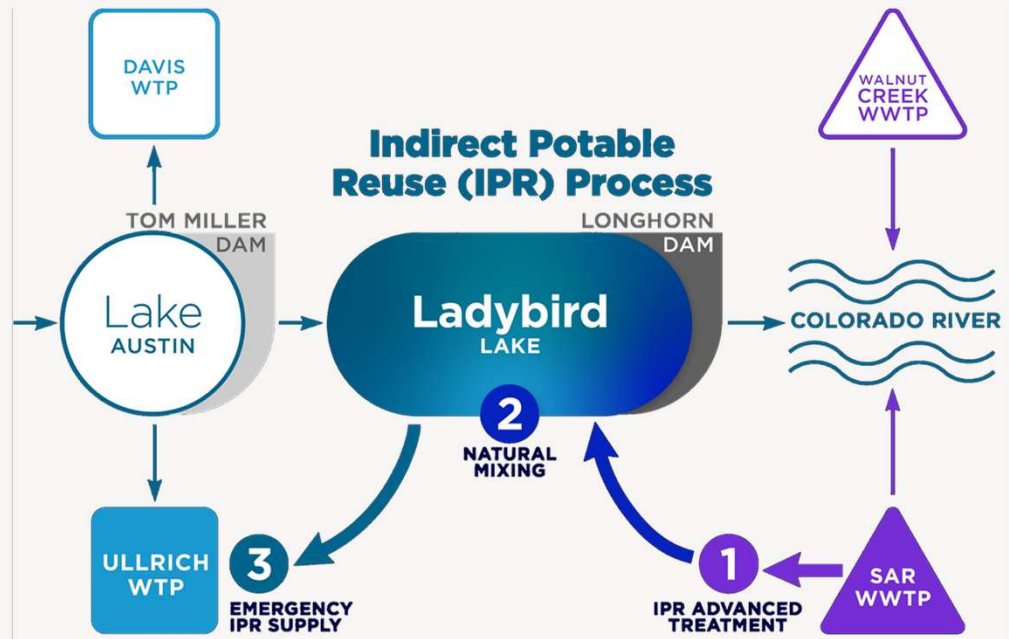
# ASR and BGD Next Steps

- 2026 tasks include:
  - Ongoing coordination with partner departments
  - Additional research and community engagement in eastern Travis County
  - Completing revision of Phase 1B Scope
  - Council action to authorize additional funding for the existing Phase 1B contract
  - Pending Council approval, beginning Phase 1B work to include community engagement, development of a Technical Advisory Group, test well design, and testing



# Indirect Potable Reuse (IPR) Strategy Description

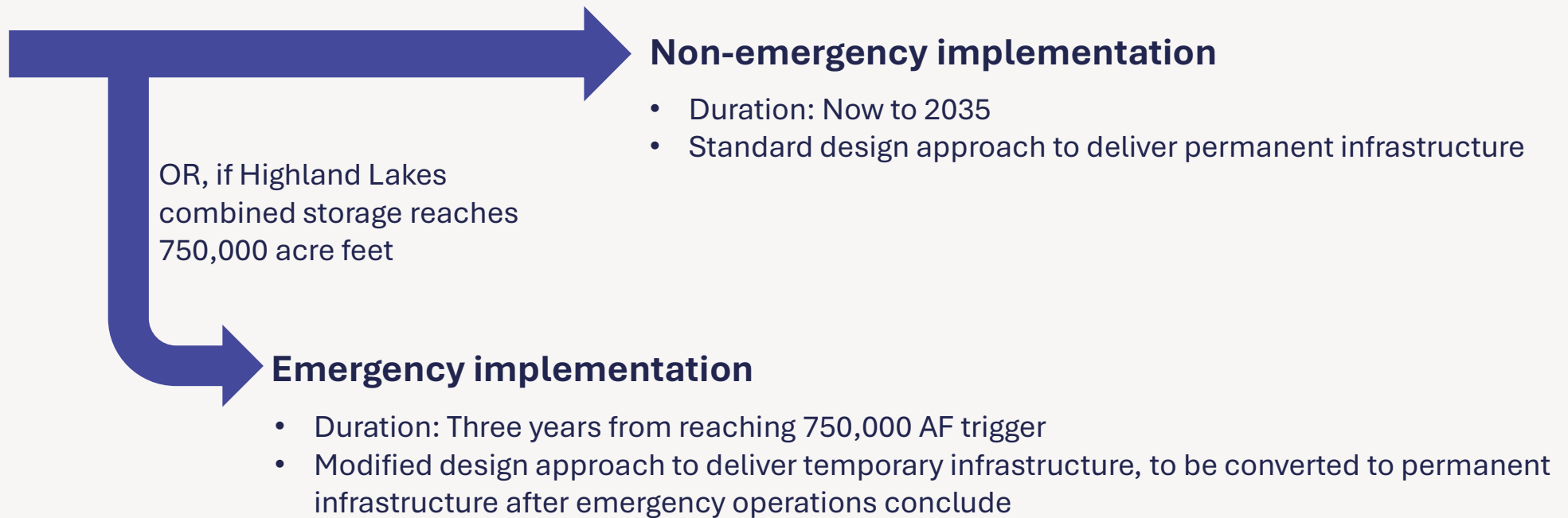
- IPR includes pumping highly-treated reclaimed water from South Austin Regional Wastewater Treatment Plant (SAR WWTP) into Lady Bird Lake via a new reclaimed transmission main
- A new intake and pump station on Lady Bird Lake would then divert water to Ullrich Water Treatment Plant to be treated for potable use
- IPR is planned to be used when Highland Lakes combined storage reaches 400,000 acre-feet



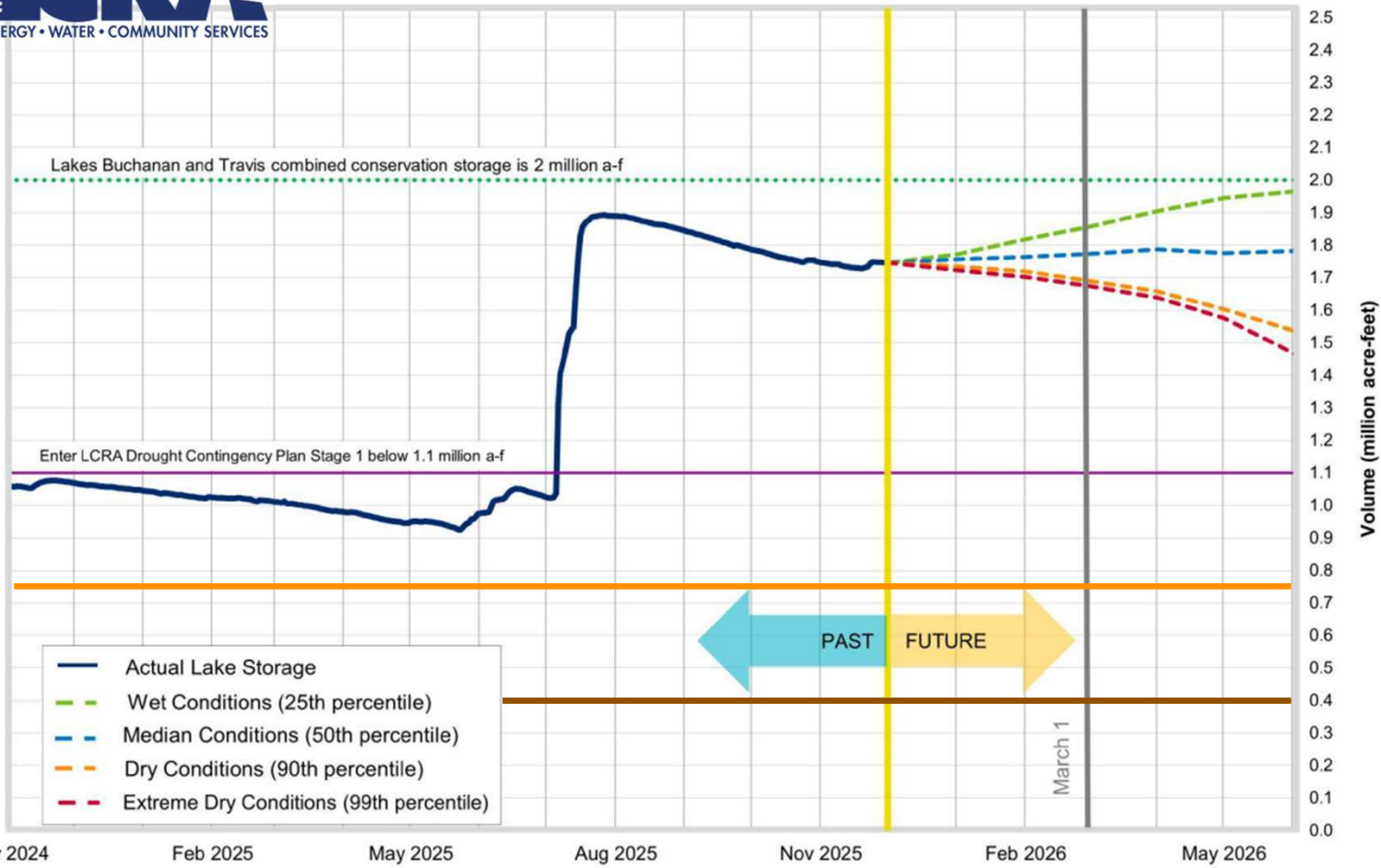
# Indirect Potable Reuse (IPR) through Lady Bird Lake



- Goal: Complete construction before reaching 400,000 acre feet of combined storage
- Strategy to be implemented on one of two pathways:



**Lakes Buchanan and Travis Total Combined Storage Projections**



Date: Dec. 1, 2025

Note: One acre-foot equals 325,851 gallons

750,000 acre feet  
Emergency Implementation

400,000 acre feet  
Emergency Operations

# IPR Current Status



- Based on current water supply conditions, IPR is on a non-emergency implementation pathway
- Three rotation list consultants are developing Project Concept Reports (PCRs) for:
  - Ullrich WTP Intake and Pump Station Facilities on Lady Bird Lake
  - Centralized Reclaimed Transmission Main Routing from SAR WWTP to Lady Bird Lake
  - SAR WWTP Process and Pumping Improvements
- These PCRs will inform program design and construction delivery approach
- Permitting approach will be developed after PCRs are complete
- AW will continue to work with Austin Watershed Protection, Austin Parks and Recreation, and others throughout the project

# IPR Next Steps



- 2026 tasks include:
  - Ongoing coordination with partner departments
  - Completion of IPR Emergency Implementation Plan Document
  - Completion of Project Concept Reports
  - Beginning scope development to deliver project infrastructure components

# Lake Walter E. Long (LWEL) Strategy Description

- This strategy would use Lake Walter E. Long (formed by Decker Dam on Decker Creek) as a water supply reservoir
- Lake would continue to be supplied by Colorado River water and would be operated so that lake levels would fluctuate within a limited five-foot range during drought periods
- Water would be treated for potable use at a new water treatment plant using advanced treatment processes



# Lake Walter E. Long (LWEL)



- In November 2025, TCEQ issued a water right amendment allowing AW to divert up to 16,156 acre-feet per year from the Colorado River to store in LWEL and use for municipal supply
- This strategy provides co-benefits to existing recreation and steam-electric uses.
- 2026 tasks include
  - Ongoing coordination with partner departments (APR, AE, AWP) and community engagement
  - Completing planning-level study
  - Begin water quality sampling
  - Begin Preliminary Engineering Report

# Other Related Efforts



- Lady Bird Lake and Lake Austin Bathymetric and Sediment Surveys
  - Bathymetric and sedimentation surveys of Lady Bird Lake and Lake Austin are underway, with completion expected this winter. TWDB is coordinating with LCRA on final sections near Tom Miller Dam.
  - TWDB is also using sonar to scan intake structures at Ullrich, Davis, and the decommissioned Green WTP
  - A final report is expected in 2026, with preliminary data available earlier to support water supply planning
- Emergency Direct Potable Reuse (DPR)
  - AW and consultant are conducting a planning-level study of DPR as an emergency supply strategy, to be completed in 2026



# Next Steps

# Next Steps



- **Austin Water is using an adaptive approach to plan for future water needs**
  - We'll continue to adjust the timing, scope, and expected yields of Water Forward 2024 strategies as new information becomes available
  - These updates will help guide our priorities and pathways
- AW will continue to coordinate efforts with other City departments like Watershed Protection, Parks and Recreation, and Austin Energy
- Progress updates will continue to be shared in our quarterly water management reports and ongoing community engagement efforts

# Questions



**Austin**

Austin Water | 12/09/2025



# **Additional Information**

# IPR Emergency Implementation Plan

## Purpose



- Public-facing document to outline the steps that AW would take to implement IPR on an expedited timeline should combined storage reach 750,000 acre feet
- Intended to be a living document that can be updated to incorporate new information, including information from Project Concept Reports as they are completed

# IPR Emergency Implementation Plan Outline



1. Description of plan purpose and context
2. Description of IPR as a water supply strategy
3. Guiding principles for implementation
4. Triggers for emergency implementation and emergency demobilization
5. High-level overview of project infrastructure components
6. Permitting, regulatory, and monitoring
7. Communications and community engagement
8. Description of AW and COA coordination framework
9. Timeline of activities