Texas Water Backbone: Executive Summary

A 2-page overview of the problem, solution, and legislative ask

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The Challenge

Texas is running out of water. Our population is projected to grow from 30 million to 55 million by 2070, while traditional water supplies are declining. The Edwards Aquifer faces first-ever Stage 5 restrictions. Highland Lakes reservoirs are at historic lows. Without new supply, Texas faces **$153 billion in annual economic damages** by 2070.

The status quo response—the Marvin Nichols Reservoir—has been mired in legal battles for 50 years. It would flood 66,000 acres of East Texas land, destroy rural communities, and still depends on rainfall that climate change makes less reliable. First water delivery: 2050 at the earliest.

Texas needs a 21st-century solution.

The Texas Water Backbone

We propose a **420-mile water transmission system** connecting Gulf Coast seawater desalination to the Dallas-Fort Worth metroplex, serving Houston, San Antonio, and Austin along the way.

PARAMETER	SPECIFICATION
Pipeline Length	420 miles
Diameter	96 inches (dual)
Capacity	200,000–500,000 AF/year
Capital Cost	$8.6–11.15 billion
First Water	2032–2035
Water Source	Gulf Coast desalination (drought-proof)

Key Advantages

- **Drought-proof**: Ocean water doesn't depend on rainfall
- **No land destruction**: Zero acres flooded, no communities displaced
- **Statewide benefit**: Serves 4 major metros, not just DFW
- **Revenue-generating**: Brine valorization, fiber, and transmission create economic returns
- **Faster delivery**: First water by 2032, decades ahead of Marvin Nichols

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Governance Model

We recommend creating the **Texas Backbone Authority (TBA)**—an independent state agency with a 9-member board appointed by the Governor, Lieutenant Governor, and Speaker, plus ex officio representatives from TWDB and TCEQ.

The Authority would:

- Own and operate the transmission infrastructure
- Purchase water from private desalination operators at Cost + 8%
- Sell water to municipal utilities at infrastructure-sustaining rates (~$1,400/AF)
- Manage multi-use corridor assets (fiber, HVDC transmission)

The Ask

We request the 89th Texas Legislature to:

1. **Pass enabling legislation** creating the Texas Backbone Authority
2. **Authorize Texas Water Fund allocation** of $6–8 billion for initial construction
3. **Direct TWDB** to incorporate the Backbone into regional water planning

Financial Summary

COMPONENT	COST
Initial Capital (Phase 1)	$8.6 billion
Operating Cost	~$1,200/AF (Year 1)
Municipal Rate	$1,400/AF
Annual Revenue (Year 5)	$280 million
Self-Sustaining	Year 3

Funding sources include the $20 billion Texas Water Fund (voter-approved 2023), federal WIFIA loans, and private investment in desalination operations.

Why Now?

- **Political alignment**: $20B Texas Water Fund creates unprecedented capital
- **Technology maturity**: Desalination is proven globally (Israel, Saudi Arabia, California)
- **Mediation opening**: August 2025 Region C/D agreement obligates state to fund alternatives
- **Climate urgency**: Each year of delay increases drought vulnerability

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Texas Water Backbone Project • January 2026