



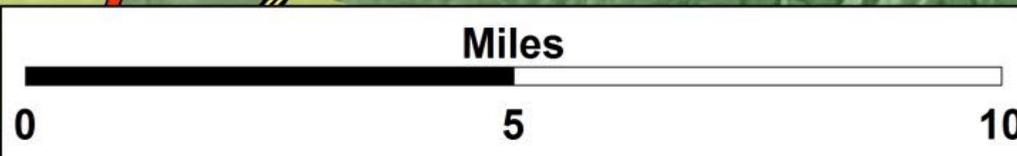
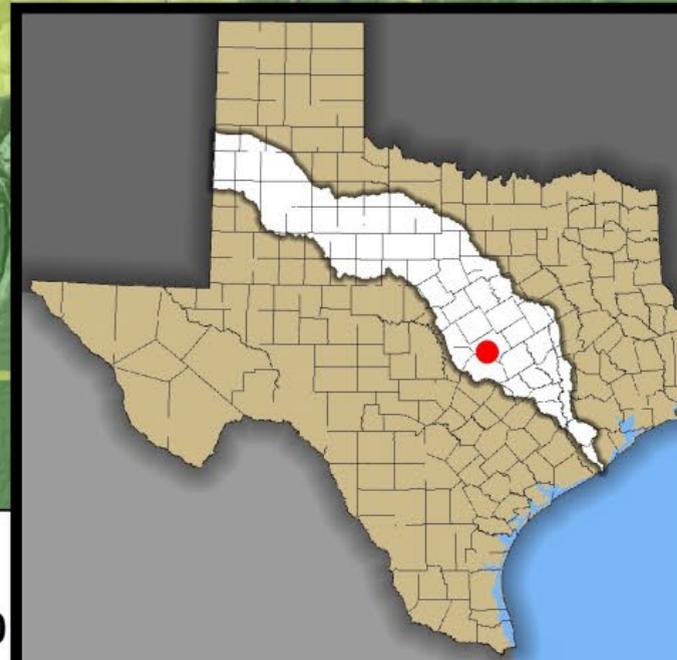
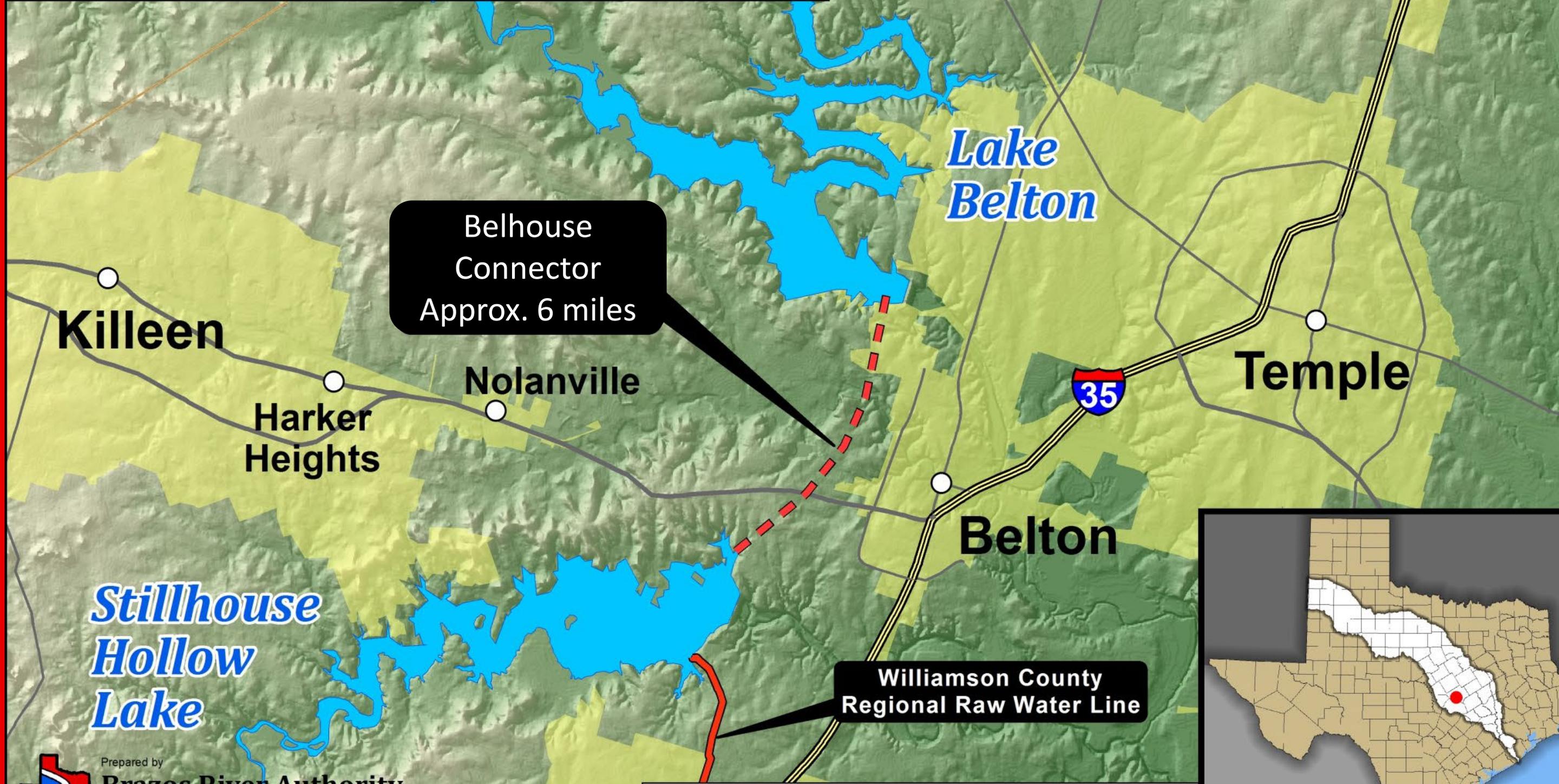
Belhouse Drought Preparedness Project Engineering Contract

***Presented by
Brad Brunett
Chief Operations Officer***



Brazos River Authority

Belhouse Connector Conceptual Plan



Prepared by
Brazos River Authority
 Geographic Information System



Background – July 2005 Board Resolution



Brazos River Authority

“BE IT RESOLVED that the Board of Directors of the Brazos River Authority hereby authorizes the General Manager/CEO to develop and implement a Water Supply Development Plan for the system operation and the commitment to supply additional water from Lakes Stillhouse Hollow and Belton in accordance with the 1964 System Order.”

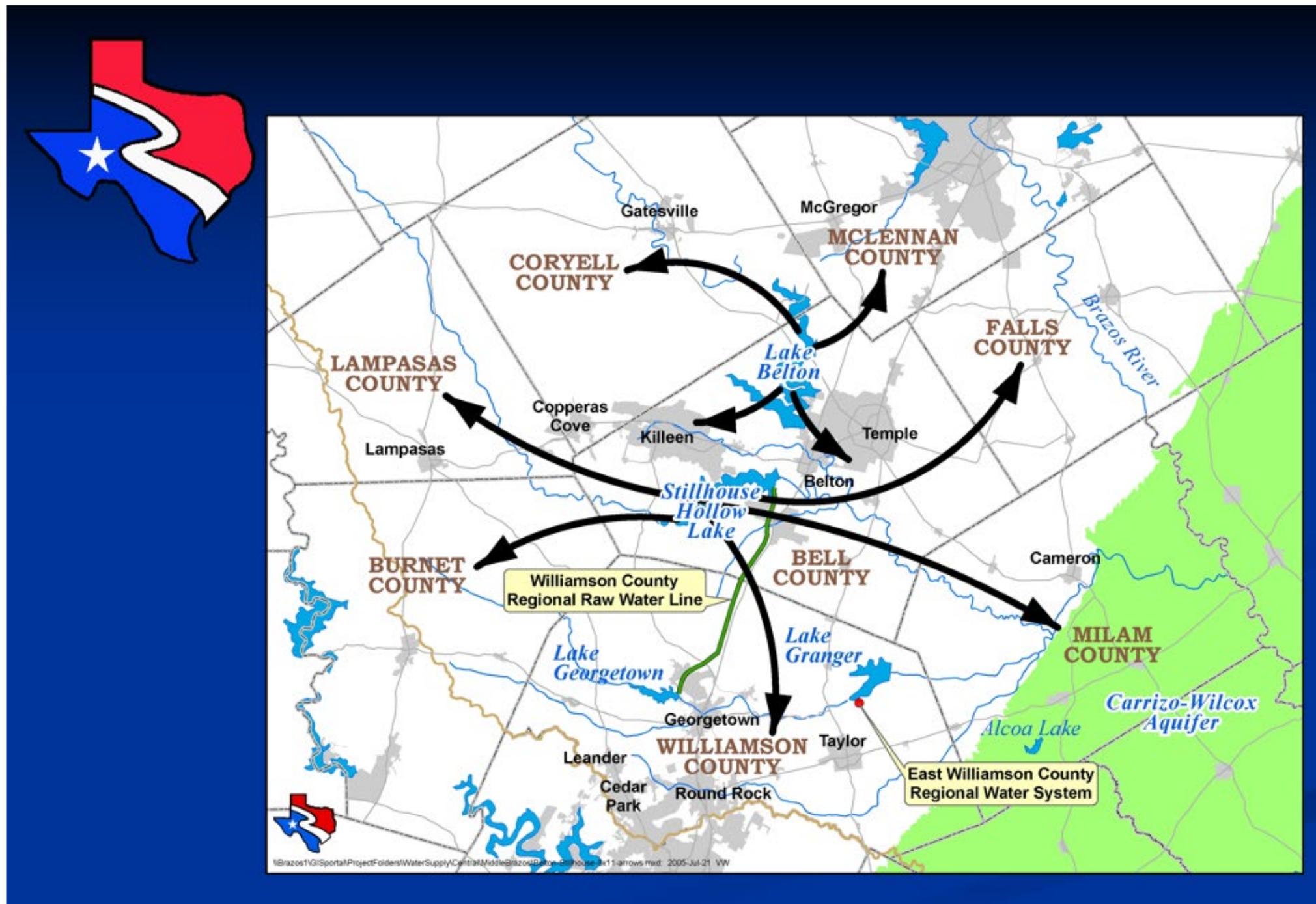


Brazos River Authority

“BE IT FURTHER RESOLVED that the plan is to include capital improvements necessary to meet demands from water commitments. The plan is also to include provisions for monitoring and periodic updates based on variables such as actual water usage, projected demands, reservoir yield, implementation of new projects, and other changing conditions.”



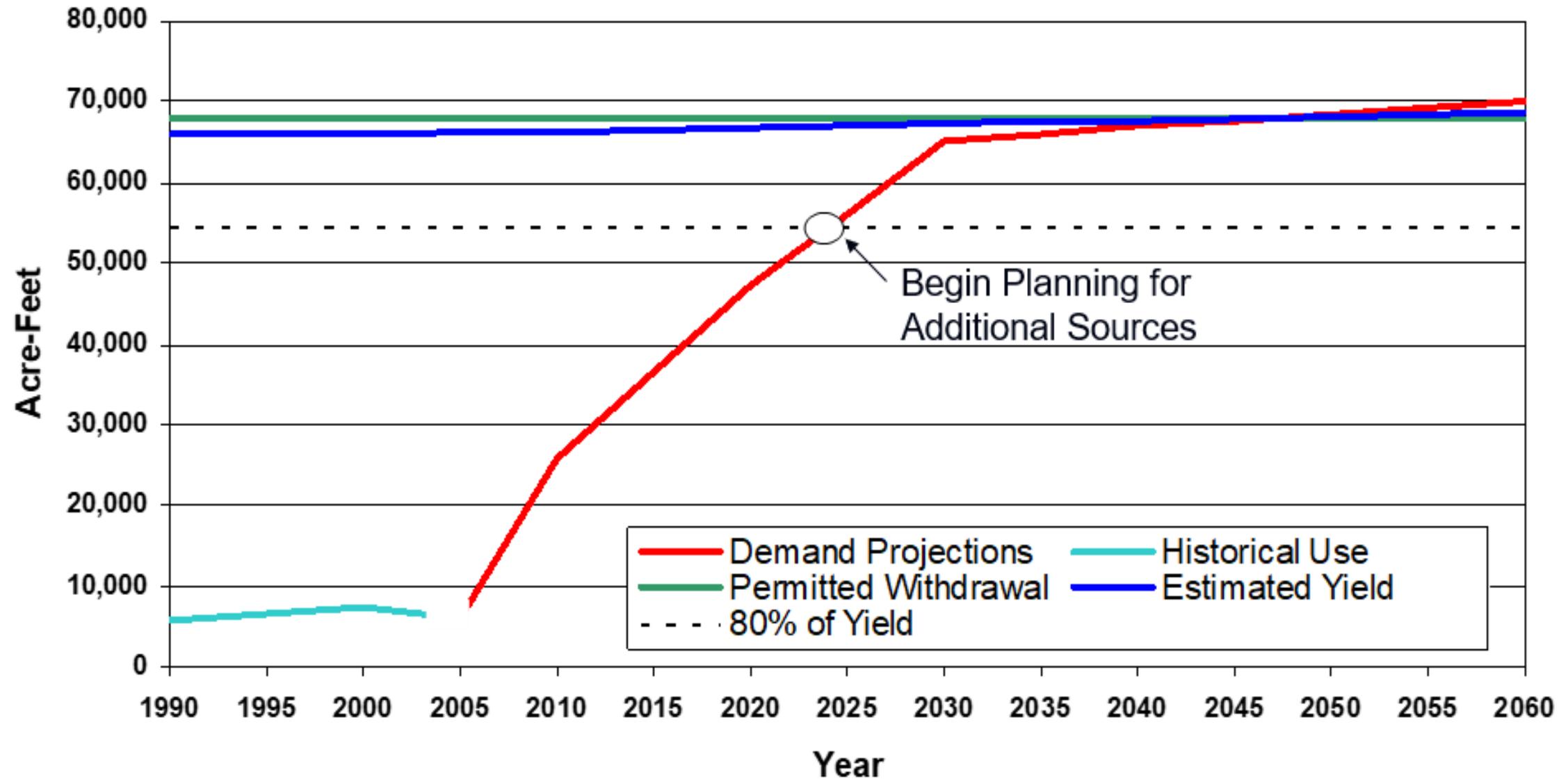
Regional Supply





2005 Demand Projection

Lake Stillhouse Hollow - Supply/Demand Evaluation



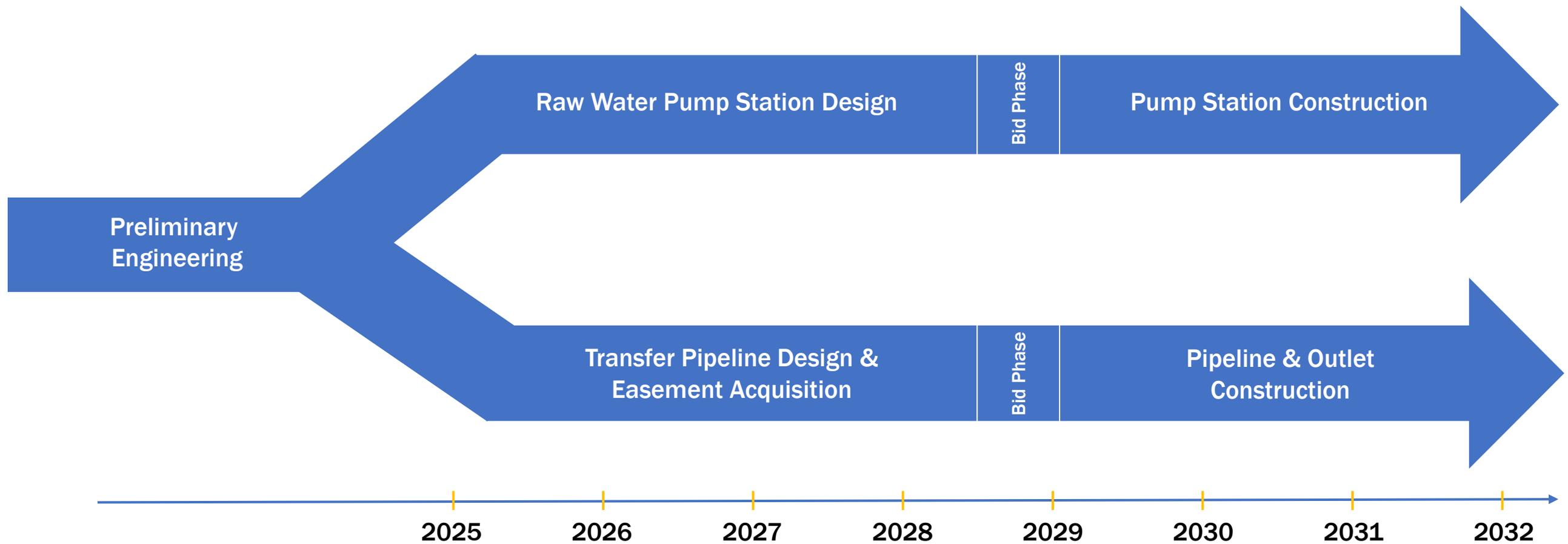


Project Objectives

- **Build a pump station, pipeline, and outlet between Belton Lake and Stillhouse Hollow Lake**
 - **Screened Intake at Belton Lake**
 - **Onshore Pump Station**
 - **Transmission Pipeline**
 - **Lakebed Outlet at Stillhouse Hollow Lake**

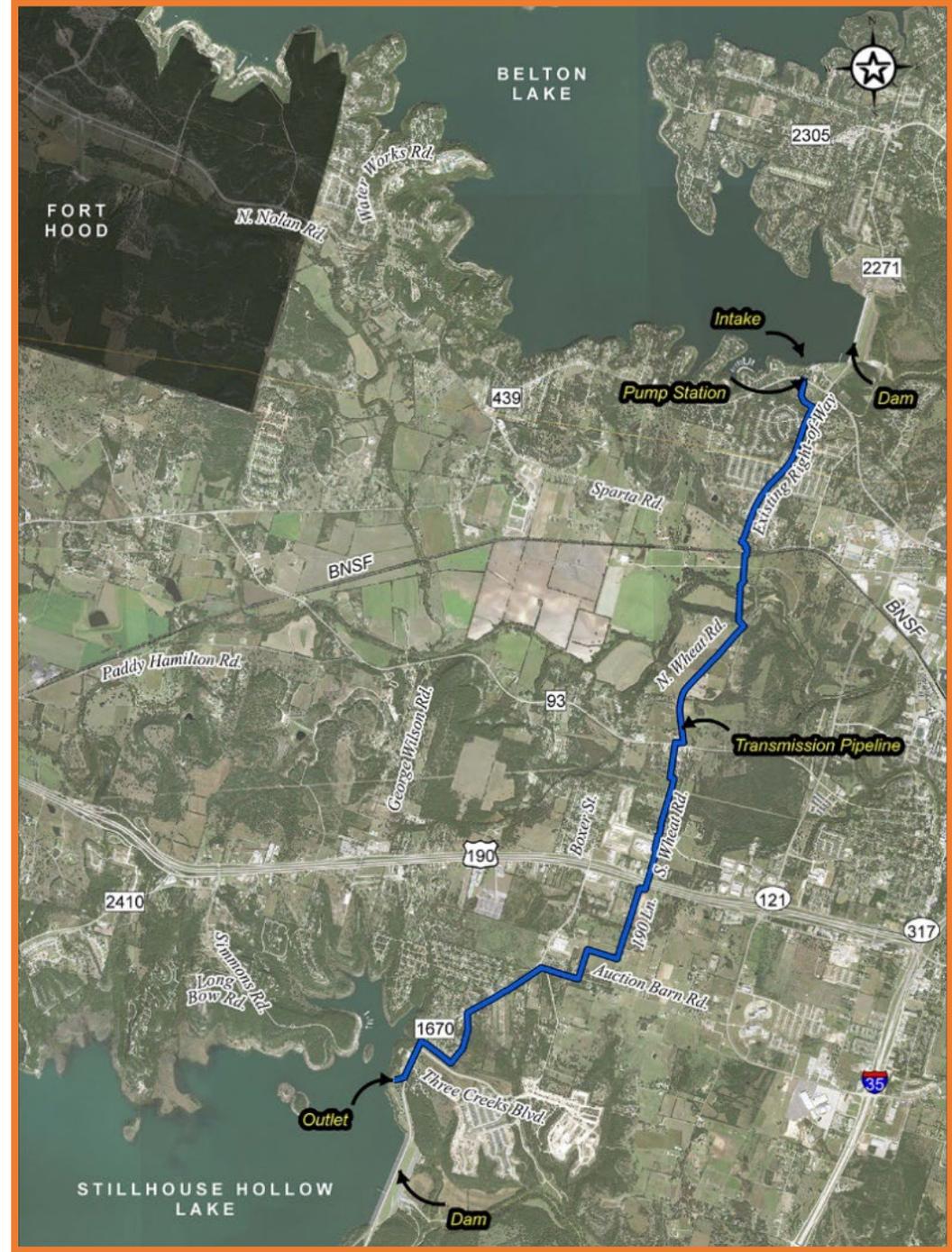


Project Approach





Architect rendering of proposed water intake facility at Lake Belton (facing north).





Engineering Services

- Request for Proposal process conducted late 2018 - early 2019

- Five proposals received
- Interviews conducted with 3 project teams
- Selected team led by Walker Partners



“BE IT RESOLVED that the Board of Directors of the Brazos River Authority hereby authorizes the General Manager/CEO to negotiate and execute a professional services agreement with Walker Partners, LLC for Phase I of the Belton Lake to Stillhouse Hollow Lake Raw Water Transfer System Engineering Services for an amount not to exceed \$2,665,867.00.”

Meeting Date: April 29, 2019

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- Substantial Phase I preliminary engineering work conducted by Walker Partners' team from 2019 - 2023
- Phase II scope development and fee negotiation in 2024



Engineering Contract Tasks

Task 1 – Engineering Design Services

- 30/60/90/100% Design for the Raw Water Pump Station
- 30/60/90/100% Design for the Transfer Pipeline and Outlet

Task 2 – Pump Station Investigations and Analyses

- Bathymetric Survey of the Intake Site
- Underwater Exploration
- Geotechnical Investigation
- Land Borings – Tunnels and Shafts
- Land Borings – Foundations, Pavements, and Open Cut
- Marine Borings
- Laboratory Testing
- Underground Engineering
- Transient Analysis
- Computational Fluid Dynamics Model Study
- Physical Model Study
- Raw Water Pump Station Acoustic Analysis
- Raw Water Pump Station Harmonic Analysis
- Transfer Modeling and Trigger Setting Evaluations
- Commissioning and Start-up Planning

Task 3 – Risk Management Services

Task 4 – Public Involvement

Task 5 – Surveying and Land Acquisition Services

Task 6 – Jurisdictional and Environmental Agency Approvals

Task 7 – Bidding/Contract Award Services



Cost and Schedule

Design/Bid Phase Schedule & Cost	Duration	Cost	Percent of Est. Construction Cost
Task 1 – Engineering Design Services	Month 1-37	\$8,996,551	7.4%
Task 2 – Pump Station Investigations and Analyses	Month 1-35	\$4,646,354	3.8%
Task 3 – Risk Management Services	Month 1-36	\$241,089	0.2%
Task 4 – Public Involvement	Month 1-36	\$1,243,143	1.0%
Task 5 – Surveying and Land Acquisition Services	Month 6-45	\$5,264,507	4.3%
Task 6 – Jurisdictional and Environmental Agency Approvals	Month 3-42	\$3,671,103	3.0%
Task 7 – Bidding/Contract Award Services	Month 42-52	\$687,534	0.6%
Total Contract NTE	52 Months	\$24,750,281	20.3%
10% BRA Contingency		\$2,475,019	
Total		\$27,225,300	

Opinion of Probable Construction Cost: \$122 million



“BE IT RESOLVED that the Board of Directors of the Brazos River Authority hereby authorizes the General Manager/CEO to negotiate and execute a professional services contract with Walker Partners, LLC for all activities associated with the permitting, engineering, design, property/right-of-way acquisition services, and bid phase services for construction of a raw water pump station, transfer pipeline, and outlet structure needed to transfer water from Belton Lake to Stillhouse Hollow Lake in an amount not to exceed \$27,225,300.”



Brazos River Authority



Brazos

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RIVER AUTHORITY