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## CITY COUNCIL WORKSHOP

### CITY OF FAIR OAKS RANCH, TEXAS

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AGENDA TOPIC: City Water Supply and Demand Projections and GBRA WaterSECURE Project  
DATE: July 17, 2025  
DEPARTMENT: Public Works  
PRESENTED BY: Grant Watanabe, P.E., CFM, Director of Public Works & Engineering Services  
R. Brian Perkins, P.E., Guadalupe-Blanco River Authority

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#### **INTRODUCTION/BACKGROUND:**

With drought conditions persisting across south-central Texas, and Canyon Lake water levels reaching the lowest level this year since the dam was constructed in 1964, concern has risen regarding the future of the City's water supply resources. To reassure residents that the City is not running out of water, staff will present City water supply and demand projections along with an overview of the Guadalupe-Blanco River Authority (GBRA) WaterSECURE project. The WaterSECURE project is a potential future water source for the City and other utilities in our region, leveraging Lower Guadalupe River surface water rights owned by GBRA. The project requires extensive infrastructure, including a large water treatment plant, multiple pump and booster stations, aquifer storage and recovery facility, and over 250 miles of pipeline, costing almost \$5.9 billion.

The City currently provides water service to 3,262 residential and non-residential customers, which is projected to grow to 4,528 customers at buildout based on land use assumptions (LUA). An interactive LUA map and dashboard are available to the public on the City's website (<https://fairoaksranch.maps.arcgis.com/apps/dashboards/0c3923c7fc104ab3910b06e823d11f6e>) which provides the real-time status of all existing, permitted, and future water and wastewater connections. As of July 2, 2025, there were 3,262 existing water connections, 26 permitted connections (lots with approved construction permits), and 1,240 future connections. The number of future connections is estimated based on zoning, existing utility service agreements and planned connections for undeveloped parcels identified in the City's Water, Wastewater and Reuse Master Plan. Based on connection growth assumptions of 2% per year (2025-2035), 1% per year (2035-2045), and 0.5% per year (2045-buildout), it is projected the City will reach buildout in the 2052 timeframe.

Over the past 10 years, customer demand has ranged from 150,000 gallons (0.46 acre-feet) to 202,000 gallons (0.62 acre-feet) per connection per year. The average demand during this period was 172,700 gallons (0.53 acre-feet) per connection per year. An acre-foot of water is equivalent to 325,851 gallons. To be conservative, the highest demand year (0.62 acre-feet per connection per year) was used to calculate future demand projections. Based on this, the total customer demand is estimated to be 2,805 acre-feet at buildout.

From a supply perspective, the City owns and operates 30 potable wells which pump groundwater from the Trinity aquifer. Over the past 10 years, well production has ranged from approximately

500 to 950 acre-feet per year. For planning purposes, staff have determined the firm capacity of the wells to be 750 acre-feet. The firm capacity is a conservative estimate of the water that can be reliably produced, even during periods of extended drought or with several wells offline due to pump failure. The City also has a long-term contract with GBRA to purchase treated surface water from Canyon Lake. Under the contract, the City has a reserved capacity of 1,850 acre-feet, of which only 1,344 acre-feet is delivered currently. The City may increase the amount of water delivered to the reserved amount. Looking forward, SAWS long-term contract with GBRA is expected to expire in the 2038 timeframe, providing an opportunity for the reallocation of SAWS reserved capacity to other existing GBRA wholesale customers on a pro-rata basis. The City's share of the reallocation is approximately 400 acre-feet.

Considering the firm capacity of the City's wells (750 acre-feet), the current GBRA reserved capacity (1,850 acre-feet), and the future GBRA reallocation (400 acre-feet), the total water supply available to the City is projected to be 3,000 acre-feet. This supply projection exceeds the City's demand projection at buildout by 195 acre-feet and provides an additional buffer to reassure residents that the City is not running out of water.

Staff seek direction from City Council on whether to participate in the WaterSECURE Project. While the associated cost is significant, securing an additional water supply offers several potential benefits, as outlined below. If the City desires to participate in the Project, an MOU (**Exhibit A**) is required, with a formal Water Supply Agreement executed by March 2026. Depending on the direction given, staff may place the MOU on a future agenda for consideration.

#### **POLICY ANALYSIS/BENEFIT(S) TO CITIZENS:**

- Supports Priority 3.1 Enhance and Ensure Continuity of Reliable Water Resources of the Strategic Action Plan.
- Provides future flexibility to consider expansion of the City's water service area to manage surrounding growth, zoning changes deemed beneficial to the City, or compliance with potential legislative changes related to development

#### **LONGTERM FINANCIAL & BUDGETARY IMPACT:**

Participation in GBRA's WaterSECURE project is costly due to the extensive infrastructure needed to deliver water to the south-central Texas region. As an example, the estimated capital debt service cost for acquiring 300 acre-feet per year (270,000 gallons per day) would be between \$1,143,374 and \$1,581,834 per year, which does not include operation and maintenance costs. Several debt scenarios (**Exhibit B**) were provided by GBRA for comparison.