

Water Supply and Demand Projections



Grant Watanabe, P.E., CFM

Director of Public Works & Engineering Services

Agenda



- GBRA WaterSECURE Overview
- City Water System Overview
- Land Use Assumptions (LUA)
- Historical Demand
- Current and Future Demand Projections
- Current and Future Supply Sources
 - > City Wells
 - ➤ GBRA Western Canyon Allocation
 - > SAWS Interconnect
 - ➤ GBRA WaterSECURE Project
- Discussion

GBRA WaterSECURE Project

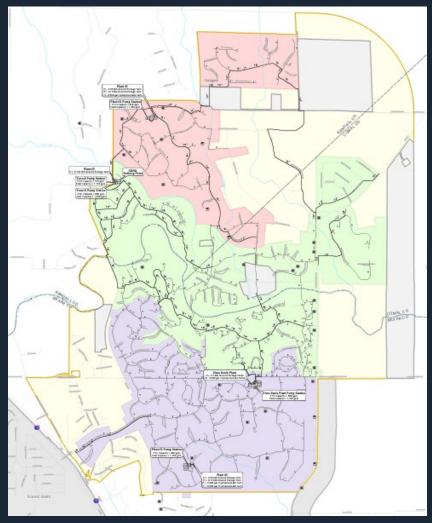


- Future water source leveraging lower Guadalupe River surface water rights owned by GBRA
- Initial water delivery by 2033/2034, full water delivery by 2040
- Extensive infrastructure needed, including large water treatment plant, multiple pump stations, aquifer storage and recovery facility and 250 miles of pipeline
- Estimated capital cost of \$5.9 billion, not including maintenance and operational costs
- GBRA requires MOUs with participating entities, with formal Water Supply Agreements executed by March 2026

City Water System Overview



- Much of the City's water infrastructure was originally built in the 1970's. It now includes:
 - > 3 pressure zones
 - > 5 water plants
 - > 30 potable water wells
 - > 10 irrigation wells
 - > 85 miles of water mains
- Currently serves 3,261 water customers



Land Use Assumptions





Historical Demand



Year	Purchased Water (acre-ft)	Potable Wells (acre-ft)	Total Potable Demand (acre-ft)	Total Metered Consumption (acre-ft)	# Water Connections	Demand per Connection (acre-ft)	Consumption per Connection (acre-ft)	Gallons per Connection per Day	Gallons per Capita per Day
2024	1,237	508	1,745	1,567	3,245	0.54	0.48	431	156
2023	1,214	608	1,822	1,684	3235	0.56	0.52	465	168
2022	1,087	898	1,985	1,865	3205	0.62	0.58	519	188
2021	970	543	1,514	1,365	3169	0.48	0.43	385	139
2020	1,027	759	1,786	1,643	3100	0.58	0.53	473	171
2019	999	585	1,584	1,426	3007	0.53	0.47	423	153
2018	874	498	1,373	1,335	2962	0.46	0.45	402	145
2017	908	706	1,614	1,483	2912	0.55	0.51	455	164
2016	903	491	1,394	1,266	2858	0.49	0.44	395	143
2015	842	521	1,364	1,286	2776	0.49	0.46	413	149
HIGH						0.62	0.58	519	188
AVERAGE						0.53	0.49	436	157
LOW						0.46	0.43	385	139

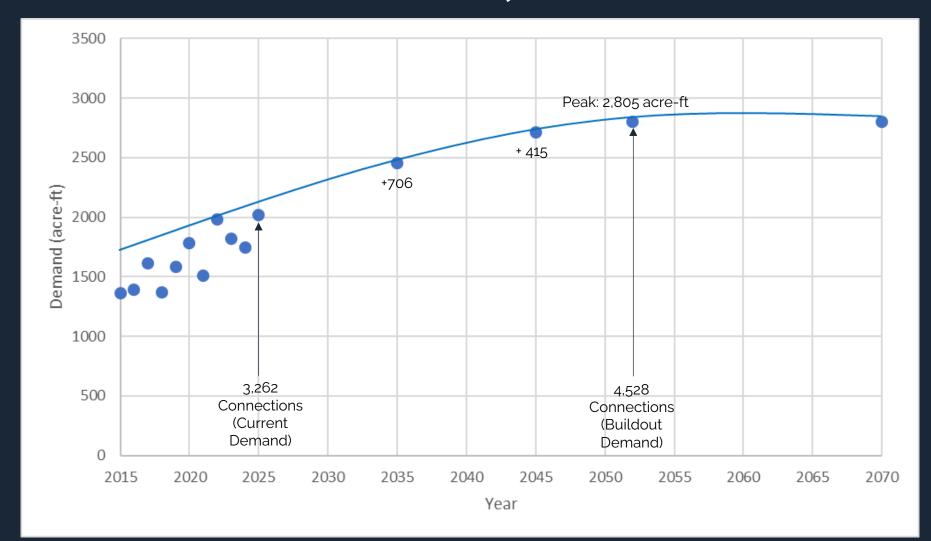
Demand Projections



- Current Connections: 3,262
- Growth Assumptions:
 - > 2025-2035: 2% per year (706 new connections)
 - Oak Bend Subdivision
 - Post Oak Subdivision
 - Corley Tract
 - FM 3351 Mixed Use Parcel
 - Other smaller developments
 - > 2035-2045: 1% per year (415 new connections)
 - > 2045-Buildout: 0.5% per year (145 new connections)
- Projected Buildout Connections: 4,528
- Projected Buildout Year: 2052

Demand Projections





Supply Sources



Current Supply Sources (2,600 acre-ft)

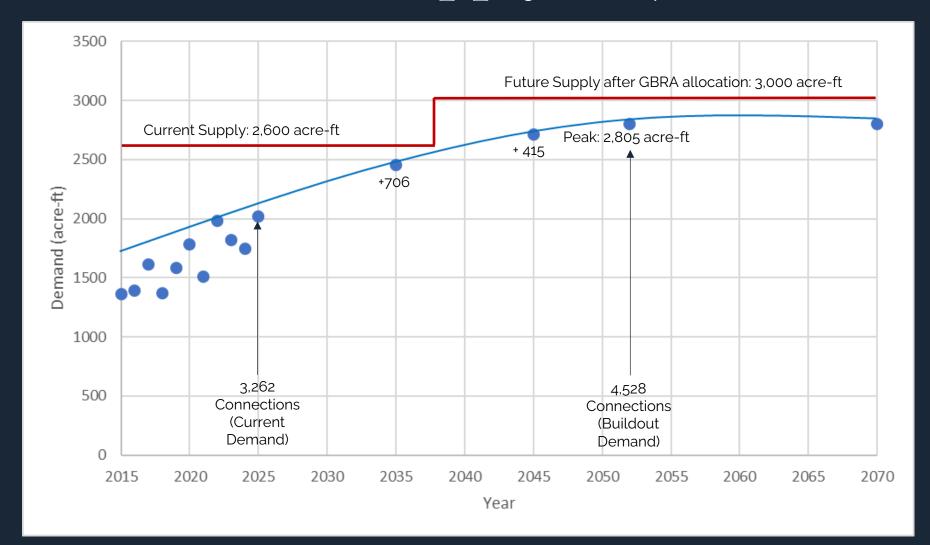
- City-owned Potable wells
 - > Annual Production: 500-950 acre-ft
 - > Firm Capacity: 750 acre-ft
- GBRA Contract
 - > Current Purchase: 1344 acre-ft
 - > Contract Reservation: 1850 acre-ft

Minimum Future Supply Needed (~205 acre-ft)

- GBRA
 - > Available in 2038 timeframe (~400 acre-ft)
 - WaterSECURE Project (~300 acre-ft)
- SAWS
 - Subject to completion of SAWS interconnect project and wholesale service agreement approval by SAWS Board

Demand and Supply Projections





Discussion



- Current supply (2,600 acre-ft) and anticipated supply (400 acre-ft) meets minimum buildout requirement (2,805 acre-ft)
- High confidence in receiving 400 acre-ft allocation from GBRA in the 2038 timeframe
- Additional supply is costly but provides future flexibility to consider or comply with:
 - Expansion of water service area beyond that identified in the City's Water, Wastewater and Reuse Master Plan to manage surrounding growth
 - Zoning changes deemed beneficial to the City
 - > Potential legislative changes related to development
- GBRA MOU required for WaterSECURE participation, with formal Water Supply Agreement executed by March 2026