



# City of Seguin Water Supply Alternatives Analysis

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1/20/2026



It's real.

# Project Overview

## Objective

- Identify and analyze new water supply alternative opportunities to supplement existing supplies

## Primary Task

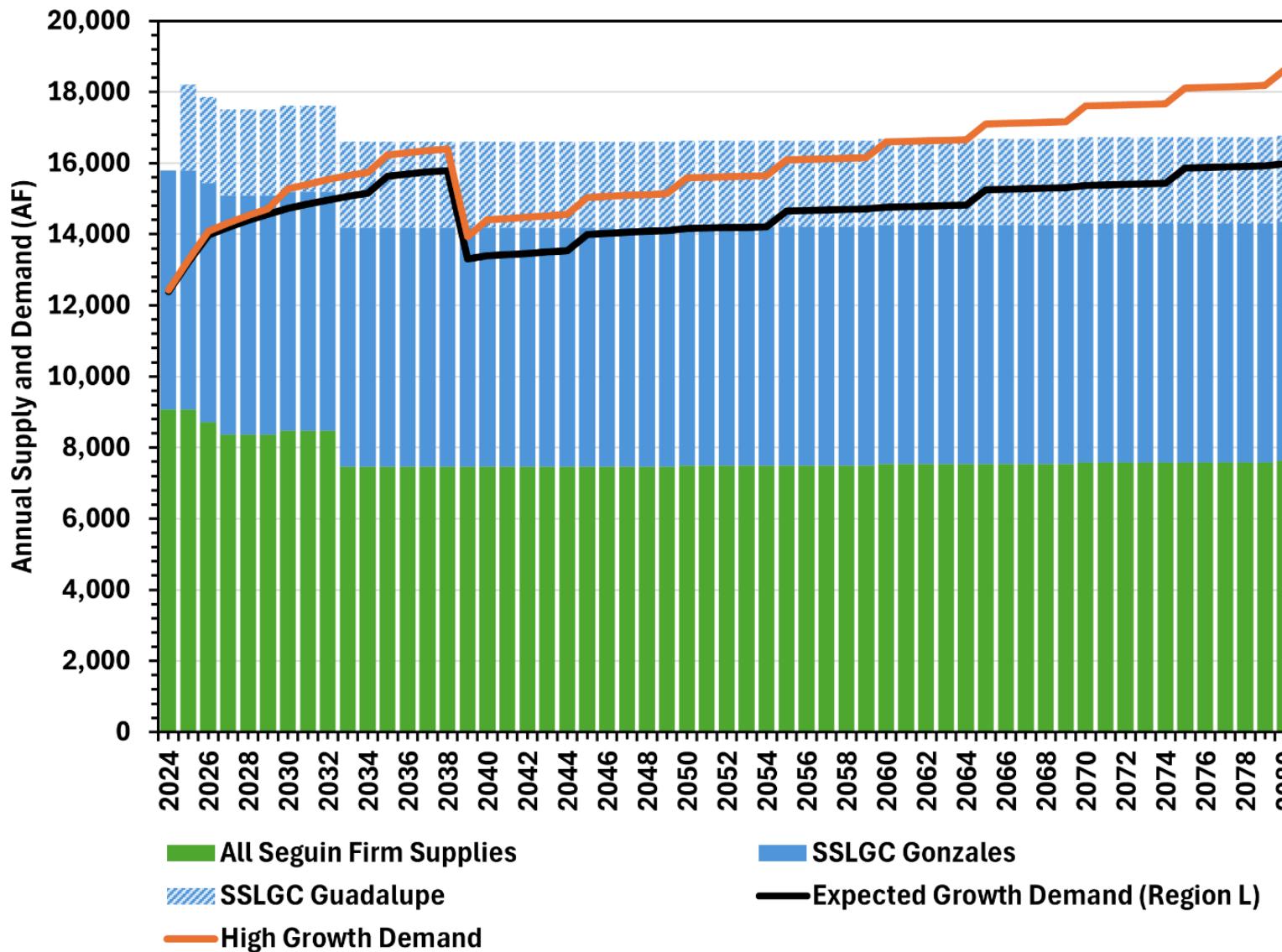
- Identify water management strategies
  - Estimate firm yield
  - Develop planning level cost
  - Document conceptual layout of each strategy

# Current Water Supplies

- Owned and Contracted
  - Surface water rights
  - Effluent
  - SSLGC developed groundwater supplies

Water Supply Source	Permitted Volume (AFY)	Long Term Firm Yield (AFY)
Seguin Surface Water Rights	7,200	7,200
GBRA Raw Water Agreement	1,000	0
Bed and Banks Permit	Up to 9,200	267-430
Reclaimed Water	700	0
Gonzales County	8,336	6,720
Guadalupe County	3,150	2,420
<b>Yield</b>	<b>29,586</b>	<b>16,607 – 16,770</b>

# Current Supplies and Projected Demand



# Water Supply Alternatives

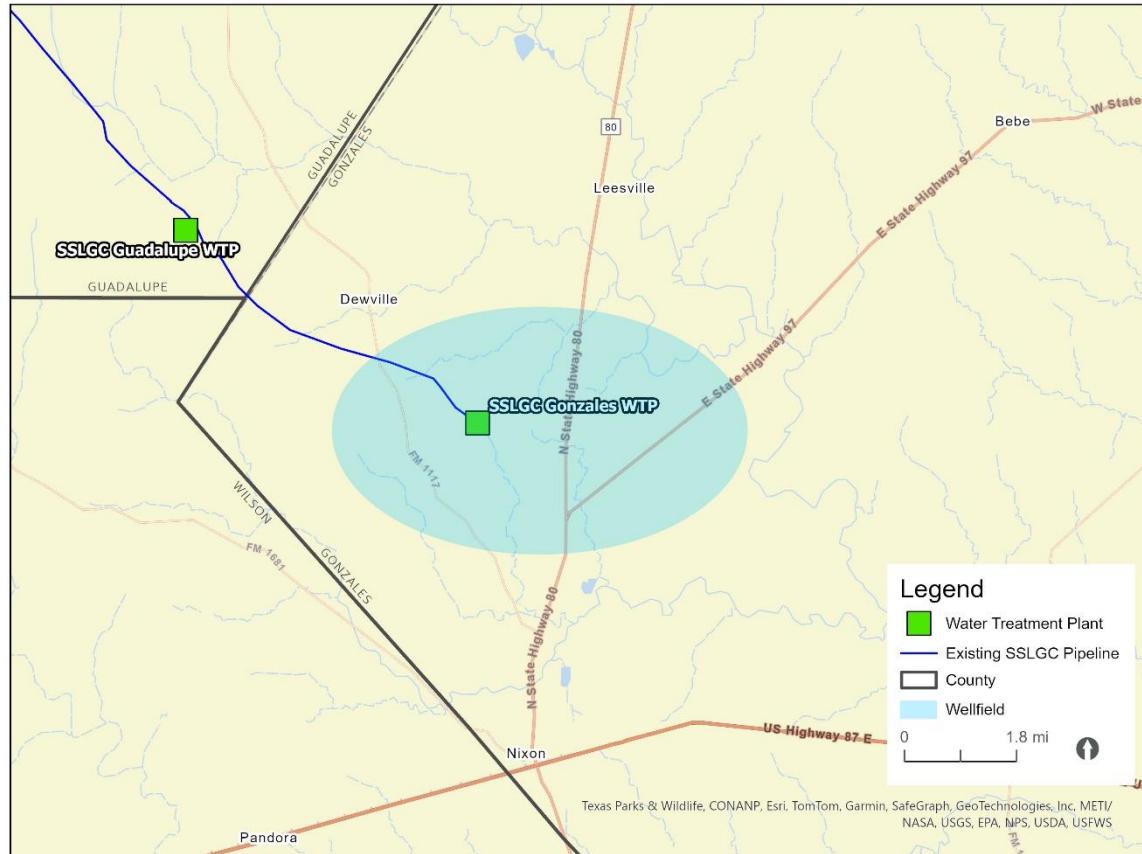
1. **1,616 AFY** – SSLGC – Gonzales County
2. **730 AFY** – SSLGC – Guadalupe County
3. **2,500 AFY** – SSLGC – Gonzales County Wilcox Aquifer Project
4. **5,000 AFY** – SSLGC – Wilson County Carrizo Aquifer Project
5. **5,000 AFY** – GBRA – WaterSECURE Project
6. **3,363 AFY** – Seguin – Direct Potable Reuse Project
7. **1,000 AFY** – Seguin – Direct Reuse System
8. **8,900 AF** – Seguin – Aquifer Storage and Recovery
9. **500 AFY** – Seguin – Post Oak Well

# Alternatives Evaluation

- Performed a planning level review
  - **Nine** water management strategies
  - Comparison summarizing the cost differences
- Estimated costs are planning-level, determined using the Texas Water Development Board's Uniform Costing Model
  - Costs are reported in April 2025 dollars

# Alternatives Evaluation

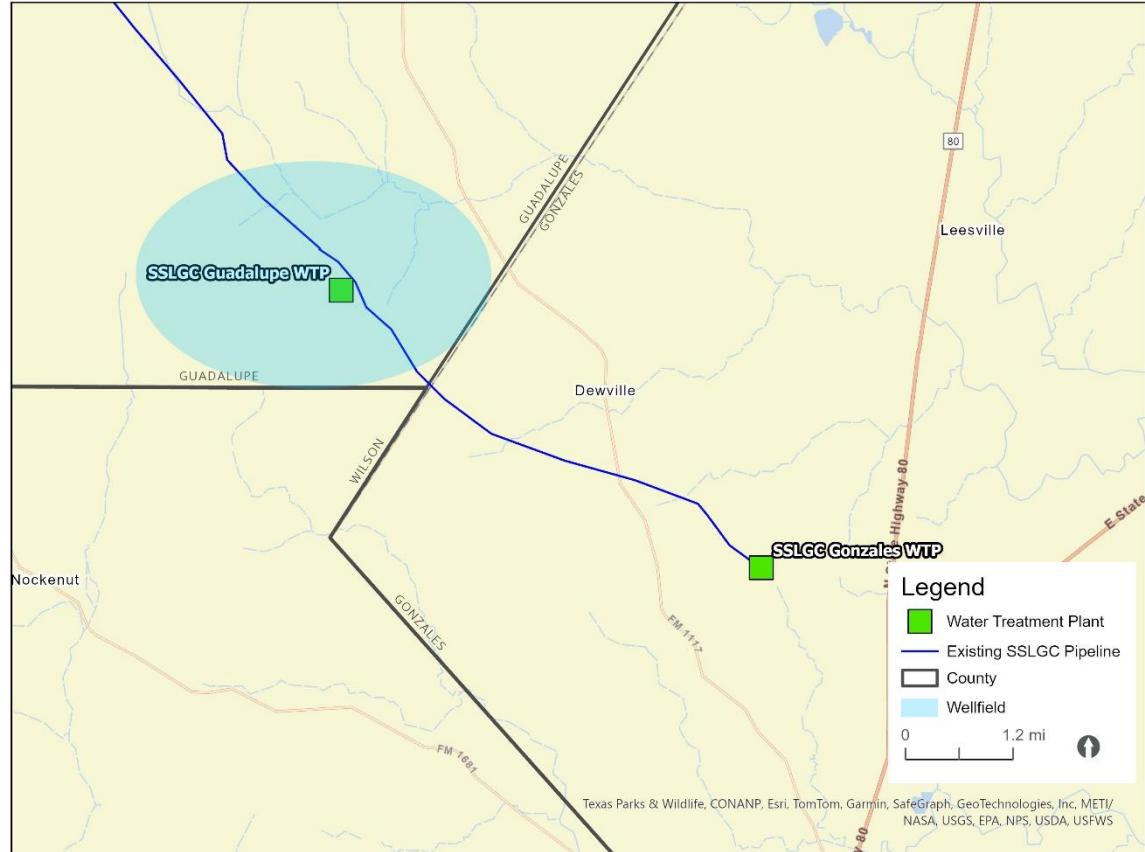
## SSLGC – Gonzales County Project – 1,616 AFY



- Description:
  - Aggregate well production permit
  - Drill two additional Carrizo wells to produce full permit
- Costs:
  - Total Project Yield – 3,232 AFY
    - Seguin's Project Yield – **1,616 AFY**
  - Total Project Cost – \$9,968,000
    - Seguin's Project Cost – **\$4,984,000**
  - Annual Unit Cost – **\$282/AF**

# Alternatives Evaluation

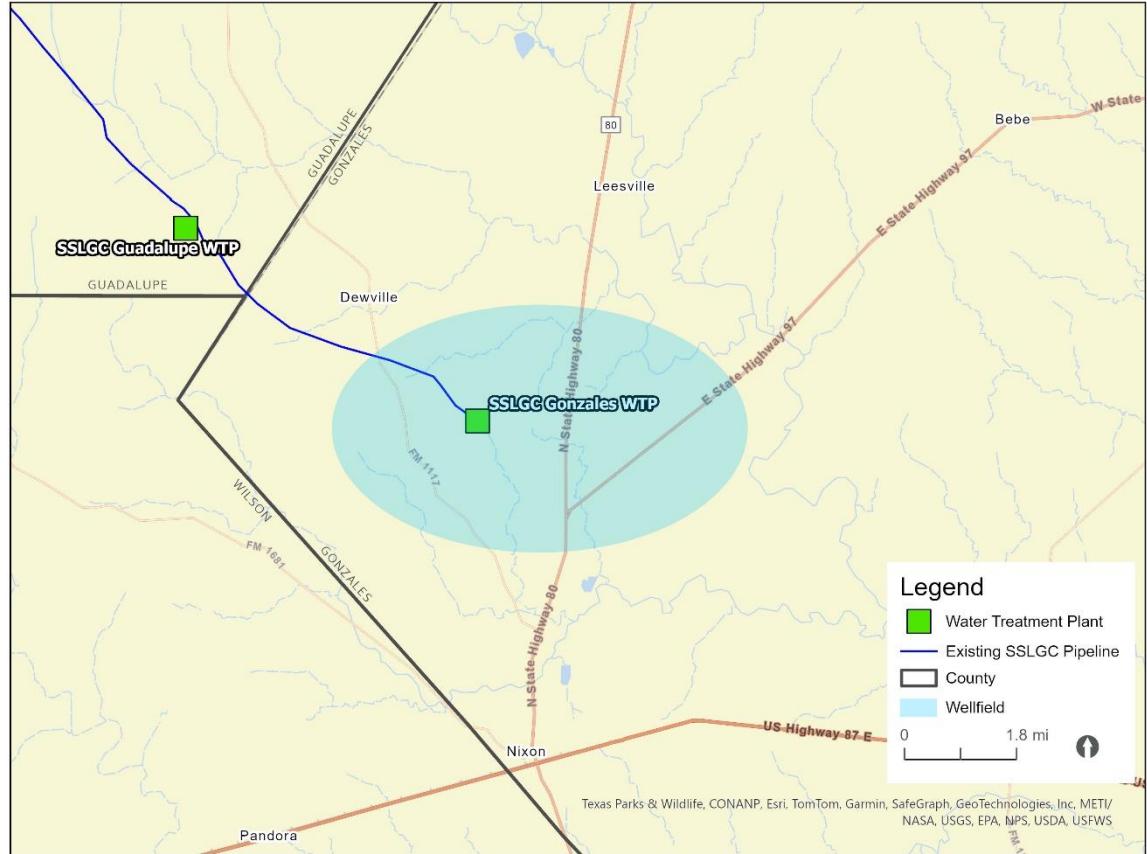
## SSLGC – Guadalupe County Project – 730 AFY



- Description:
  - Drill additional Carrizo well to produce full permit
  - Drill additional Wilcox well for redundancy
- Costs:
  - Total Project Yield – 1,460 AFY
    - Seguin's Project Yield – **730 AFY**
  - Total Project Cost – \$13,500,000
    - Seguin's Project Cost – **\$6,750,000**
  - Annual Unit Cost – **\$748**

# Alternatives Evaluation

## SSLGC – Gonzales County Wilcox Project – 2,500 AFY



- Description:
  - 7 additional brackish Wilcox Aquifer wells
  - Obtain production permits
  - 5 MGD expansion of existing WTP
- Costs:
  - Total Project Yield – 5,000 AFY
    - Seguin's Project Yield – **2,500 AFY**
  - Total Project Cost – \$61,116,000
    - Seguin's Project Cost – **\$30,558,000**
  - Annual Unit Cost – **\$1,197**

# Alternatives Evaluation

## SSLGC – Wilson County Carrizo Aquifer Project – 5,000 AFY



- Description:
  - Wilson County wellfield
    - Wellfield includes 8 wells, includes well redundancy
  - 12 MGD expansion of the existing SSLGC Guadalupe WTP
- Costs:
  - Total Project Yield – 10,000 AFY
    - Seguin's Project Yield – **5,000 AFY**
  - Total Project Cost – \$126,266,000
    - Seguin's Project Cost – **\$63,133,000**
  - Annual Unit Cost – **\$1,251**

# Alternatives Evaluation

## SSLGC Water Supply Alternatives

Strategy	Supply Yield (AFY)	Total Project Cost	Annual Cost	Annual Unit Cost (\$/AF)
SSLGC – Gonzales County	1,616 (3,232) <sup>1</sup>	\$4,984,000 (\$9,968,000) <sup>2</sup>	\$455,000 (\$910,000) <sup>3</sup>	\$282
SSLGC – Guadalupe County – Carrizo + Wilcox Aquifers	730 (1,460) <sup>1</sup>	\$6,750,000 (\$13,500,000) <sup>2</sup>	\$546,500 (\$1,093,000) <sup>3</sup>	\$748
SSLGC – Gonzales County Wilcox Aquifer Project	2,500 (5,000) <sup>1</sup>	\$30,558,000 (\$61,116,000) <sup>2</sup>	\$2,993,500 (\$5,987,000) <sup>3</sup>	\$1,197
SSLGC – Wilson County Carrizo Aquifer Project	5,000 (10,000) <sup>1</sup>	\$63,133,000 (\$126,266,000) <sup>2</sup>	\$6,255,500 (\$12,511,000) <sup>3</sup>	\$1,251
<b>Total for SSLGC Projects</b>	<b>9,846 (19,692)<sup>1</sup></b>	<b>\$105,425,000 (\$210,850,000)<sup>2</sup></b>	<b>\$10,250,500 (\$20,501,000)<sup>3</sup></b>	<b>\$1,041</b>

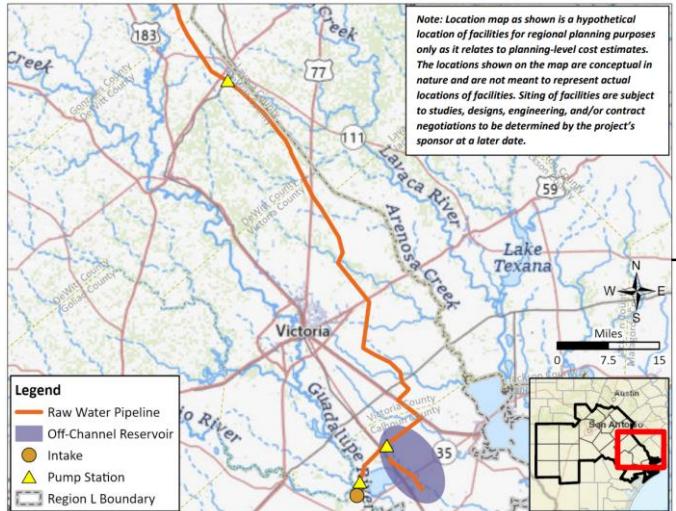
<sup>1</sup> Total supply yield available to SSLGC.

<sup>2</sup> Total project costs that will be covered by both the City of Seguin and the City of Schertz.

<sup>3</sup> Total annual cost that will be covered by both the City of Seguin and the City of Schertz.

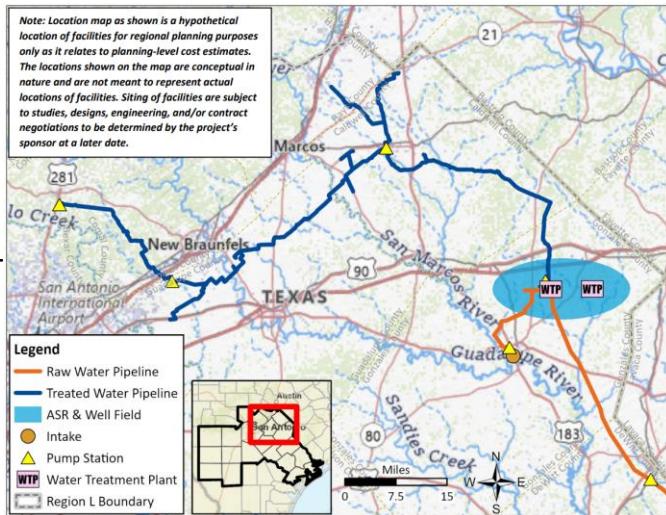
# Alternatives Evaluation

## GBRA – WaterSECURE Project – 5,000 AFY



### Lower Basin Portion

(Map sourced from TWDB, 2025, 2026 South Central Texas (Region L) Regional Water Plan, Initially Prepared Plan)



### Mid-Basin Portion

(Map sourced from TWDB, 2025, 2026 South Central Texas (Region L) Regional Water Plan, Initially Prepared Plan)

#### • Description:

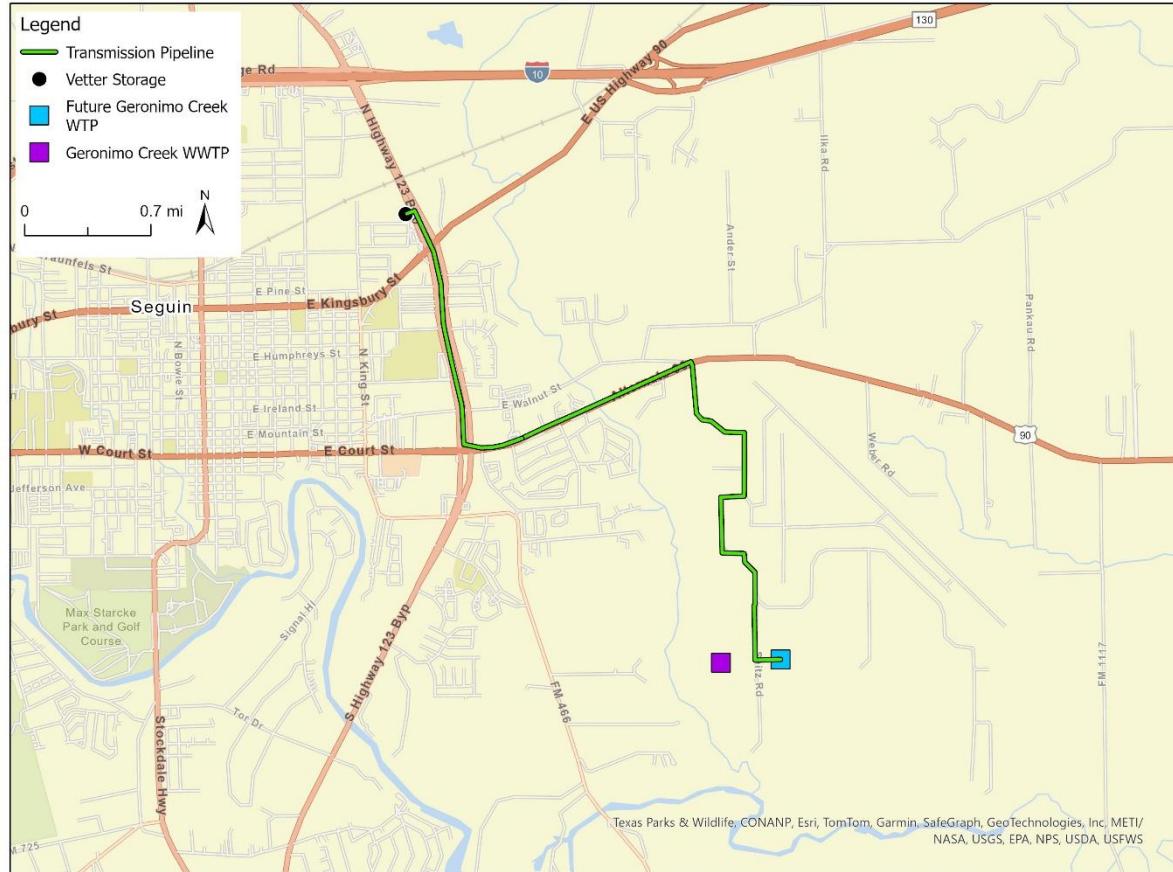
- Combined raw and treated water project using existing GBRA owned supplies
- City entered into a MOU with GBRA in May 2025 that identifies 5,000 AFY of treated water for Seguin
- Costs for WaterSECURE were provided to Seguin by GBRA.

#### • Costs:

- Project Yield – 5,000 AFY
- Total Project Cost – \$6,144,024,610
- Annual Unit Cost – **\$3,780 – \$5,228**
- Does not include O&M cost

# Alternatives Evaluation

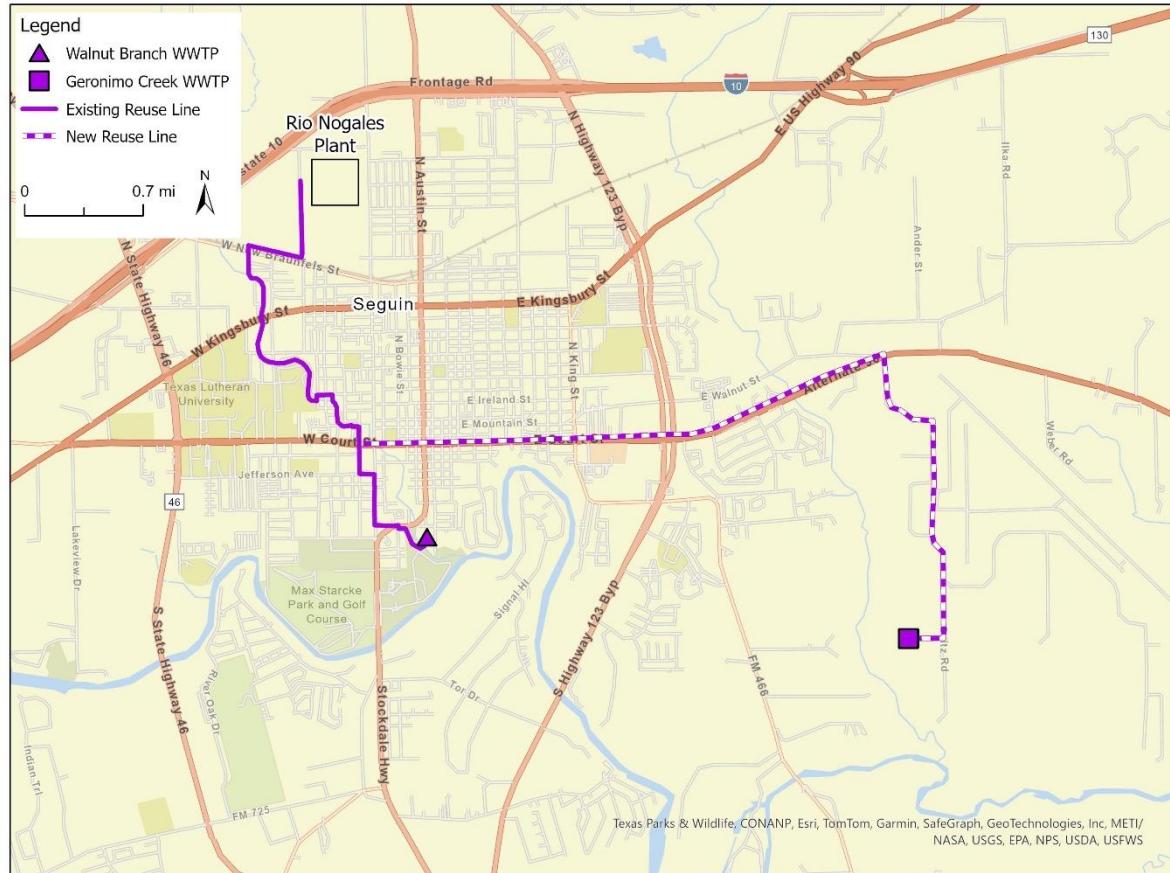
## Direct Potable Reuse Project – 3,363 AFY



- Description:
  - Build DPR treatment facility near Geronimo Creek WWTP
  - Deliver treated effluent to the Vetter ground storage tank to blend with existing supplies
  - Carbon-based treatment at DPR facility
- Costs:
  - Project Yield – **3,363 AFY**
  - Total Project Cost – **\$73,735,000**
  - Annual Unit Cost – **\$2,527**

# Alternatives Evaluation

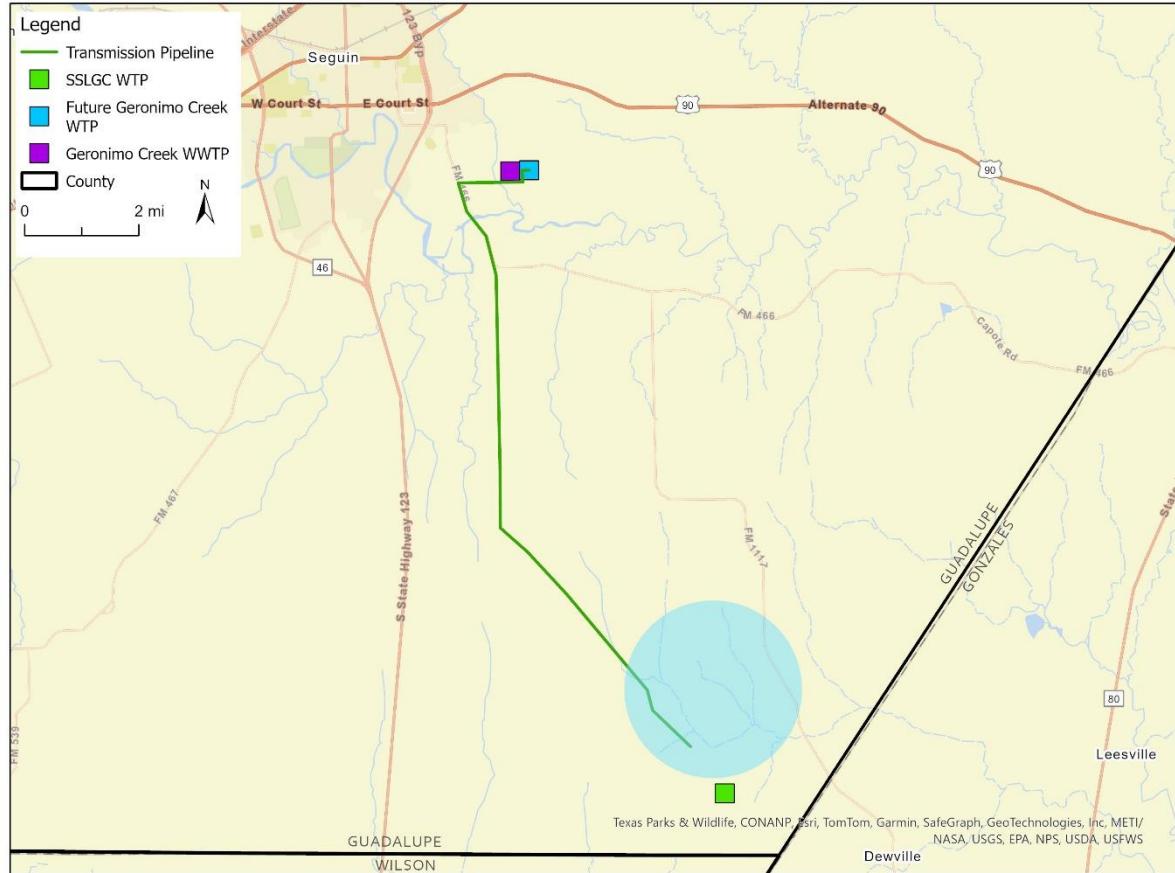
## Direct Reuse System – 1,000 AFY



- **Description:**
  - Effluent from Geronimo Creek WWTP will be tied back into the existing reuse infrastructure
  - 5-mile transmission pipeline will connect Geronimo Creek WWTP to the existing reuse line
- **Costs:**
  - Project Yield – **1,000 AFY**
  - Total Project Cost – **\$18,198,000**
  - Annual Unit Cost – **\$1,456**

# Alternatives Evaluation

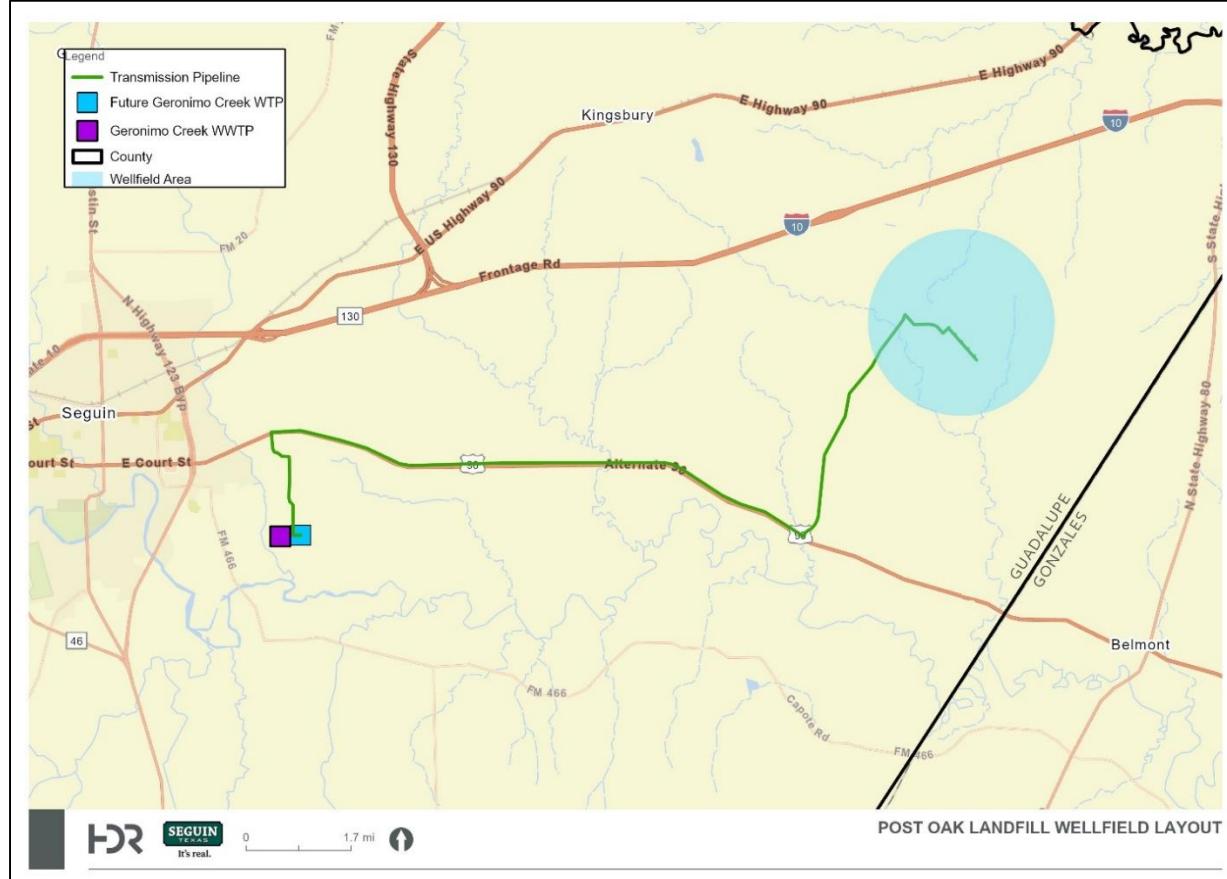
## Aquifer Storage and Recovery



- Description:
  - Water from new DPR facility will be delivered to ASR wellfield located upgradient of the SSLGC Guadalupe Wellfield
  - Recovered ASR water treated at the SSLGC Guadalupe WTP
  - Delivered back to DPR facility, and introduced into the distribution system
  - Wellfield includes 12 ASR Carrizo wells
  - Project includes expansion of SSLGC Guadalupe WTP
- Costs:
  - Project Storage Yield – **8,900 AF**
  - Planned Annual Yields –
    - Injection – **2,240 AF**
    - Recovery – **2,020 AF**
  - Annual Total Project Cost – **\$128,780,000**

# Alternatives Evaluation

## Post Oak Well – 500 AFY



- Description:
  - Drill 5 Wilcox wells at the Post Oak Landfill, each with an average capacity of 80 gpm
  - Deliver water produced at wellfield to a new Geronimo Creek WTP via a 16-mile transmission pipeline
- Costs:
  - Project Yield – **500 AFY**
  - Total Project Cost – **\$39,071,000**
  - Annual Unit Cost – **\$6,792**

# Alternatives Overview

Strategy	Supply Yield (AFY)	Total Project Cost	Annual Cost	Annual Unit Cost (\$/AF)
SSLGC – Gonzales County	1,616 (3,232) <sup>1</sup>	\$4,984,000 (\$9,968,000) <sup>2</sup>	\$455,000 (\$910,000) <sup>3</sup>	\$282
SSLGC – Guadalupe County – Carrizo + Wilcox Aquifers	730 (1,460) <sup>1</sup>	\$6,750,000 (\$13,500,000) <sup>2</sup>	\$546,500 (1,093,000) <sup>3</sup>	\$748
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SSLGC – Wilson County Carrizo Aquifer Project	5,000 (10,000) <sup>1</sup>	\$63,133,000 (\$126,266,000) <sup>2</sup>	\$6,255,500 (\$12,511,000) <sup>3</sup>	\$1,251
<b>Total for SSLGC Projects</b>	<b>9,846 (19,692)<sup>1</sup></b>	<b>\$105,425,000 (\$210,850,000)<sup>2</sup></b>	<b>\$10,250,500 (\$20,501,000)<sup>3</sup></b>	<b>\$1,041</b>
GBRA – WaterSECURE Project <sup>4</sup>	5,000	\$6,144,024,610	\$21,173,635- \$29,293,835	\$3,780 – \$5,228 <sup>5</sup>
Seguin – Direct Potable Reuse Project	3,363	\$73,735,000	\$8,498,000	\$2,527
Seguin – Direct Reuse System	1,000	\$18,198,000	\$1,456,000	\$1,456
Seguin – Aquifer Storage and Recovery	8,900 (Planned Storage Volume)	\$128,780,000	\$11,392,000	-
Seguin – Post Oak Landfill Well	500	\$39,071,000	\$3,396,000	\$6,792

<sup>1</sup> Total supply yield available to SSLGC.

<sup>2</sup> Total project costs that will be covered by both the City of Seguin and the City of Schertz.

<sup>3</sup> Total annual cost that will be covered by both the City of Seguin and the City of Schertz.

<sup>4</sup> Costs for WaterSECURE were provided to Seguin by GBRA.

<sup>5</sup> Does not include operation and maintenance costs.

# Summary

- 2 non-capital-related improvement projects through SSLGC
  - Permit amendments of existing supplies
- 2 new groundwater projects through SSLGC
- 1 regional project through GBRA
- 3 projects utilizing effluent that Seguin owns and controls
- 1 new groundwater project that Seguin can develop