

Belton City Council Workshop Meeting
August 22, 2023 – 4:00 P.M.

The Belton City Council met in workshop session in the Smith Room of the Harris Community Center. Members present included Mayor David K. Leigh, Mayor Pro Tem John R. Holmes, Sr., Councilmembers Wayne Carpenter, Craig Pearson, Daniel Bucher, Stephanie O'Banion and Dave Covington. Staff present included Sam Listi, John Messer, Amy Casey, Gene Ellis, Mike Rodgers, Chris Brown, Matt Bates, Scott Hodde, Paul Romer, Bob van Til, Jon Fontenot and Cynthia Hernandez.

1. **Call to order.** Mayor Leigh called the meeting to order at 4:00 p.m.

2. **Public Comments.** (Audio 00:20)

There were no public comments.

3. **Receive a presentation and discuss the Utility Master Plan.** (Audio 00:45)

Ginger Tolbert of Kasberg, Patrick and Associates presented the proposed Water and Wastewater Utility Master Plans (see Exhibit "A").

4. **Adjourn.** There being no further business, the Mayor adjourned the meeting at 5:16 p.m.



David K. Leigh, Mayor

ATTEST:





Amy M. Casey, City Clerk

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BELTON WATER MASTER PLAN

COUNCIL UPDATE

AUGUST 22, 2023





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PRESENTATION TOPICS

- WATER PLANNING CONCEPTS
- EXISTING WATER NEEDS & DISTRIBUTION
- FUTURE WATER NEEDS & DISTRIBUTION
- PROJECTED SYSTEM LIMITATIONS
- PROPOSED SOLUTIONS



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WATER PLANNING CONCEPTS

- **WATER IS NOT UNIFORMLY DEMANDED THROUGHOUT THE SYSTEM**
 - EVERY CUSTOMER CONSUMES A UNIQUE AMOUNT OF WATER
 - 2022 PEAK WEEK DATA: TOP 10% OF WATER USERS CONSUME 60% OF WATER
 - 2022 PEAK WEEK DATA: THE TOP 10 WATER USERS CONSUME 10% OF WATER
- **WATER IS NOT UNIFORMLY DEMANDED THROUGHOUT THE YEAR**
 - WATER DEMAND IS GREATER IN SUMMER MONTHS THAN WINTER MONTHS
 - MAX DAY IS THE SINGLE MOST DEMANDING DAY OF THE YEAR
 - MAX DAY 2022 = 6.58 MGD | MIN DAY 2022 = 2.08 MGD
 - MODEL OF SYSTEM BASED ON MAX DAY 2022 = 6.58 MGD (MAX DAY 2023=7.08)
- **IN GENERAL, INFRASTRUCTURE IS DESIGNED TO DELIVER WATER ON THE MOST DEMANDING DAY OF THE YEAR (MAX DAY)**



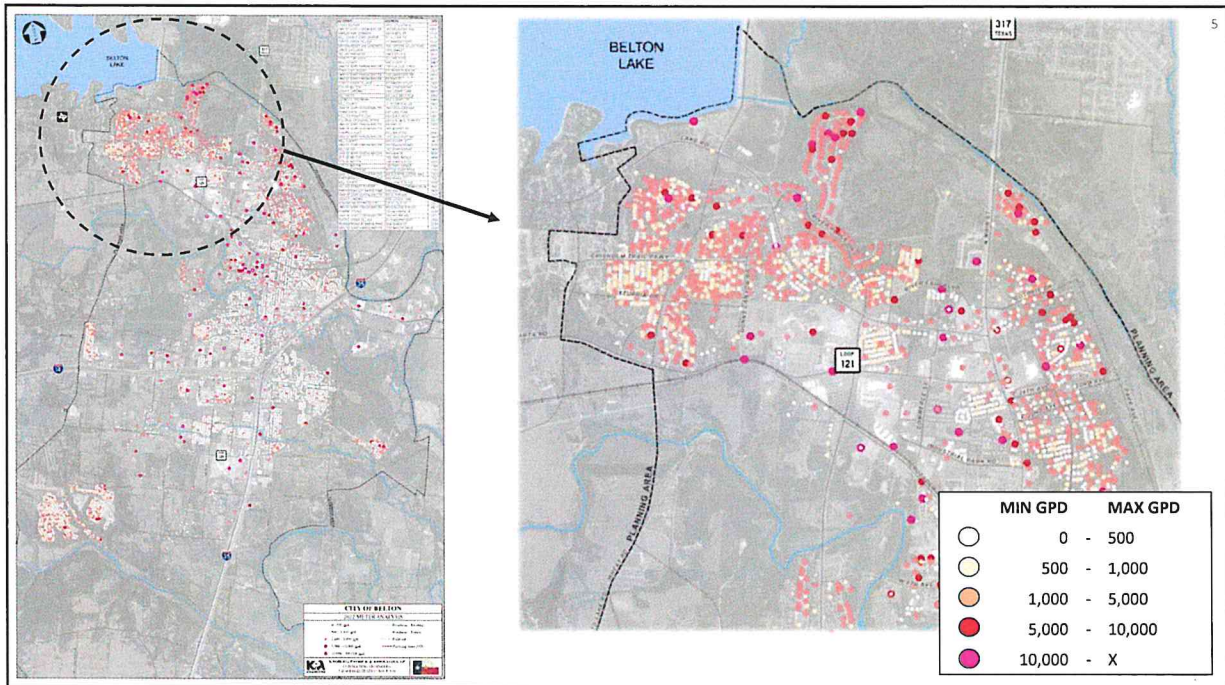
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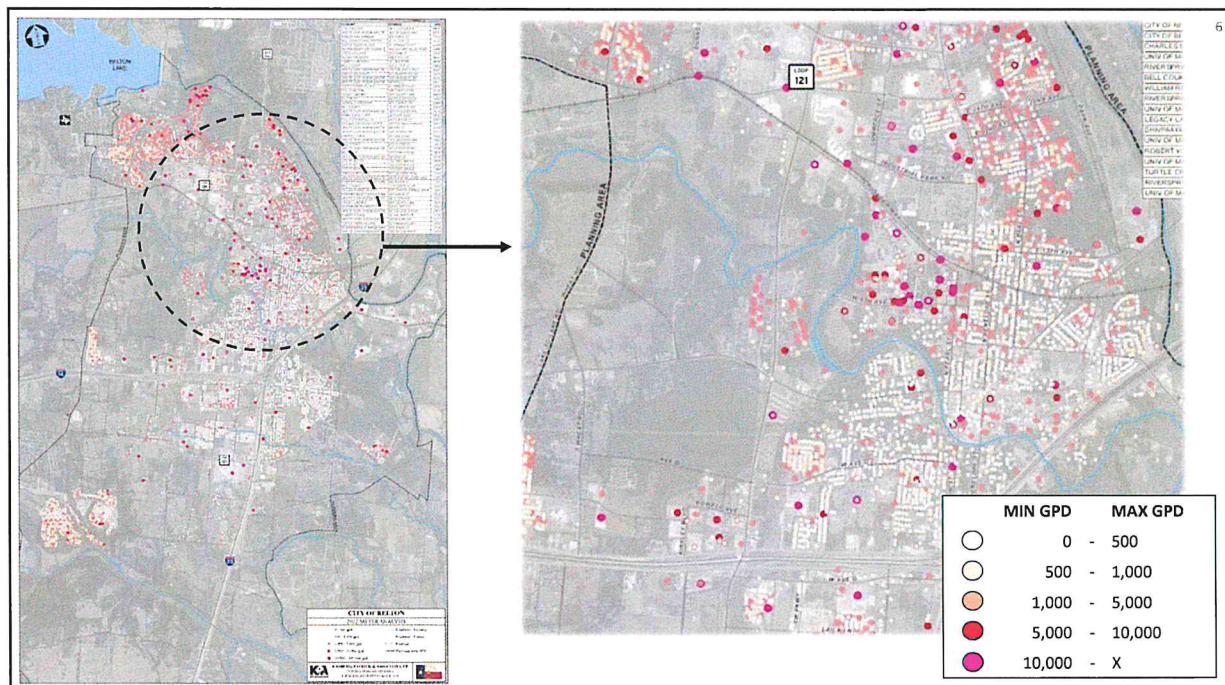
HOW IS BELTON'S EXISTING WATER DEMAND DISTRIBUTED?



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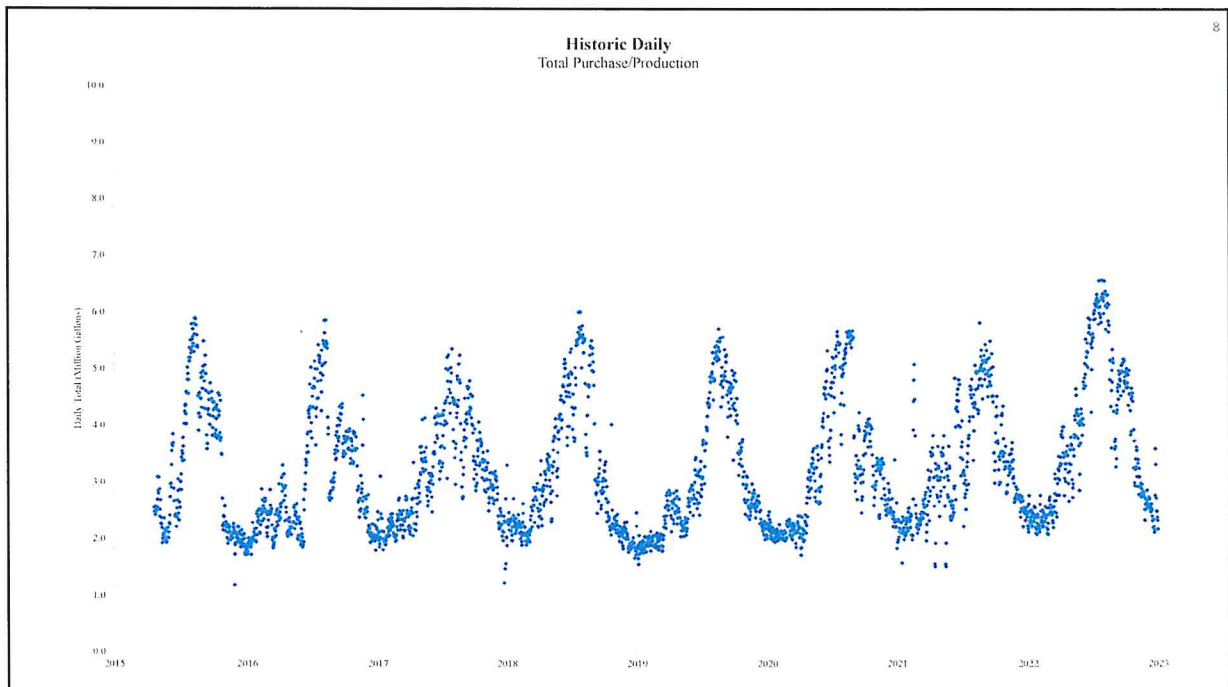
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HOW DOES WATER DEMAND VARY ANNUALLY?

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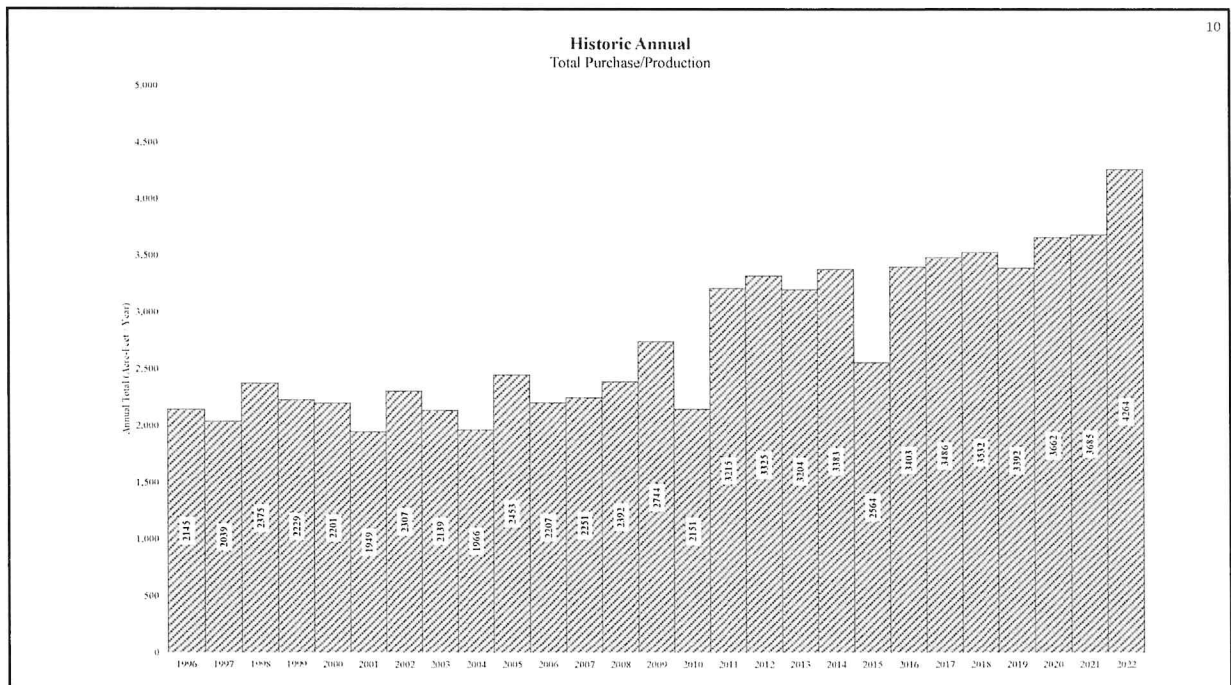
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HOW HAS WATER DEMAND VARIED HISTORICALLY?

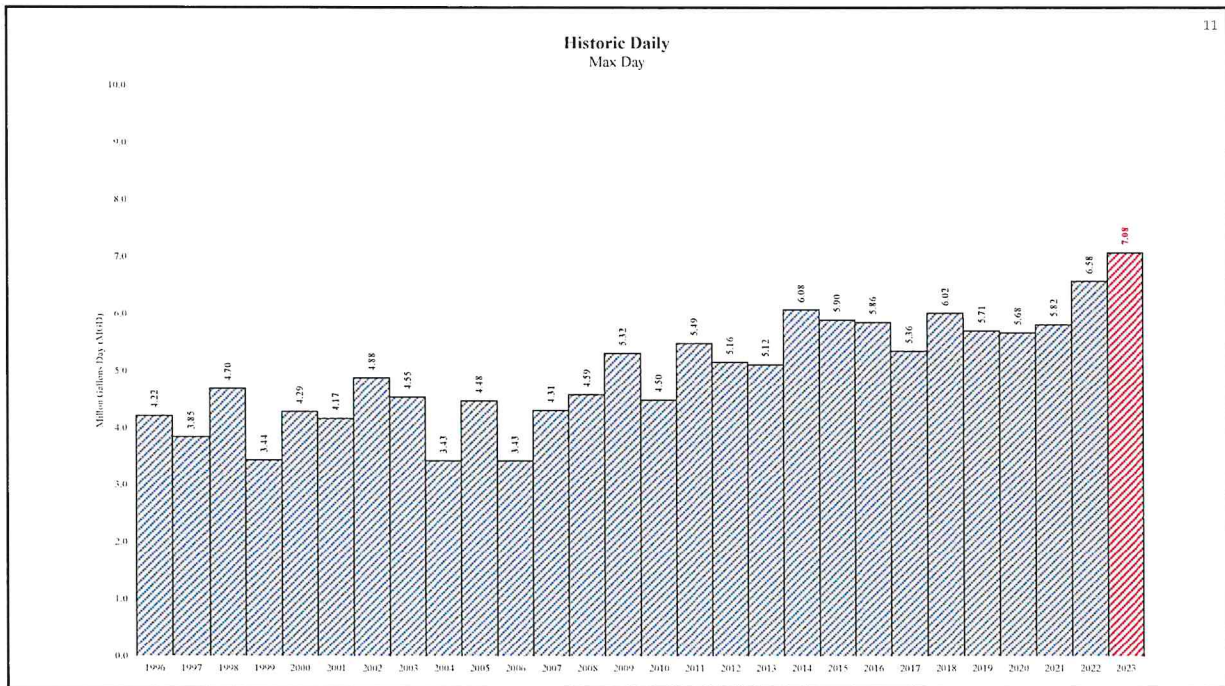


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**HOW MUCH WATER DOES BELTON
HAVE ACCESS TO?**

**HOW DOES BELTON RECEIVE ITS
WATER SUPPLY?**

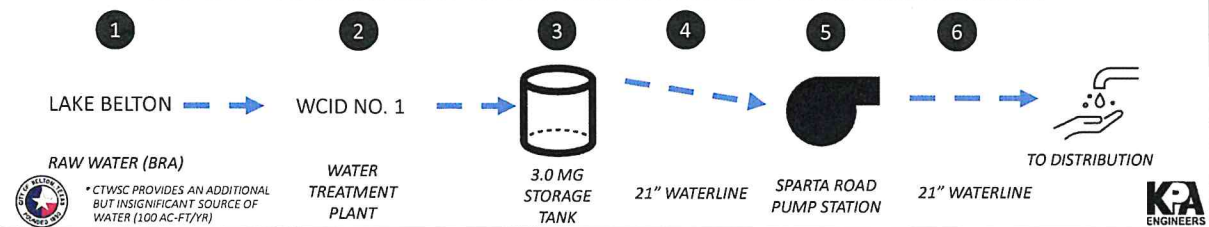
WHAT LIMITING FACTORS EXIST?

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RAW WATER to DISTRIBUTION

1. LAKE BELTON PROVIDES RAW WATER (BRAZOS RIVER AUTHORITY)
2. WCID NO. 1 TREATS RAW WATER
3. BELTON DRAWS TREATED WATER FROM 3.0 MG STORAGE TANK @ WCID NO. 1
4. WATER CONVEYS ALONG SPARTA ROAD IN 21" TRANSMISSION MAIN
5. SPARTA ROAD PUMP STATION PRESSURIZES WATER
6. PRESSURIZED WATER IS SENT TO DISTRIBUTION IN 21" TRANSMISSION MAIN

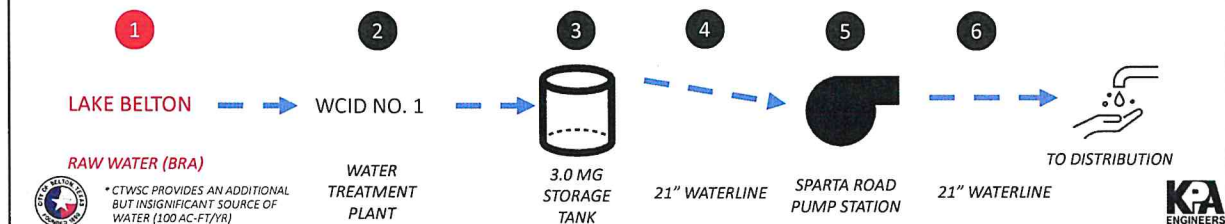


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RAW WATER to DISTRIBUTION

1. LAKE BELTON PROVIDES RAW WATER (BRAZOS RIVER AUTHORITY)

- ANNUAL MAXIMUM BY CONTRACT = 8,466 AC-FT/YR

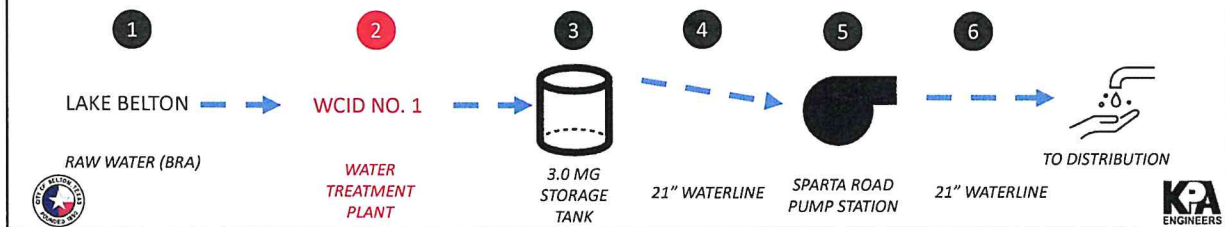


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RAW WATER to DISTRIBUTION

2. WCID NO. 1 TREATS RAW WATER

- ANNUAL MAXIMUM BY CONTRACT = 5,966 AC-FT/YR
- DAILY MAXIMUM BY CONTRACT = 10.0 MILLION GALLONS PER DAY

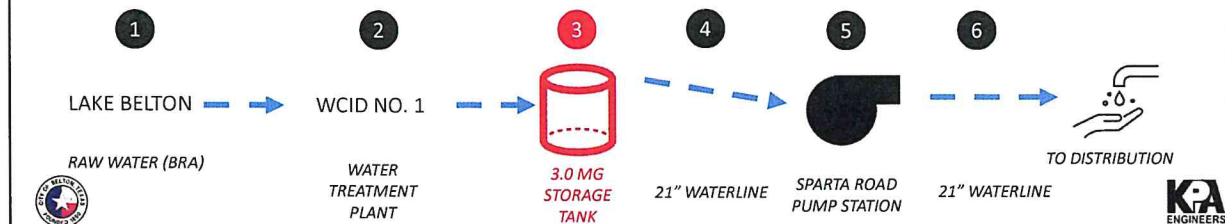


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RAW WATER to DISTRIBUTION

3. BELTON DRAWS TREATED WATER FROM 3.0 MG STORAGE TANK

- STORAGE TANK OWNED / MAINTAINED BY WCID NO. 1
- TCEQ COMPLIANCE: CITY IS CONSIDERED TO "OWN" 90% OF THE WATER STORED

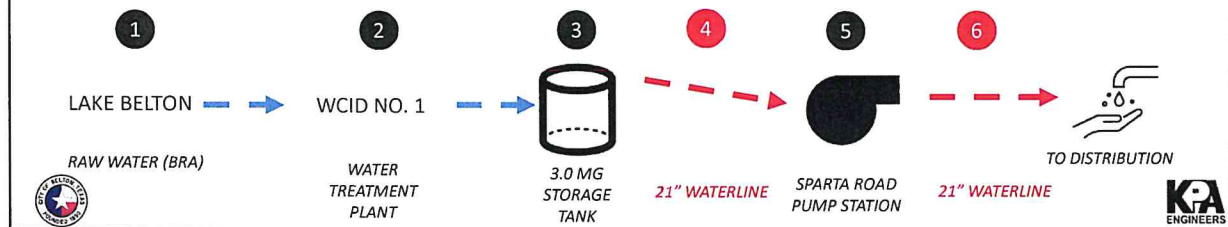


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RAW WATER to DISTRIBUTION

4./6. 21" TRANSMISSION

- BRINGS WATER TO SPARTA ROAD PS, THEN TO DISTRIBUTION
- CAPACITY = 10.0 MILLION GALLONS PER DAY

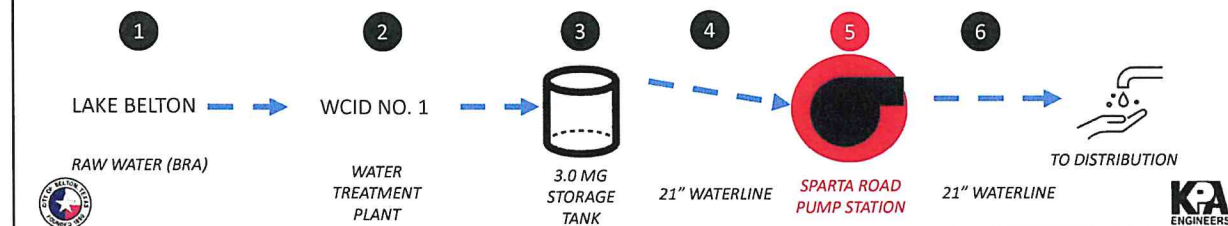


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RAW WATER to DISTRIBUTION

5. SPARTA ROAD PUMP STATION PRESSURIZES WATER

- PUMPS WATER TO DISTRIBUTION
- EXISTING CAPACITY = 8.64 MGD



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HOW ARE FUTURE WATER NEEDS DETERMINED?

WHEN WILL FUTURE WATER NEEDS EXCEED THE CAPACITY OF CRITICAL INFRASTRUCTURE?



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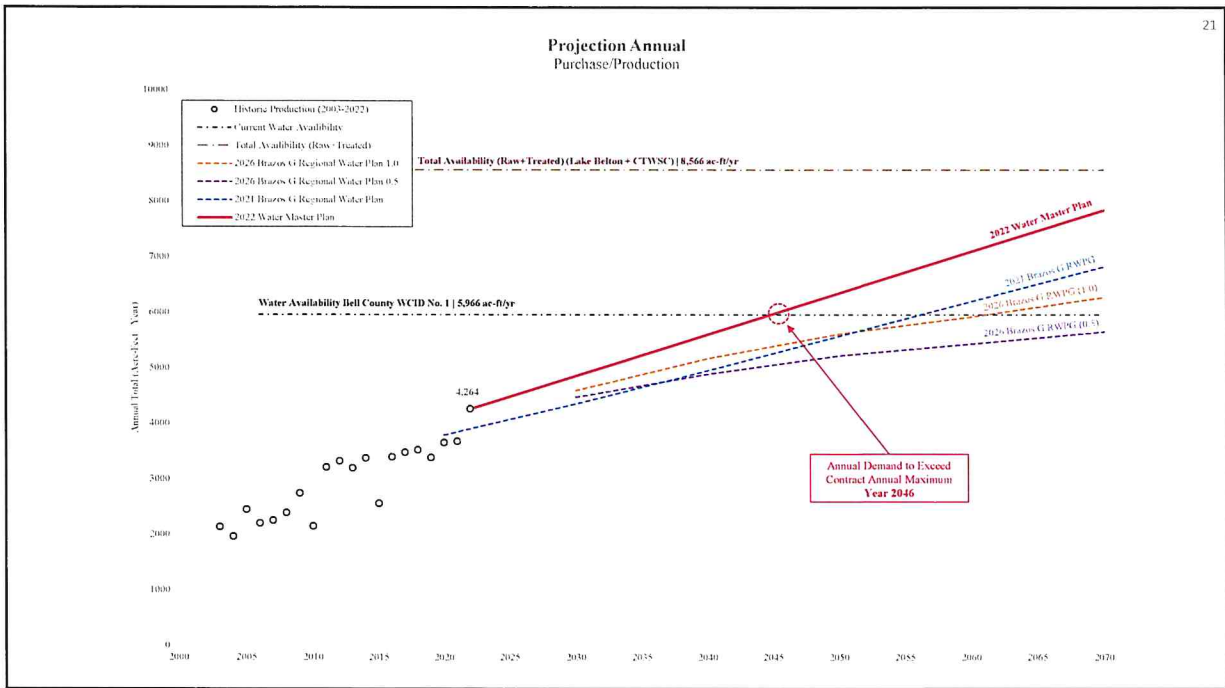
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PROJECTIONS OF FUTURE WATER USE

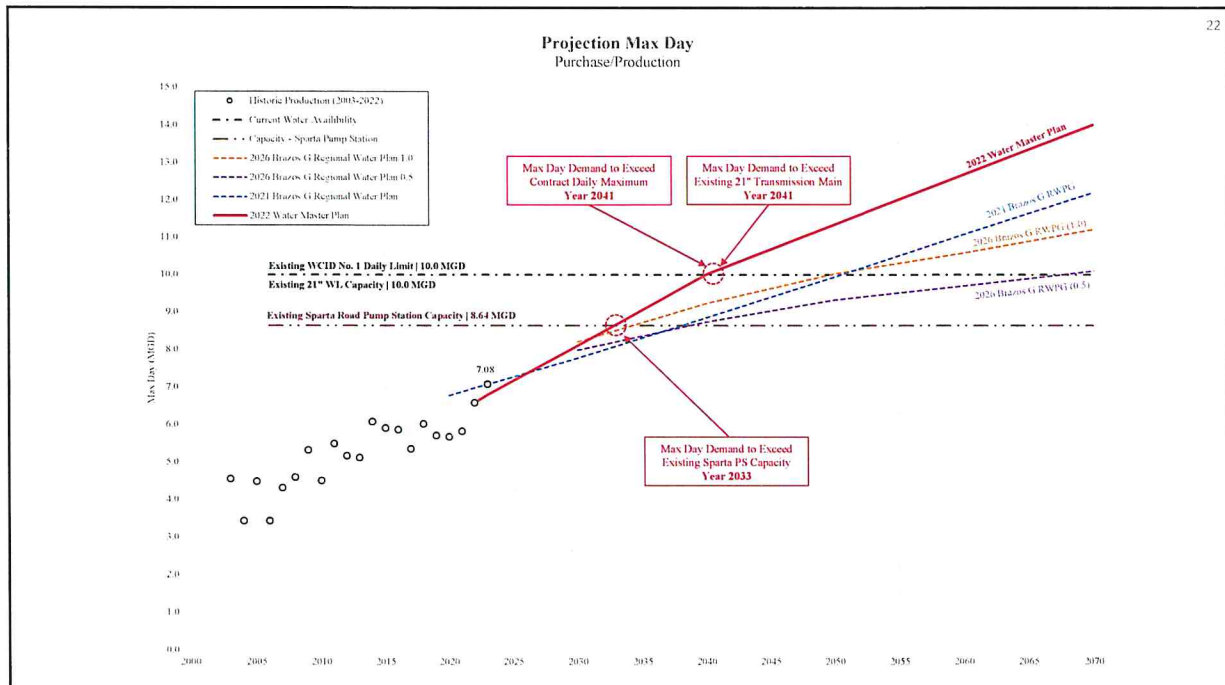
- **TEXAS WATER DEVELOPMENT BOARD PROJECTIONS**
 - 2021 BRAZOS G RWPG – PUBLISHED
 - 2026 BRAZOS G RWPG – FORTHCOMING
- **2022 WATER MASTER PLAN PROJECTION**
 - UTILIZES 2021 BRAZOS G RWPG AS BASIS
 - ADJUSTMENTS MADE IN DISCUSSIONS WITH CITY STAFF
 - ACCOUNTS FOR ANTICIPATED 3,600 LUEs IN NEAR FUTURE (10,800 NEW RESIDENTS)
 - ❑ RIVER FARM = 1,775 LUEs (5,325 NEW RESIDENTS)
 - ❑ 3 CREEKS REMAINING BUILD-OUT = 230 LUEs (690 NEW RESIDENTS)
 - ❑ SKYVIEW = 220 LUEs (660 NEW RESIDENTS)
 - ❑ ETC...



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HOW IS THIS FUTURE WATER DEMAND EXPECTED TO BE DISTRIBUTED AROUND BELTON?



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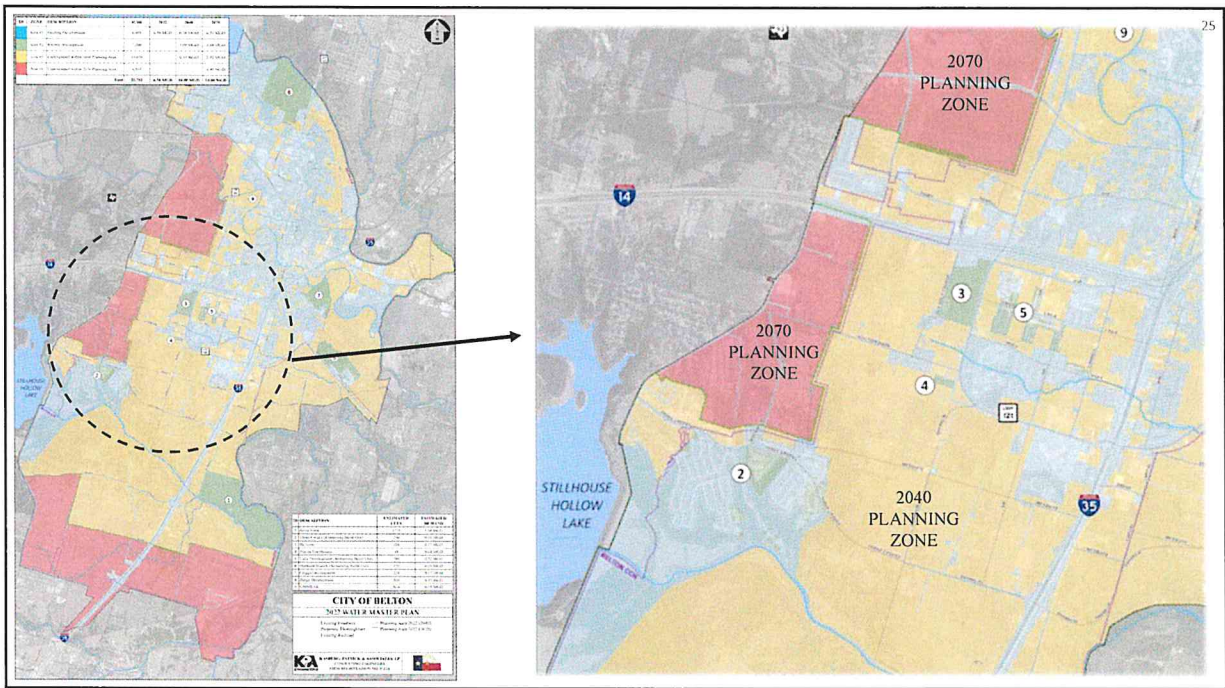
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PROJECTIONS OF FUTURE WATER USE

- **2022 - EXISTING SYSTEM – 6.58 MGD**
 - + 6.58 MGD | WATER USE BY INDIVIDUAL METER PROCESSED FOR 2022
- **2040 - NEAR FUTURE SYSTEM – 10.0 MGD**
 - 6.58 MGD | WATER USE BY INDIVIDUAL METER PROCESSED FOR 2022
 - + 3.11 MGD | KNOWN INCOMING DEVELOPMENT
 - + 0.31 MGD | GENERAL DISTRIBUTION BY LAND USE WITHIN 2040 PLANNING AREA
- **2070 - FUTURE – 14.0 MGD**
 - 6.58 MGD | WATER USE BY INDIVIDUAL METER PROCESSED FOR 2022
 - 3.11 MGD | KNOWN INCOMING DEVELOPMENT
 - + 4.31 MGD | GENERAL DISTRIBUTION BY LAND USE WITHIN 2070 PLANNING AREA





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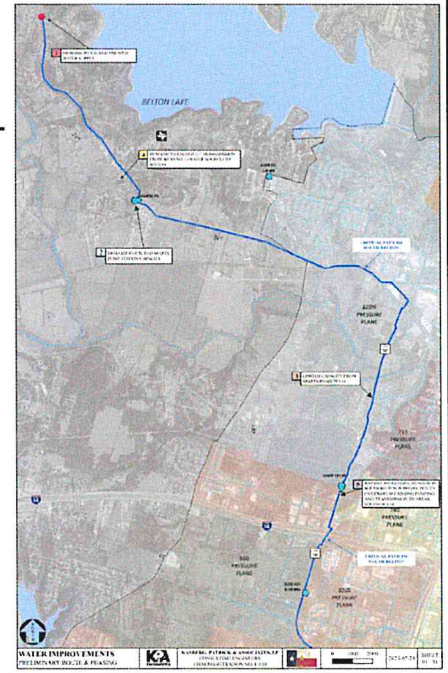
WHAT MAJOR SYSTEM LIMITATIONS EXIST?

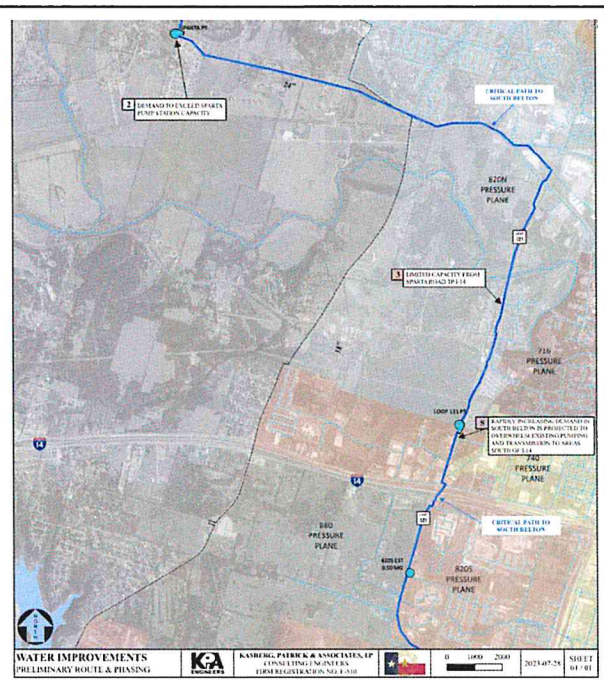
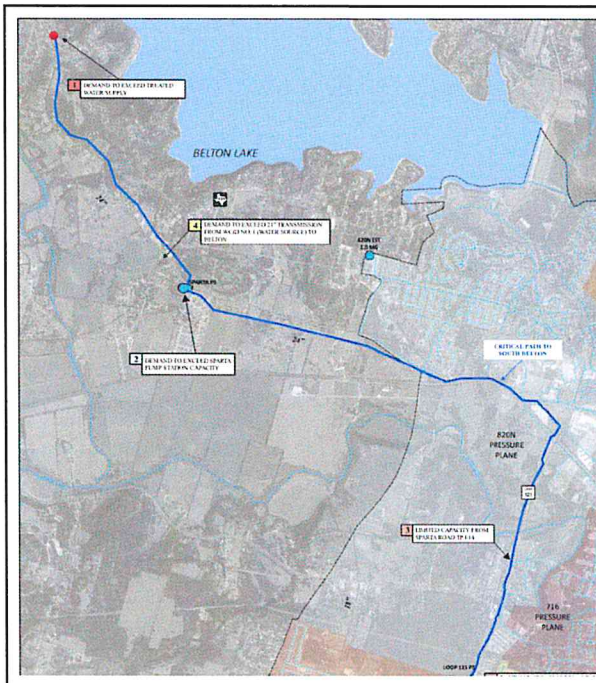
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MAJOR SYSTEM LIMITATIONS

1. DEMAND TO EXCEED TREATED WATER SUPPLY
2. DEMAND TO EXCEED SPARTA PUMP STATION CAPACITY
3. LIMITED CONVEYANCE FROM SPARTA RD TO I-14 (BOTTLE-NECK)
4. DEMAND TO EXCEED 21" TRANSMISSION FROM WCID NO. 1 (WATER SOURCE) TO BELTON
5. RAPIDLY INCREASING DEMAND IN SOUTH BELTON IS PROJECTED TO OVERWHELM EXISTING PUMPING AND TRANSMISSION TO AREAS SOUTH OF I-14



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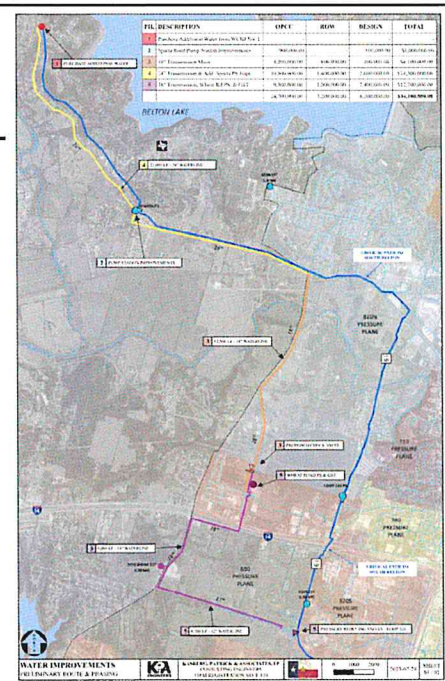
WHAT ARE THE RECOMMENDED SOLUTIONS TO ADDRESS THE MAJOR LIMITATIONS PRESENTED?



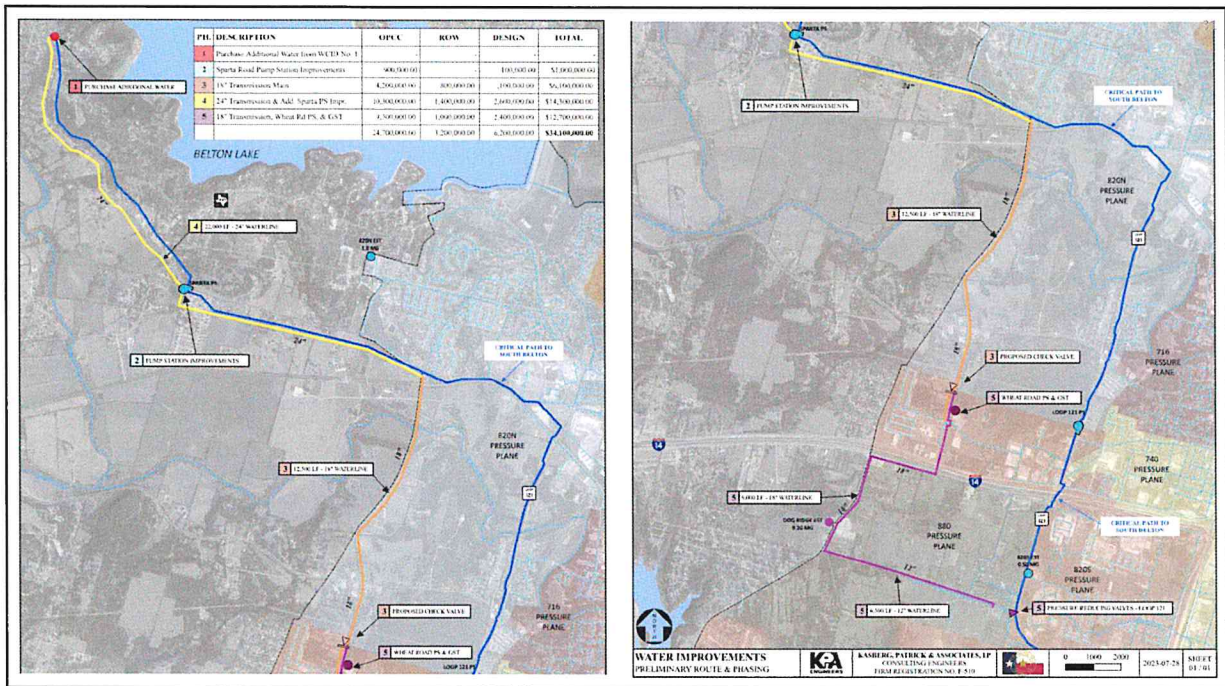
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RECOMMENDED IMPROVEMENTS

1. PURCHASE ADDITIONAL TREATED WATER FROM WCID NO. 1
(BELTON IS OFFERED THE 1ST RIGHT OF REFUSAL UP TO 4.0 MGD FROM WCID NO. 1)
2. COMPLETE THE SPARTA PUMP STATION IMPROVEMENTS
(CURRENTLY IN-DESIGN)
3. CONSTRUCT 18" TRANSMISSION MAIN FROM SPARTA ROAD TO AVENUE D
4. CONSTRUCT 24" TRANSMISSION MAIN ALONG SPARTA ROAD
PARALLEL TO EXISTING
5. CONSTRUCT WHEAT ROAD PUMP STATION AND DISCHARGE
PIPING TO SOUTH BELTON



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BELTON WATER MASTER PLAN

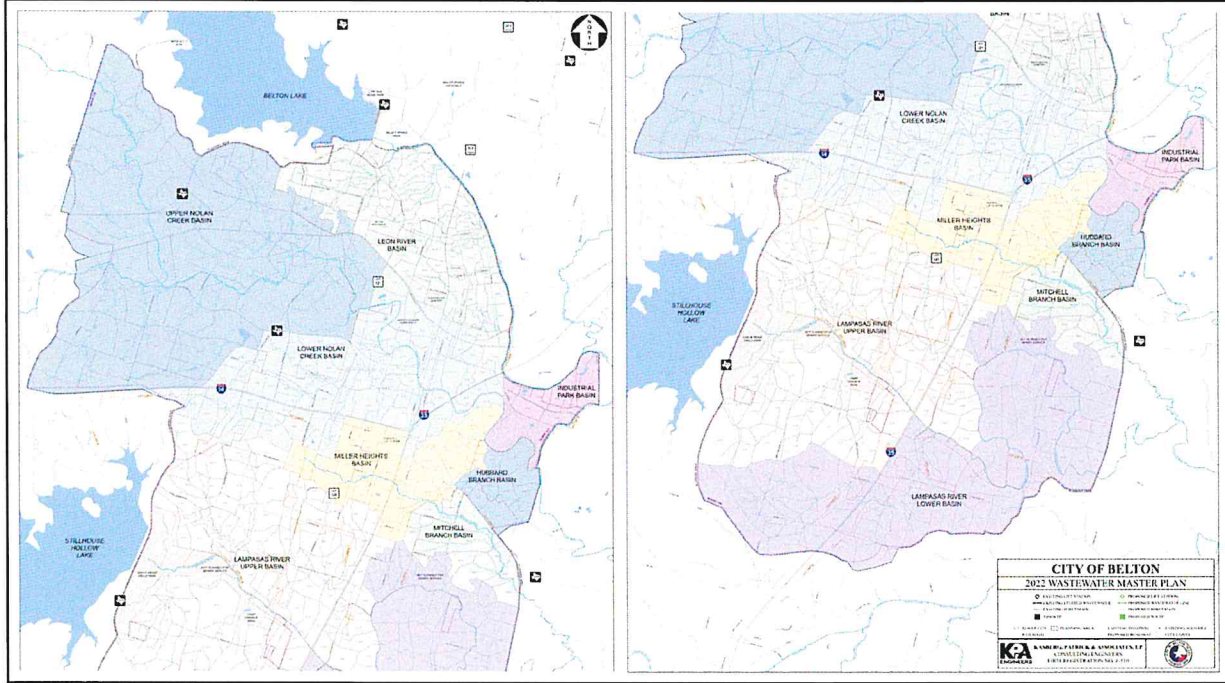
COUNCIL UPDATE

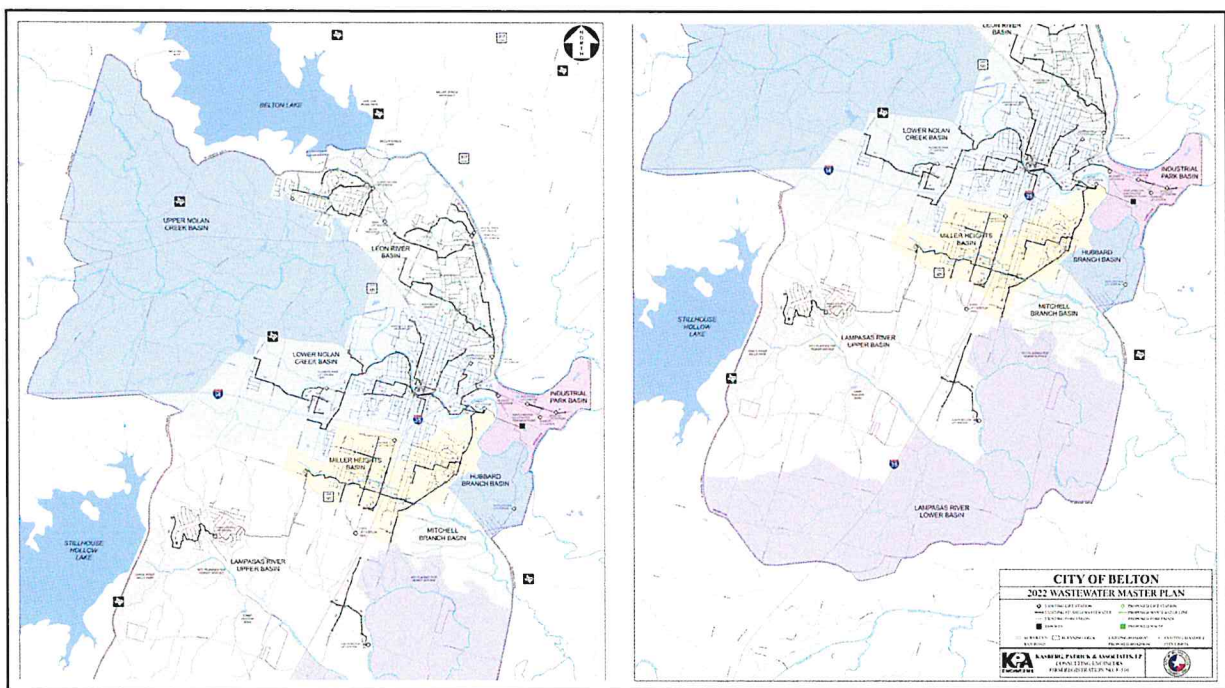
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