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City of Ennis Water & Wastewater Townhall

January 22, 2026



Welcome to the Town Hall



**Andrea Weckmueller-Behringer,
AICP, GISP, RAS
City Manager**
*29 Years of Experience
< 1 Year with the City of Ennis*

- Long-term Infrastructure Planning & Project Implementation
- Data Analysis & Risk Management
- Adaptation & Process Optimization
- Financial Forecasting & Budget Control



Town Hall Purpose



Share Information on City of Ennis Water and Wastewater Systems

1. Current State of Systems
2. Existing Challenges
3. Efforts to Support Future Growth



Townhall Overview



- Community Growth
- Water and Wastewater Systems
- Water Capacity + Study + Conditions
- Wastewater Capacity + Study + Conditions
- Utility Projects & Future Planning
- Q&A and Breakout Session



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Community Growth



Understanding Community Growth



Miriam Castillo, MBA, IOM Economic Development Director

20 Years of Experience

< 1 Year with the City of Ennis

- Municipal and nonprofit
- Business and Economic Development
- Workforce Development
- Small Business & Entrepreneurship
- Strategic Planning

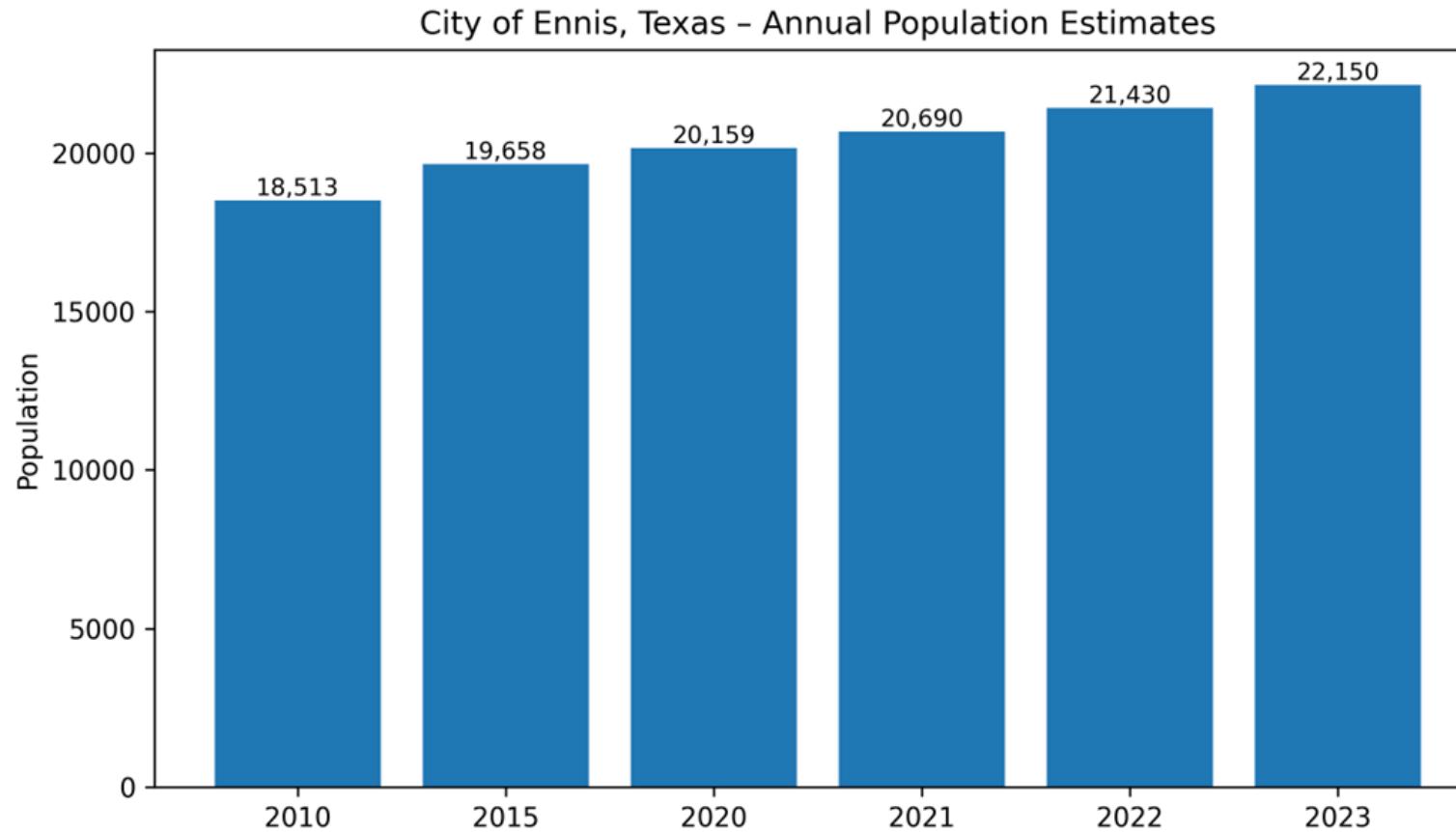




Residential Growth



Average annual growth rate of 5.27% since 2020



**July 1, 2024
Estimated
Population:
24,753**

**Estimated
2025-2030 Growth:
8.97%**

Source: U.S. Census Bureau, 2025 Retail Report



Industrial & Commercial Growth



Recent Industrial Investments

- Freshpet \$264M
- Loloi \$20M
- Benoit \$17M
- Soprema \$77M
- Ennis Steel \$12M

New Construction (Commercial)

- 62 – FY 2025



Workforce Opportunities



650 EMPLOYEES
PLASTICS
MANUFACTURING



350 EMPLOYEES
MATTRESS
MANUFACTURING



300 EMPLOYEES
HEALTHY DOG & CAT
FOOD MANUFACTURER



290 EMPLOYEES
ROOFING, SIDING, AND
INSULATION WHOLESALE



268 EMPLOYEES
DISTRIBUTION



212 EMPLOYEES
HORTICULTURAL CHEMICAL
MANUFACTURING



210 EMPLOYEES
STEEL FABRICATION &
SOLAR STRUCTURES



150 EMPLOYEES
PLASTICS PRODUCT
MANUFACTURING



138 EMPLOYEES
STRUCTURAL AND STEEL
MANUFACTURING



125 EMPLOYEES
ALL OTHER PLASTICS
PRODUCT MANUFACTURING





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Water & Wastewater Systems



Taking Care of Our Infrastructure



Douglas Taylor Public Works Director

*26 Years of Experience
3 years at the City of Ennis*

- **Manages Public Works**
 - 72 total employees in Department
 - 3 Divisions
 - Public Works / Engineering
 - Utility Operations
 - Transportation Services





Taking Care of Utility Operations



Welcome

PUBLIC WORKS
ASSISTANT
DIRECTOR

Crystal Harness

Start Date: June 25th

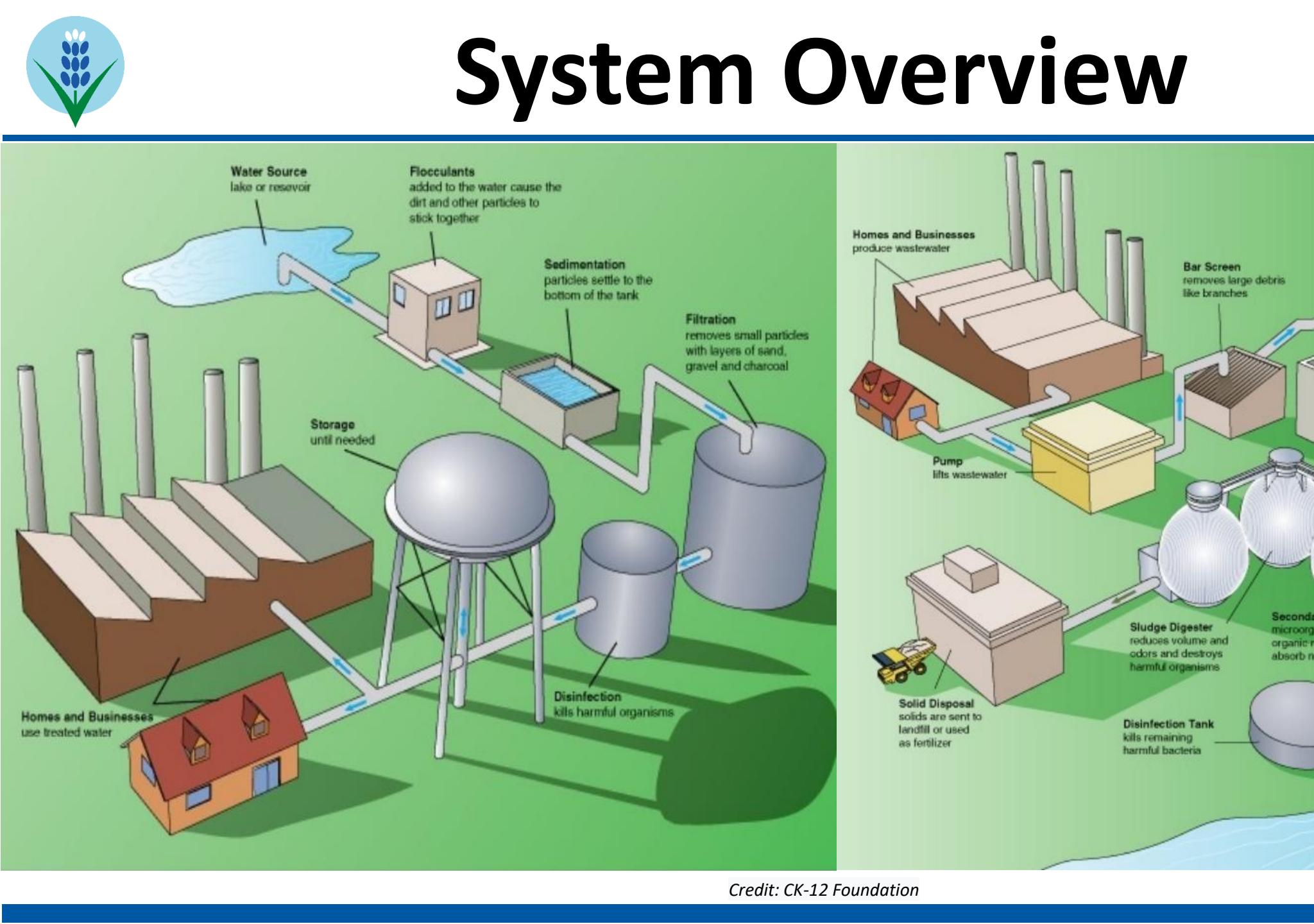


**Crystal Harness,
Public Works Assistant
Director**

*10 Years of Experience
< 1 year with City of Ennis*

- **Manages Utility Operations**
 - Collections and Distributions
 - Water Treatment Plant
 - Wastewater Treatment Plant

System Overview





System Replacement Value



- **Intake Pump at Lake Bardwell:** Average cost is ~\$4 Million per Million Gallons per Day (MGD)
 - approximately **\$35 Million** for 9 MGD plant
- **Water Treatment Plant:** ~\$15 Million per MGD
 - approximately **\$135 million** for 9 MGD
- **Wastewater Treatment Plant:** \$40 to \$50 Million per MGD
 - approximately **\$180 Million** for 4 MGD



System Replacement Value



- **Water Distribution:** **\$237 Million** for 187 miles of lines
- **Elevated Storage Tanks:** \$5.6 per Million Gallon (MG)
 $3 \times \text{EST} = 2.5 \text{ MG}$ $2.5 \times \$5.6 = \14 Million
- **Wastewater Collection:** **\$199 Million** for 157 miles of lines
- **Lift Stations:** \$3.63 million Prairie View Lift station 2025 – multiplied by 23 of lift stations in the City.
 $23 \times \$3.63 \text{ Million} = \83.5 Million



Average Installation Cost



- ~\$30 per inch of line diameter per linear foot of line
 - *Example: 1 mile of 8-inch Main*
~ \$1.27 million





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Water Treatment Capacity



Treated Water Quality

CY 2024
Drinking Water
Quality Report
(CONSUMER CONFIDENCE REPORT)



107 N. Sherman Street
Ennis, Texas 75119
(972) 875-1234

<https://www.ennistx.gov>
0700001

- Multiple daily samplings performed
- Testing done in compliance with latest U.S. Environmental Protection Agency rules
- Monthly reporting to Texas Commission on Environmental Quality (TCEQ)
- Annual Consumer Confidence Reports (CCR) sent to all customers based on year-long data
- **Demonstrated history of high-quality treated water**



Water Treatment Plant (WTP)



- WTP is currently permitted to process up to 9.1 MGD.
- Facility can sustain 7 MGD.
- At historic growth rates (~1% per year), the current WTP capacity was projected to be sufficient through 2036.
- WTP capacity is tied to pace of development.
 - Based on previous growth projections, in 2026, planning and design for additional capacity (85% rule) should have been initiated.



Water Treatment Plant



- 2021 recommendation to construct line to return WWTP outfall to Lake Bardwell.
 - Would have returned at least 3.3 million gallons per day (MGD) to Lake Bardwell -- *but was not completed.*
- 2021 recommendation to expand capacity of WTP.
 - Design began in 2023 -- *but 2025 review revealed several constructability and compliance concerns requiring re-design.*



Top Water Users



- Ennis Power Plant – using 16.7% **raw water**
- Fresh Pet – 140.5 **Million Gallons per Year (MGY)**
- GAF (Elk Corp.) – 79.8 MGY
- TAMKO Building Products – 28.4 MGY
- Sterilite – 22.3 MGY
- Community Water (Garrett) – 24.3 MGY
- East Garrett – 23.8 + 20.7 MGY
- Rice – 17.0 MGY



Bardwell Lake - Raw Water Rights



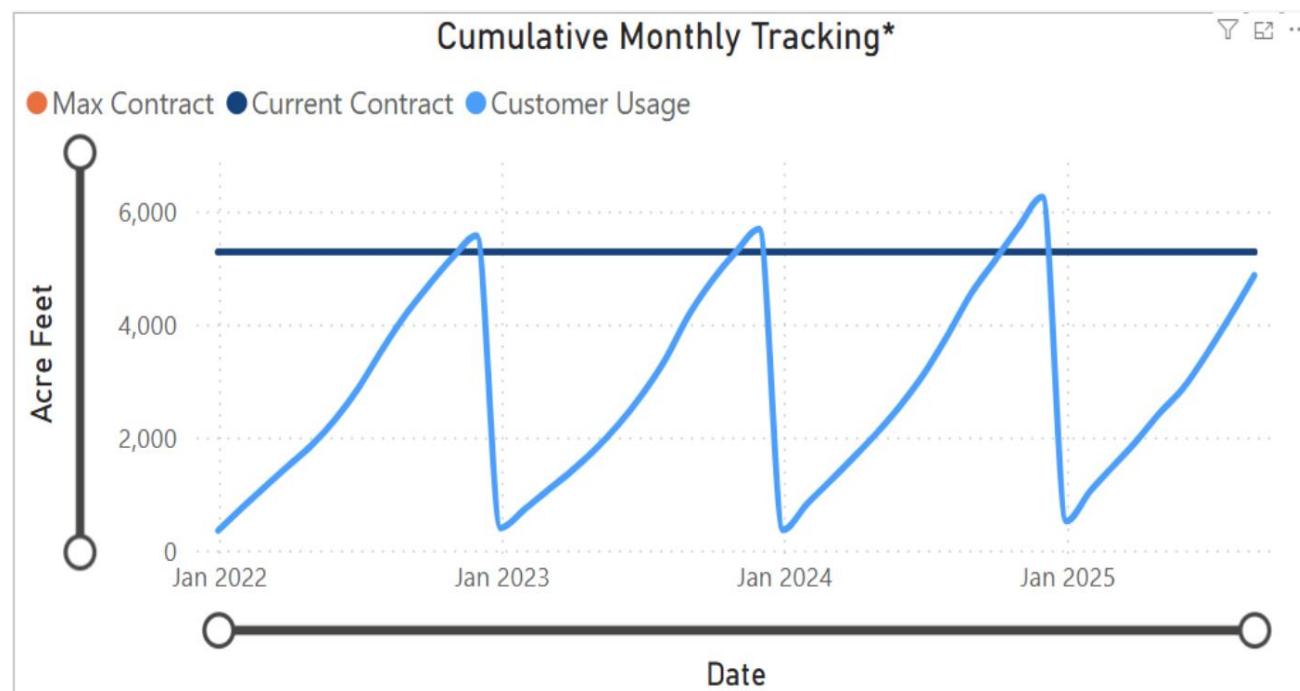
Total Annual Usage					
Fiscal Year	Customer	Usage	Current Contract	Max Contract	% of Contract Used
Fiscal Year 2025	City of Ennis	4865.62	5280	5280	92.15%

Monthly Usage AF					
Customer	Year	Month	Usage	Cumulative Usage	Water Remaining
City of Ennis	2024	December	517.62	517.62	4762.38
City of Ennis	2025	January	533.15	1050.77	4229.23
City of Ennis	2025	February	417.31	1468.08	3811.92
City of Ennis	2025	March	454.62	1922.7	3357.3
City of Ennis	2025	April	496.58	2419.28	2860.72
City of Ennis	2025	May	448.3	2867.58	2412.42
City of Ennis	2025	June	597.38	3464.96	1815.04
City of Ennis	2025	July	679.02	4143.98	1136.02
City of Ennis	2025	August	721.64	4865.62	414.38
City of Ennis	2025	September		4865.62	414.38
City of Ennis	2025	October		4865.62	414.38
City of Ennis	2025	November		4865.62	414.38

One Acre Foot = 325,851.43 Gallons

5,280 Ac Ft = 1,720.5 Million Gallons

Based on 4th quarter 2025 monthly reports, it appears that the City exceeded the contracted volume of 1.72 BGY (Average 4.6 MGD)





Regional Water Capacity Study



- **Trinity River Authority (TRA) serves as lead agency.**
- Study explores **availability of untreated water** for cities and districts in Ellis County and parts of Johnson County.
- **Study partners are:**
 - **Cities of Ennis, Italy, Midlothian, and Waxahachie**
 - **Water Supply Corporations of Rice, Sardis-Lone Elm**
 - **Special Utility Districts of Buena Vista-Bethel, Johnson County, Mountain Peak, Rockett, and Tarrant Regional Water District**



Regional Water Capacity Study



- Includes **evaluation of feasibility** of a regional water treatment and supply system.
- Includes **projection of long-term water use** for area.
 - Phase 1 – 10- to 15-year horizon
 - Phase 2 – 25- to 30-year horizon
 - Phase 3 – 50-year horizon
- **Study to be completed by July 2026.**

Important Note: Study does not guarantee participants a certain amount of water or specific location of infrastructure.



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Water Treatment Plant – Current Condition



Raw Water Intake Structure



Raw Water Supply

- Construction began 1960-1962
- Built: August 28, 1963
- Water Impounded: November 20, 1965
- Dam Completed: March 27, 1966



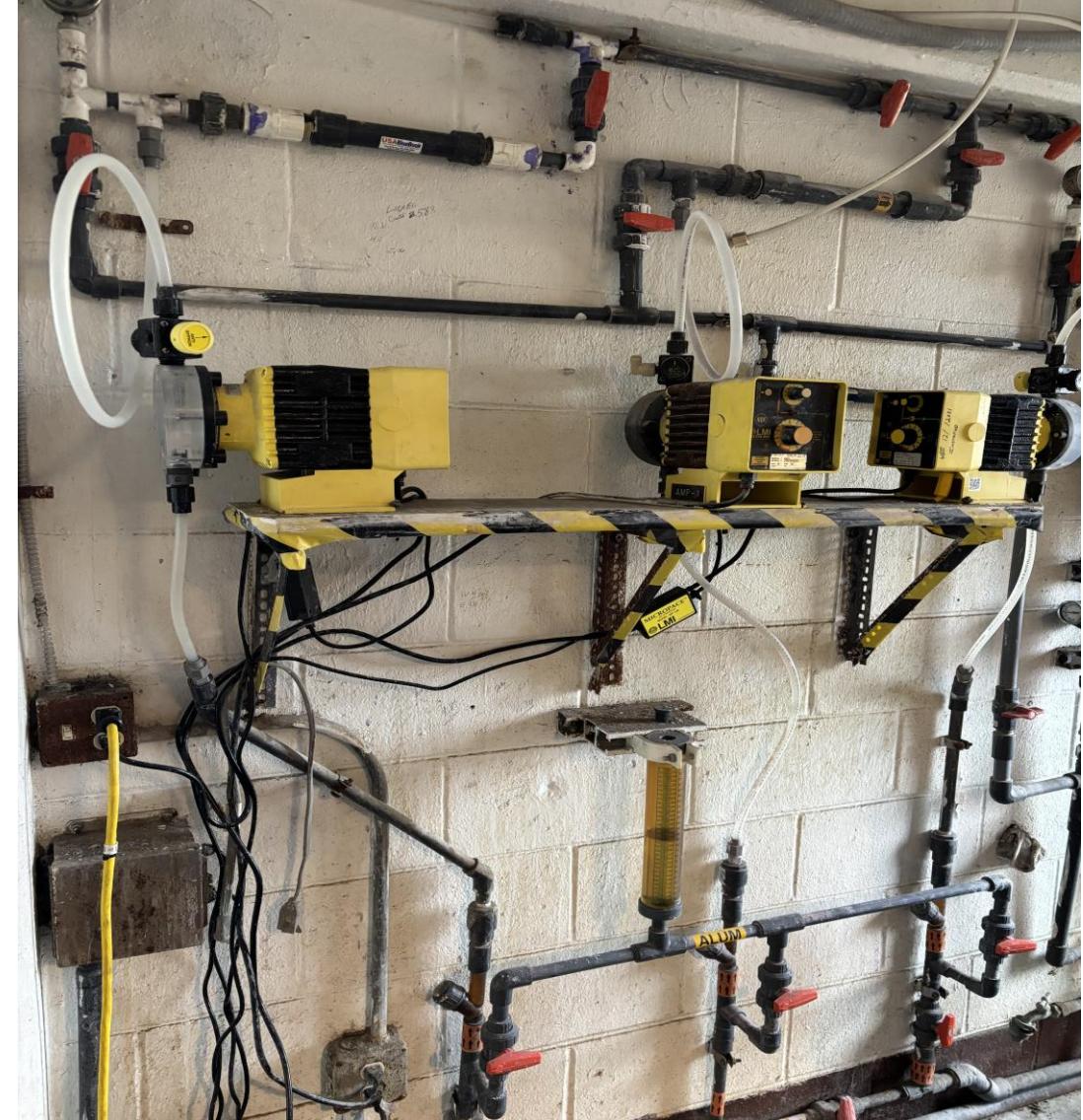


Raw Water Intake Structure





Chemical Injection Room





Filter Gallery





High Service Pumps



Pump Motors replaced in 2002





Ground Storage Tanks



In service since 1966

- 1M-gallon tank
- High Service: 4 pumps
- 750K-gallon elevated storage tank



In service since 1985

- 1M-gallon tank
- 24" Water line to town
- 750K-gallon elevated storage tank



Water Towers



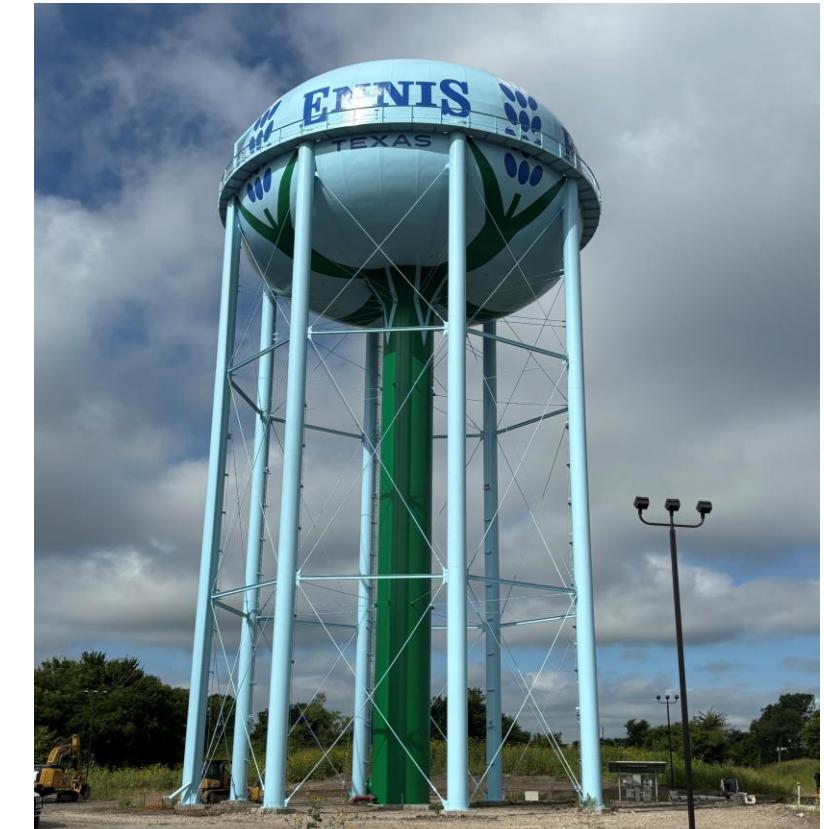
No significant improvements to WTP since 1985, except Tower #3



#1 Elevated Storage Tank
750,000 Gallons



#2 Elevated Storage Tank
750,000 Gallons



#3 Elevated Storage Tank
1,000,000 Gallons (2025)



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Wastewater Treatment Capacity



Wastewater Discharge Permit



- Prior to October of 2025 the permit was 3.1 MGD.
The current permit established in November is 4.0 MGD.
- An **effluent permit** is like a guidebook.
 - It tells the plant *how clean the water is supposed to be* before it can go back into the river, lake, or creek.
- The permit holds the city accountable, to ensure water sources stay safe for **animals, plants, and people who play or drink it**.



Wastewater Treatment Plant (WWTP)



- WWTP Upgrades phased based on 2021 study commissioned by City.
 - 2021 - Renew existing WWTP permit – Increase to 4 MGD
(Completed November 2025)
 - 2022-2024 - Design and Construct **Phase 3** WWTP Upgrades – Equalization basin modifications to offset peak flows
(Working towards recommendation as part of Sewer Capacity Study)
 - 2024-2027 - Design and Construct **Phase 4** WWTP Upgrades – Increased capacity to ~5.0 MGD **(Not yet initiated)**
 - After 2027 - Design and Construct **Phase 5** WWTP Upgrades – Additional capacity above 5.0 MGD **(Not yet initiated)**

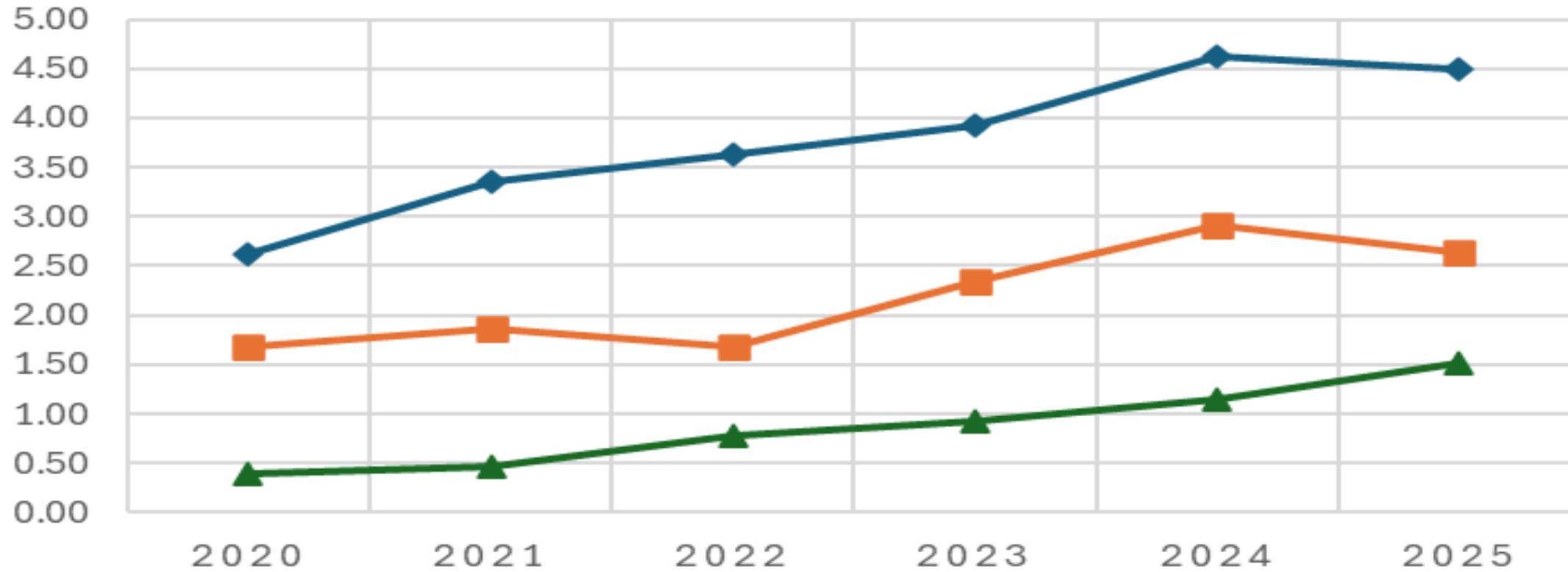


Wastewater Treatment Plant



WWTP FLOWS IN MGD

—◆— INFLUENT —■— EFFLUENT —▲— ENNIS POWER





City-wide Sewer Capacity Study



- City of Ennis engaged engineering firm to perform a **Wastewater Master Plan Update**.
- **Scope elements include:**
 - Population projections for 5-year, 10-year, and buildout.
 - Flow data collection.
 - Hydraulic model development and analyses.
 - Updated wastewater capital improvement plan (CIP) and development of a Wastewater Master Plan Report.
- Includes hydraulic and capacity of the WWTP to include **assessment of existing equalization basins**.

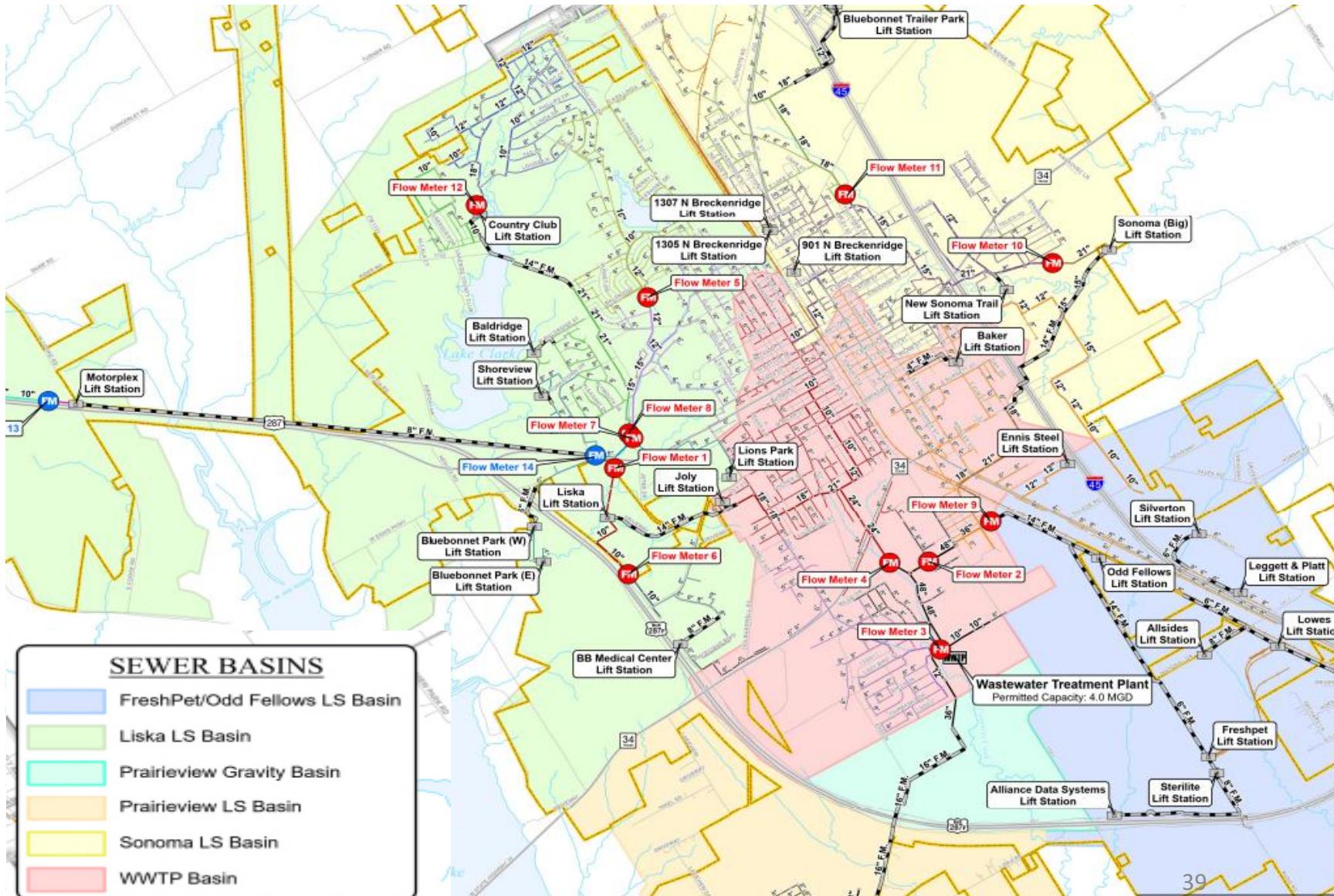


Sewer Capacity Study - Flow Data



Flow Meter	Linear Footage	Pipe Diameter
1	18,248	24
2	95,109	48
3	39,845	18
4	95,876	48
5	44,798	12
6	8,745	10
7	46,117	15
8	35,322	24
9	9,121	21
10	98,460	21
11	65,507	18
12	41,608	18
13	5,355	10
14	770	10
Not Metered	68,258	
Grand Total	673,139	--

LINES BY FLOW METER	
Flow Meter 1	Flow Meter 9
Flow Meter 2	Flow Meter 10
Flow Meter 3	Flow Meter 11
Flow Meter 4	Flow Meter 12
Flow Meter 5	Flow Meter 13
Flow Meter 6	Flow Meter 14
Flow Meter 7	Not Metered
Flow Meter 8	





Sewer Capacity Study - Schedule



Project Task	Start Date	Completion Date
• B - Data collection	September 2025	February 2026
• C - Flow monitoring	September 2025	January 2026
• G - Wastewater Treatment Plant condition assessment	September 2025	May 2026
• D - Wastewater model development	January 2026	July 2026
• E - Wastewater model analysis	August 2026	December 2026
• F - Wastewater Master Plan and CIP	November 2026	February 2027

Project Task	2025				2026												2027		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
A Project Management, Collaboration, and Data Analysis																			
B Population, Non-Residential, and Wastewater Load Projections																			
C Temporary Flow Monitoring																			
D Wastewater Model Development and Calibration																			
E Wastewater System Modeling and Performance Analysis																			
F Wastewater Capital Improvement Plan and Master Plan Report																			
G Wastewater Treatment Plant Equalization Basin Evaluation and Condition Assessment																			



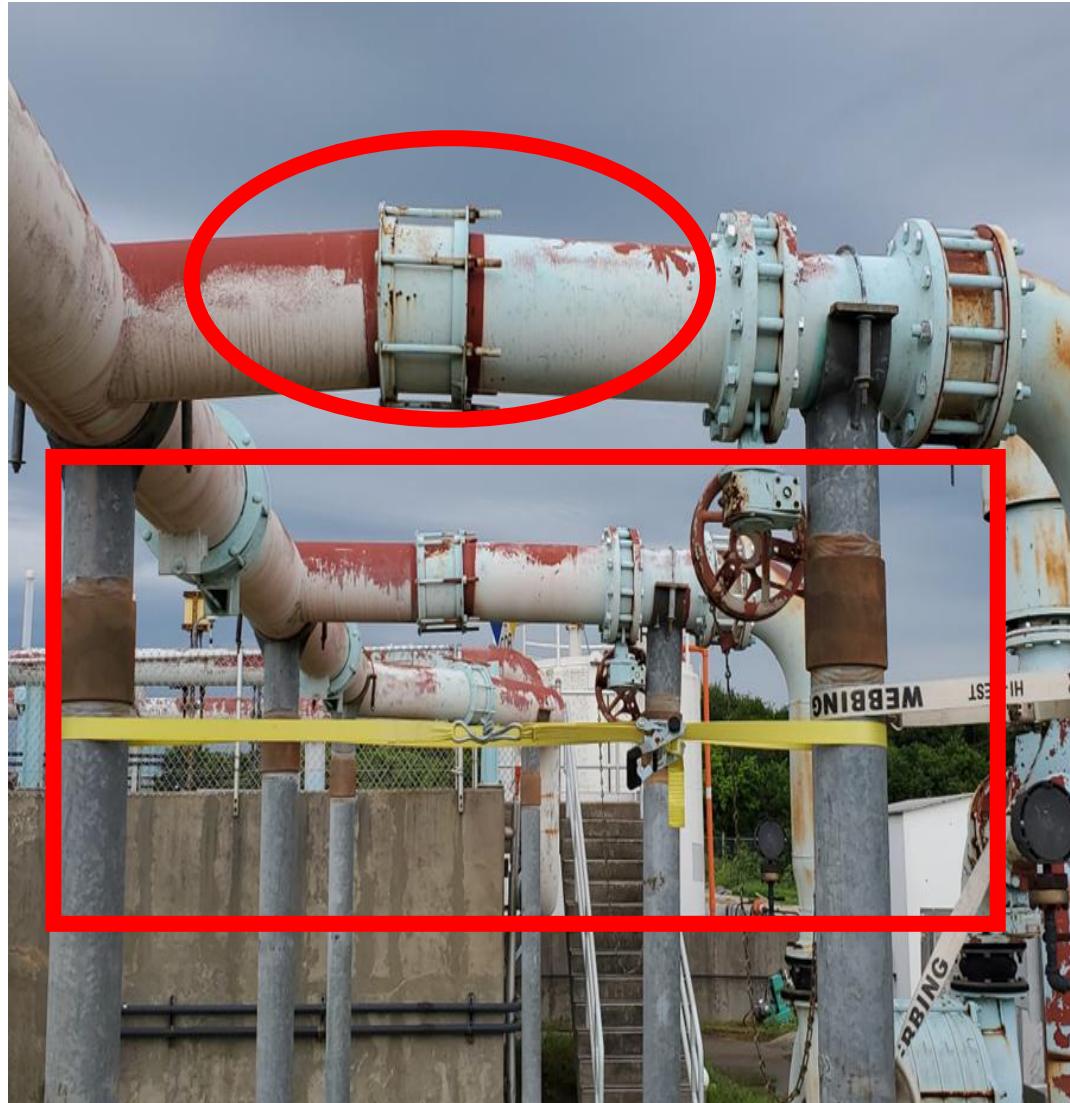
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Wastewater Treatment Plant – Current Condition



Aeration Equipment





Sludge Pumps



Helps remove solids from the sewer



FIXED



Clarifier, Chemical Building, Pumps





Belt Press Machine



Belt Press machine presses water from sewer debris allowing solids to go to landfill



Wet Weather Events (Heavy Rainfall)



Wastewater Treatment Plant (WWTP) rated to treat a maximum flow of 4.0 million gallons a day (MGD) -- *see left.*

Because of inflow & infiltration (I&I) during heavy rainfall events, influent volumes have surged to as high as 7.0 MGD -- *see right.*

The current sewer capacity study will cover system assessment and evaluate potential upgrades to accommodate peak wet weather flows and future growth.





Wet Weather Events (Heavy Rainfall)



Outfall

Comparisons between normal flows and flows during a wet weather event.





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Distribution & Collection – Current Condition





Distribution & Collection (D&C)



- Population in 2010 was 18,513; in 2024, it was 24,753
- Even with new growth, D&C staffing remains at 4 crews.



D&C Activities Overview



Recent Accomplishments:

• Calendar year to date	FY24 / FY25
• Water Main Repairs	276 / 476
• Water Meter Repairs	200 / 213
• New Water Meters	293 / 38
• Sewer Main Backups Cleared	559 / 928
• Manholes Repaired	12 / 4
• Service Cleanouts Installed	27 / 13
• Water Service Taps	40 / 19
• Wastewater Service Taps	40 / 21
• Lift Station Repairs	85 / 90

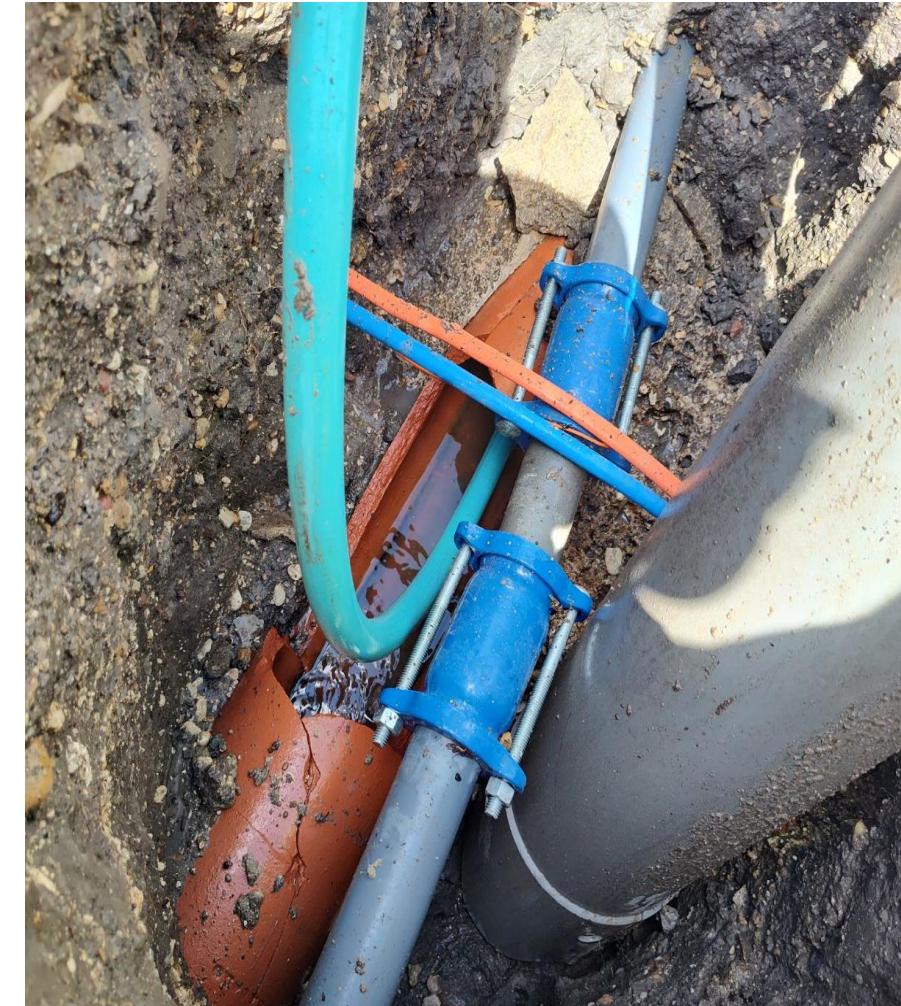




Water Distribution



- 8,700 Water meter connections
 - 11,415 Unit connections
- 1,288 Fire hydrants
- 3,324 Water valves
- 187 Miles of water mains





Collection

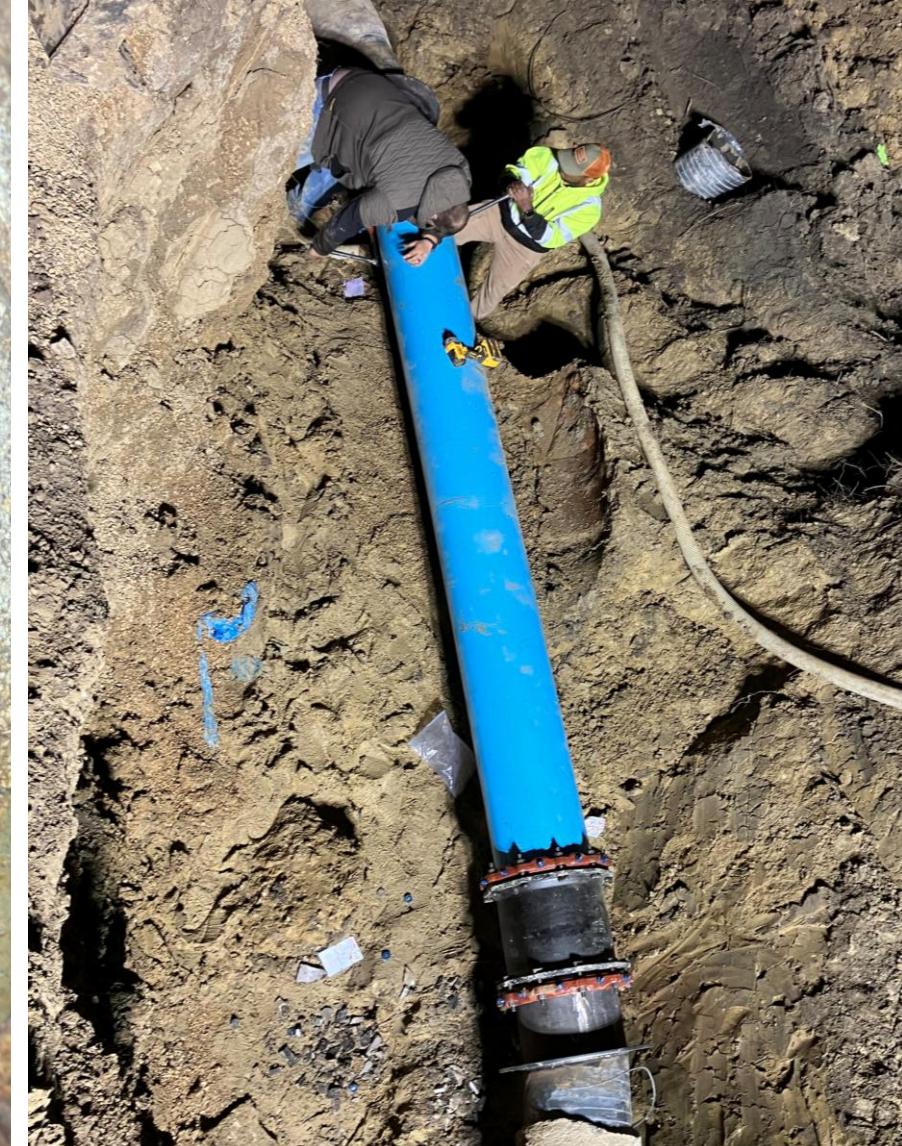


- City of Ennis currently has 23 lift stations.
- Inspections are done daily.
- I&I after heavy rainfalls can overload the system.



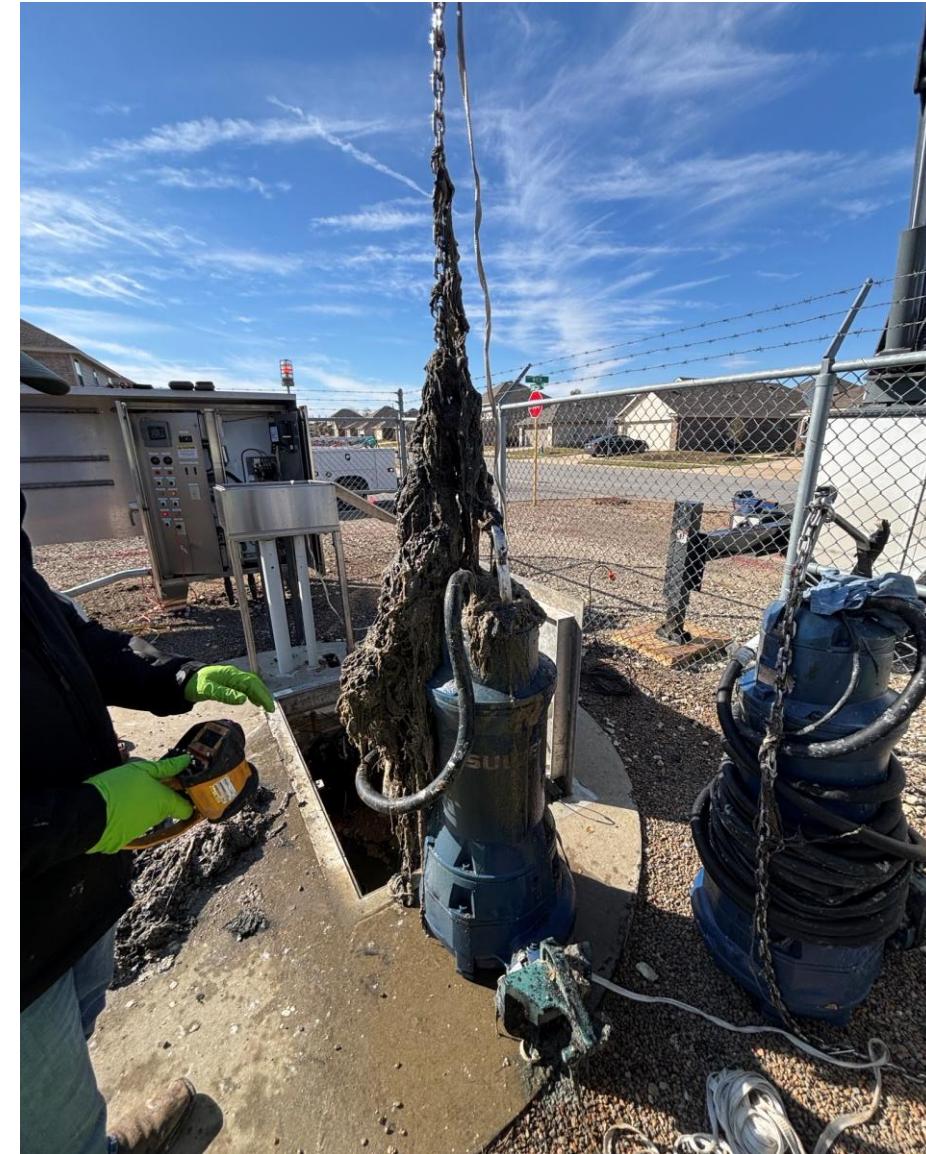


Lines and Manholes



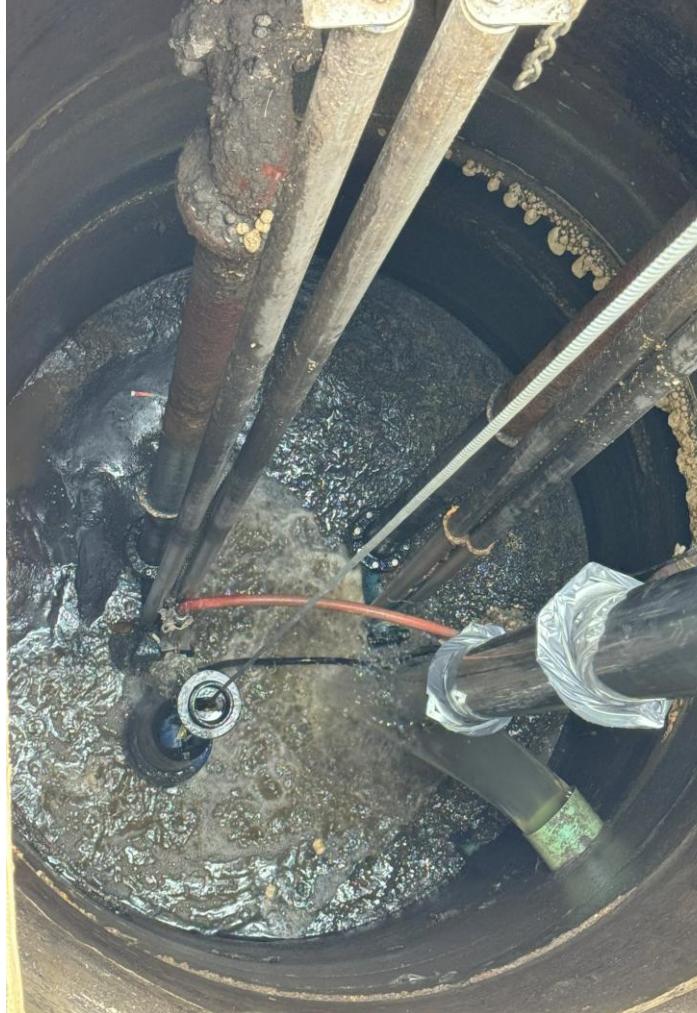
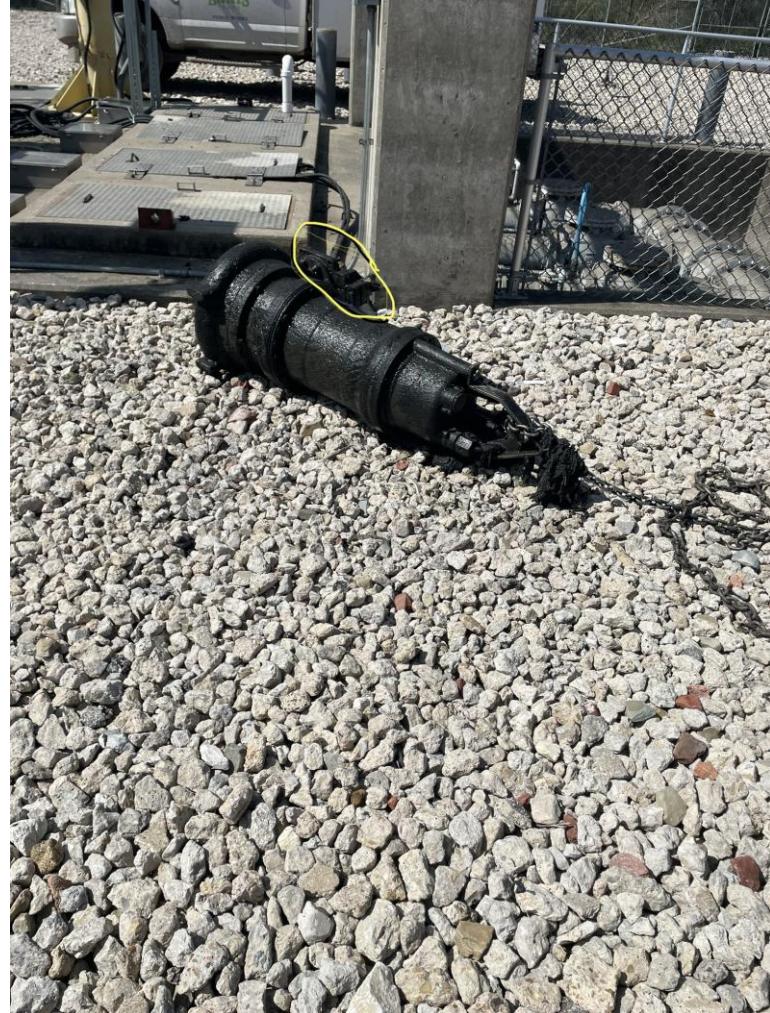


Lift Stations





Lift Stations





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Utility Projects





Utility Operations - Current Projects



- **2023 - 3 ongoing projects totaling \$6,416,800**
 - 2 projects at Water Treatment Plant
 - 1 project for the Elevated Water Tower on Wadley Rd.
- **2024 - 13 ongoing projects totaling \$6,444,375**
 - Various water line relocations for Ennis Ave. Design
 - Liska manhole rehab Design
 - Liska force main replacement Design
 - City wide SCADA
 - Various engineering reports



Utility Operations - Current Projects



- 2025 - 6 ongoing projects totaling \$5,593,957
 - Water Treatment Plant - re-design and construction
 - Underpass Project Water line relocation Construction
 - Wastewater Treatment Plant phased upgrade - design
 - Additional SCADA upgrades
 - Liska force main and manhole - construction
- Future Planned Projects
 - Sonoma lift station upgrade - design
 - Reclaimed water line - design and construction
 - Wastewater Treatment Plant phased upgrade - construction



Capital Projects - Known Water Concerns

ID	Location	Information	Cost Estimate
1	2803 SPUR 469	PPG 8" Water line under tracks	\$200,000.00
2	Preston Water Line	Ennis Ave – Gilmer	\$1,000,000.00
3	Kaufman Water Line	Industrial – 1911 S Kaufman	\$2,200,000.00
4	8" Water line Mt Vernon	1303 Mt Vernon – Baldridge	\$400,000.00
5	8" Water line Yorkstown	Yorkstown & Williamsburg Intersection	\$400,000.00
6	2" W Crockett	1004-Carlton St.	\$400,000.00
7	6" Lyndale	Loy - Baldridge	\$400,000.00
8	4" Munn	Baldridge- Clay St Apartments	\$400,000.00
9	Casa Linda	Park - Woodlawn	\$600,000.00
10	4" Milam	Kaufman - Paris	\$400,000.00
11	Knox	Cesar - N Clay - Belknap	\$600,000.00
12	N. Clay	Denton - Gilmer	\$600,000.00
13	N. Clay	Park - Baldridge	\$600,000.00
14	Water Tower #1	Loop west	\$4,000,000.00
15	Laurel alley 1" water main	Lampasas	\$250,000.00
16	Country Club	1103 - 801 loop water main and reroute all meters to front	\$500,000.00
17	1200 Country Club	Reroute meter to ROWa and remove 4" A/C	\$400,000.00
18	Sherman Water Line	From 1004 south to 503 Sherman	\$1,000,000.00
		Total	\$14,350,000.00

Conceptual Estimates
Subject to change



Capital Projects - Known Wastewater Concerns



ID	Location	Information	Cost Estimate
1	Sherman Sewer Line	From 1004 South to 503 Sherman	\$400,000.00
2	S. I-45 Sewer Line	3309-3600 crossing under 45 @ FM 85	\$1,000,000.00
3	Liska Gravity	Hall - Bardwell	\$1,500,000.00
4	Brown Sewer Line	In alley from 206 S. Clay to 301 W. Brown	\$500,000.00
5	Sewer Main C. Club	Baldridge – Tabernacle	\$500,000.00
6	Odd Fellows LS	Gravity from station to tracks	\$500,000.00
7	6" E Tyler	North side property of 109 N. Kaufman	\$500,000.00
8	Willow Ln.	Milam - Waco	\$250,000.00
9	NE. Main	Lake - Houston	\$250,000.00
10	Paris	Frederick - Ennis Ave	\$250,000.00
11	Sherman Sewer Line (10" size)	W Brown - W Milar	\$400,000.00
12	S. Dallas East Alley	Burnett - Madison	\$500,000.00
13	Munn North Alley	Country Club to Baldridge	\$250,000.00
14	504 Shawnee Manhole		\$100,000.00
15	200 E Tyler Manhole		\$100,000.00
16	Baker Lift station		\$1,500,000.00
17	S Elm	Burnett - Creechville	\$500,000.00
18	Cedar 8"	Cedar to Kaufman	\$2,000,000.00
19	401 E Lampasas (reroute)	Lampasas to Burnett	\$400,000.00
			Total \$11,400,000.00

Conceptual Estimates
Subject to Change



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Frequently Asked Questions

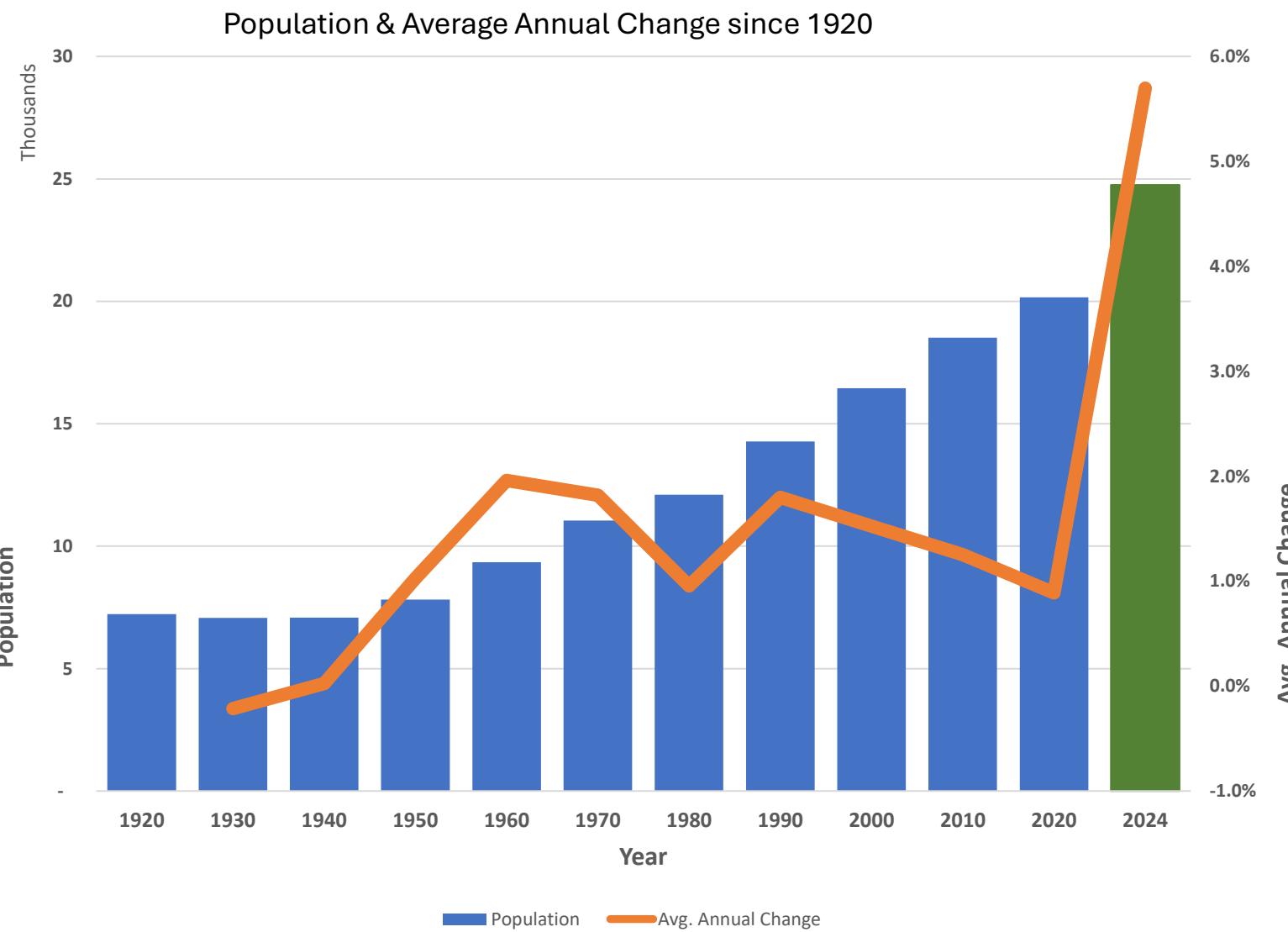


FAQ



- How we got here
- Status of Water Treatment Plant Update
- Industrial Pre-Treatment
- Modernization of Facilities
- Current Bond Status
- Funding for Future Projects
- Utility Rate Reviews

How we got here



Slow growth to near exponential boom

- **Residences**
 - 1.3k built
 - 2.5k underway
 - 3.3k planned
- **Employment**
 - 2.7k new jobs

Top 10 employers



Status of WTP Update



- **City contracted** with engineering firm to design the WTP upgrades to get to 15 MGD.
 - May 16, 2023 & December 3, 2024
- In June 2025, **final design was reviewed** ahead of construction bid solicitation, which was **halted because**:
 - Found potential regulatory compliance issues.
 - Needed capacity increase could not be confirmed.
- **City's \$15 million loan remains intact** for re-design of upgrade.



Industrial Pre-Treatment



- City's **Wastewater Division** includes staff solely responsible for "Pre-Treatment" coordination
- **Inspections** conducted twice each year for known industrial users.
- **Sample testing** is completed as part of the inspection.
- **Records are shared with the State** - specifically the Texas Commission on Environmental Quality (TCEQ).
- Recently, **City underwent its State Audit** for the Pre-Treatment Program, which was conducted by TCEQ.



Modernization of Facilities



- City is in the process of **assessing** our water treatment plant for **upgrades**.
 - **Activated carbon** treatment is already in place.
 - However, **Ozone or Ultra Violet** disinfection methods may be considered for a future upgrade.
- The **City uses chlorination** to treat the community's drinking water.
 - Chlorination assures the water in the system stays safe for drinking, and it is a **requirement by TCEQ**.



Current Bond Status



- Series **2020 - \$25.5 million** (Res. No. 2020-0519-07)
 - Spent on “[Waterworks and Sewer System](#)” and also Streets, (New) City Hall, Library, Parks, Fire Truck, Sanitation Vehicle, etc.
- Series **2022 - \$30.0 million** (Res. No. 22-0621-F2)
 - Spent on “[Waterworks and Sewer System](#)” and also Streets, Animal Shelter, Parks, Fire Station, Public Works Facility.
- Series **2024 - \$40.0 million** (Res. No. 24-0604-H2)
 - Partially spent on “[Waterworks and Sewer System](#)” and also Streets, Fire Equipment, Parks, Public Works Facility.



Funding for Future Projects



- City of Ennis
 - **Certificate of Obligation** – to be paid at market rate interest and backed by utility revenue
- State - **Texas Water Development Board (TWDB)**
 - May require inclusion in the State Water Plan (2022)

Project sponsor	Project	Online decade	Project sponsors	Capital cost	Project related water management strategy
region	Project	decade	Project sponsors	Capital cost	types
C	Conservation, Water Loss Control - Ennis	2020	Ennis	\$612,128	Municipal conservation
C	Ennis - Indirect Reuse	2040	Ennis	\$55,899,000	Indirect reuse
C	Ennis - 6 MGD WTP Expansion	2050	Ennis	\$22,264,000	Other surface water
C	Ennis - 8 MGD WTP Expansion	2060	Ennis	\$47,735,000	Other surface water
C	Ennis - 16 MGD WTP Expansion	2070	Ennis	\$86,402,000	Other surface water



Funding for Future Projects



- TWDB (cont.)
 - **State-Funded**
 - State Water Implementation Fund Texas (SWIFT) – LOAN
 - Texas Water Development Fund (DFund) – LOAN
 - Water Supply and Infrastructure Grants – GRANT
 - **Federal**
 - Drinking Water State Revolving Fund (DWSRF) – LOAN
 - Lead Service Line Replacement – LOAN
 - Clean Water State Revolving Fund (CWSRF) – LOAN
 - Emerging Contaminants (EC) – LOAN *(100% Forgiven)*



Utility Rate Reviews



- City **engages a specialized consultant** to assist with the detailed review of water and wastewater utility rates – *most recently in April 2025.*
 - Determine **multi-year revenue needs** for maintenance and capital projects.
 - **Forecast revenue requirements** to service potential debt.
 - **Design utility rates** that allow for state of good repair and growth.



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Q&A Breakout Groups