

**WATER & WASTEWATER
IMPACT FEE UPDATE
2025 TO 2035**

Submitted To:



Submitted By:

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May 2025

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May 8, 2025

Mr. David Sanchez
Deputy City Manager
City of Crandall
101 S. Main Street
Crandall, Texas 75114

Re: Water & Wastewater Impact Fee Update
2025-2035

Dear Mr. Sanchez,

This report study presents the results of the City of Crandall Water & Wastewater Impact Fee Update for the planning years 2025 through 2035. This report includes the updated land use assumptions, the updated impact fee Capital Improvements Plan, and the updated Maximum Impact Fees by meter size for water and wastewater. The maximum allowable fees per service unit (for a 3/4-inch water meter), adjusted to fifty percent (50%) of the calculated fees are the following:

Maximum Allowable Water Impact Fee per Service Unit \$3,727.00

Maximum Allowable Wastewater Impact Fee per Service Unit \$5,559.00

We have enjoyed working with the City on this important study and are available to discuss the findings and conclusions of this updated impact fee further at your convenience. We look forward to our continued working relationship with you and the City of Crandall.

Sincerely yours,



A handwritten signature in blue ink that reads "Andrew Mata Jr." with a stylized flourish at the end.

Andrew Mata Jr., P.E.

CITY OF CRANDALL, TEXAS

**WATER & WASTEWATER IMPACT FEE UPDATE
2025 TO 2035**

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CITY OF CRANDALL

WATER & WASTEWATER IMPACT FEE UPDATE 2025 TO 2035

SECTION 1 – WATER AND WASTEWATER IMPACT FEES

A. INTRODUCTION

In accordance with the requirements of Chapter 395.052 of the Local Government Code, this report establishes the City of Crandall Capital Improvement Plan for water and wastewater impact fees and calculates the maximum allowable fee for each. Chapter 395.052, of the Local Government Code is an act that provides guidelines for financing capital improvements required by new development in municipalities, counties, and certain other local governments. Under Chapter 395, political subdivisions receive authorization to enact or impose impact fees on land that is located within their political subdivision’s corporate boundaries or extraterritorial jurisdictions. No governmental entity or political subdivision can enact or impose an impact fee unless they receive specific authorization by state law or by Chapter 395.

An “Impact Fee” is a charge or assessment imposed by a political subdivision for new development within its service area in order to generate revenue for funding or recouping the costs of capital improvements of facility expansions necessitated by and attributable to the new development.¹ The City of Crandall Water and Wastewater Service Area (planning boundary) for Impact Fees includes all land within the current city limits. The planning boundary for Water and Wastewater Impact Fees are shown in Figure 1 alongside the land use and growth assumptions of the city of Crandal. After determining land use and growth assumptions, a Capital Improvements Plan must be created to describe the water and wastewater infrastructure that will be necessary to serve the anticipated land uses and growth. The following items can be included in the impact fee calculation:

- 1) A portion of the cost of the new infrastructure that is to be paid by the City, including engineering, property acquisition and construction cost.
- 2) Existing excess capacity in lines and facilities that will serve future growth, and which were paid for in whole by the City or in part by the City with or without Developer participation.
- 3) Interest and other finance charges on bonds issued by the City to cover its portion of the project cost. A bond interest rate of 6% is assumed for this analysis.

¹ P. 831, Texas Local Government Code, West’s Texas Statutes and Codes, 1998 Edition.

Figure 1 – Planning Boundary and Population Projection



CITY OF CRANDALL, TEXAS
 PLANNING BOUNDARY & POPULATION
 GROWTH PROJECTION BY DEVELOPMENT
 July 2025

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LEGEND

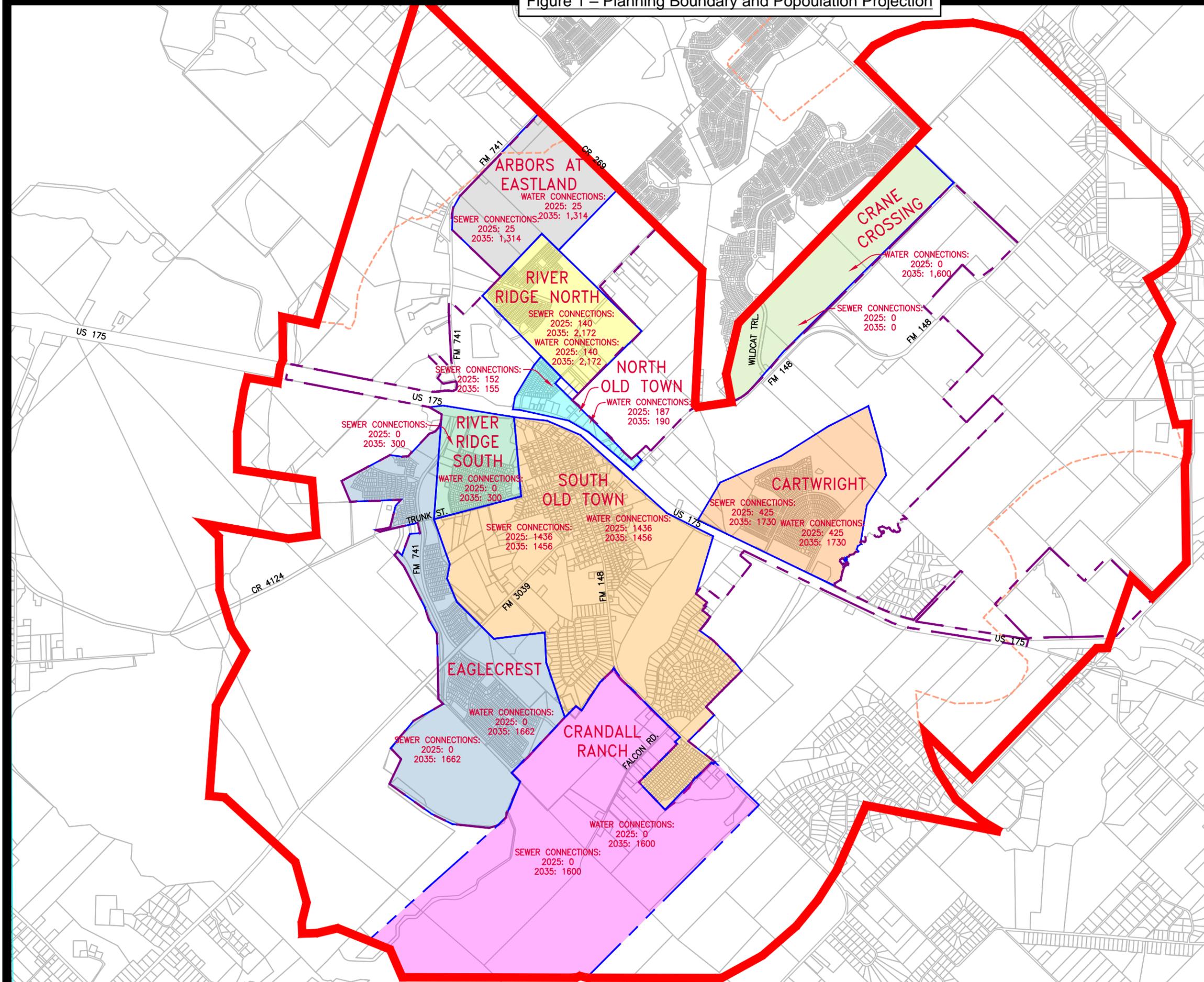
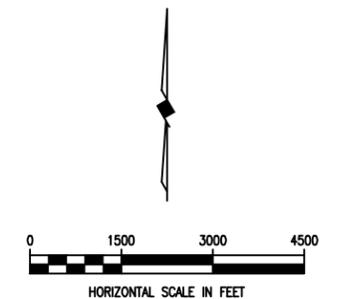
- CRANDALL CITY LIMIT
- PLANNING BOUNDARY
- CRANDALL ETJ
- BORDER OF DEVELOPMENT REGIONS

TOTAL POPULATION WATER

TOTAL LOT 2025	2,493
EXPECTED TOTAL LOTS 2035	12,824
TOTAL POPULATION 2025	7,344
EXPECTED TOTAL POPULATION 2035	40,141

TOTAL POPULATION SEWER

TOTAL LOT 2025	2,175
EXPECTED TOTAL LOTS 2035	10,589
TOTAL POPULATION 2025	6,691
EXPECTED TOTAL POPULATION 2035	32,989



The City of Crandall originally adopted water and wastewater impact fees in 2022. Chapter 395 requires that an update of the land use assumptions, capital improvement plan, and impact fees be performed every five years, unless it is determined by the political subdivision after a review that such an update is not necessary.

This document constitutes the 2025 update of the City's water and wastewater Capital Improvements Plans (CIP), and the resulting revision of the maximum allowable impact fees. As required by state law, the study period is a ten-year period with 2025 as the base year. The engineering analysis of the water and wastewater systems is based on established land use in year 2025 and on projected land uses in the year 2035 which is buildout. Those land uses determine the utilization of the existing and proposed infrastructure. The engineering analysis portion of the City of Crandall, 2025 Impact Fee Update determines utilized capacity cost of the water distribution and wastewater collection systems between the year 2025 and 2035.

B. WATER & WASTEWATER IMPACT FEE UPDATE GLOSSARY

1. Advisory Committee means the capital improvements advisory committee established by the City for purposes of reviewing and making recommendations to the City Council on adoption of the City's impact fee program.
2. Area-Related Facility means a capital improvement or facility expansion which is designated in the impact fee capital improvements plan and which is not a site-related facility. Area-Related Facility may include capital improvements that are located off-site, or within or on the perimeter of the development site.
3. Assessment means the determination of the amount of the maximum impact fee per service unit that can be imposed on new development.
4. Capital Improvement means either a water facility or a wastewater facility with a life expectancy of three or more years, to be owned and operated by or on behalf of the City.
5. City means the City of Crandall, Texas.
6. Credit means the amount of the reduction of an impact fee due, determined under this ordinance or pursuant to administrative guidelines that is equal to the value of area-related facilities provided by a property owner pursuant to the City's subdivision or zoning regulations or requirements, for the same type of facility.
7. Debt Service means the 20-year financing costs of projects applied to all eligible existing and proposed water and wastewater facilities.
8. Facility Expansion means either a water facility expansion or a sewer facility expansion.
9. Impact Fee means either a fee for water facilities or a fee for wastewater facilities, imposed on new development by the City pursuant to Chapter 395 of the Texas Local Government Code in order to generate revenue to fund or recoup the costs of capital improvements or facility expansion necessitated by and attributable to such new development. Impact fees do not include the dedication of rights-of-way or easements for such facilities, or the construction of such improvements, imposed pursuant to the City's zoning or subdivision regulations.
10. Impact Fee Capital Improvements Plan means either a water capital improvements plan or a wastewater capital improvement plan adopted or revised pursuant to the impact fee regulations.

11. Land Use Assumptions means the projections of population and growth, and associated changes in land uses, densities and intensities over at least a ten-year period, as adopted by the City and as may be amended from time to time, upon which the capital improvements plans are based.
12. Land Use Equivalency Table means a table converting the demands for capital improvements generated by various land uses to numbers of service units, as may be amended from time to time.
13. New Development means the subdivision of land; the construction, reconstruction, redevelopment, conversion, structural alteration, relocation, or enlargement of any structure; or any use or extension of the use of land; any of which increases the number of service units.
14. Recoupment means the imposition of an impact fee to reimburse the City for capital improvements that the City had previously oversized to serve new development.
15. Service Area means either a water service area or wastewater service area which impact fees for capital improvements or facility expansion will be collected for new development occurring within such area, and within which fees so collected will be expended for those types of improvements or expansions identified in the type of capital improvements plan applicable to the service area.
16. Service Unit means the applicable standard units of measure shown on the land use equivalency table in the Impact Fees Capital Improvements Plan that can be converted to water meter equivalents, for water or for wastewater facilities, which serves as the standardized measure of consumption, use or generation attributable to the new unit of development.
17. Site-Related Facility means an improvement or facility which is for the primary use or benefit of a new development, and/or which is for the primary purpose of safe and adequate provision of water or wastewater facilities to serve the new development, and which is not included in the impact fees capital improvements plan and for which the property owner is solely responsible under subdivision or other applicable development regulations.
18. Utility Connection means installation of a water meter for connecting a new development to the City's water system, or connection to the City's wastewater system.

19. Wastewater Facility means a wastewater interceptor or main, lift station or other facility included within and comprising an integral component of the City's collection system for wastewater. Wastewater facility includes land, easements or structure associated with such facilities. Wastewater facility excludes site-related facilities.
20. Wastewater Facility Expansion means the expansion of the capacity of any existing wastewater improvement for the purpose of serving new development, but does not include the repair, maintenance, modernization, or expansion of an existing sewer facility to serve existing development.
21. Wastewater Capital Improvements Plan means the adopted plan, as may be amended from time to time, which identifies the wastewater facilities or wastewater expansions and their associated costs which are necessitated by and which are attributable to new development, for a period not to exceed 10 years.
22. Water Facility means a water main, pump station, storage tank or other facility included within and comprising an integral component of the City's water storage or distribution system. Water facility includes CCN acquisition, land, easements or structures associated with such facilities. Water facility excludes site-related facilities.
23. Water Facility Expansion means the expansion of the capacity of any existing water facility for the purpose of serving new development, but does not include the repair, maintenance, modernization, or expansion of an existing water improvement to serve existing development.
24. Water Capital Improvements Plan means the adopted plan, as may be amended from time to time, which identifies the water facilities or water expansions and their associated costs which are necessitated by and which are attributable to new development, for a period not to exceed 10 years.
25. Water Meter means a device for measuring the flow of water to a development, whether for domestic or for irrigation purposes.

C. LAND USE ASSUMPTIONS SUMMARY

Under Chapter 395, of the Local Government Code, “Land Use Assumptions” includes a description of service area and projections of changes in land uses, densities, intensities, and population in the service area for a minimum of a 10-year period.

The Land Use Assumptions used in this update were prepared based on the City's future land use plan, with modifications applied where applicable based on input provided by City Staff. The Land Use Assumptions for the 2025 Impact Fee Update were utilized to establish the Land Use Summary for the water and wastewater systems in Table 1A and Table 1B. These two summaries are different, as certain regions with expected growth will be connected to the water system but not the sewer system. The 10-year growth projection was calculated using the expected lot growth provided by the City of Crandall and it is assumed that ultimate population (Buildout) will occur by the end of the 10-year planning period (year 2035).

TABLE NO. 1A
LAND USE SUMMARY FOR WATER SYSTEM

Year	Population
2025	7,344
2035	40,141
Buildout	40,141

TABLE NO. 1B
LAND USE SUMMARY FOR WASTEWATER SYSTEM

Year	Population
2025	6,691
2035	32,989
Buildout	32,989

D. DEFINITION OF A SERVICE UNIT – WATER AND WASTEWATER

Chapter 395 of the Local Government Code requires that impact fees be based on a defined service unit. A “service unit” means a standardized measure of consumption, use generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards. This impact fee defines a water and wastewater service unit to be 3/4-inch water meter and has referred to this service unit as a Single-Family Living Unit Equivalent (SFLUE). The SFLUE is based on the continuous duty capacity of a 3/4-inch water meter. This is the City of Crandall’s typical meter used for a single family detached dwelling, and therefore is considered to be equivalent to one “living unit”. Other meter sizes can be compared to the 3/4-inch meter through a ratio of water flow rates as published by the American Water Works Association as shown in Table No. 2 below. This same ratio is then used to determine the proportional water and wastewater impact fee amount for each water meter size.

TABLE NO. 2
LIVING UNIT EQUIVALENCIES
FOR VARIOUS TYPES AND SIZES OF WATER METERS

Meter Type	Safe Maximum Operating Capacity	Meter Size	LUE
Vertical Shaft	30 GPM	3/4"	1
Vertical Shaft	50 GPM	1"	1.7
Vertical Shaft	100 GPM	1-1/2"	3.3
Vertical Shaft	160 GPM	2"	5.3
Vertical Shaft	350 GPM	3"	11.7
Compound	600 GPM	4"	20
Compound	1350 GPM	6"	45

(Safe Maximum Operating Capacity is based on AWWA standards C700-15 and C701-15)

E. CALCULATION OF WATER & WASTEWATER – LIVING UNIT EQUIVALENTS

The City provided a table of existing water meters categorized by size. Based on the information provided, there are 2,736 water meters were serving the existing population of 7,344 residents and businesses in the City’s service area. Table No. 3A and Table shows the number of existing water meters, the factor for living units per meter size, and the new living unit equivalents (LUE’s) calculated for each water meter size in the 10-year period based on projected population growth.

TABLE NO. 3A
WATER LIVING UNIT EQUIVALENTS BY METER SIZE

Meter Size	2025			2035			New
	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	Living Units During Impact Fee Period
¾"	2,239	1.0	2,239	12,238	1.0	12,238	9,999
1"	78	1.7	130	426	1.7	711	581
1½"	5	3.3	17	27	3.3	91	74
2"	41	5.3	219	224	5.3	1,195	977
3"	7	11.7	82	38	11.7	446	365
4"	5	20.0	100	27	20.0	547	447
6"	1	45.0	45	5	45.0	246	201
Totals	2,376		2,831	12,987		15,474	12,643

TABLE NO. 3B
WASTEWATER LIVING UNIT EQUIVALENTS BY METER SIZE

Meter Size	2025			2035			New
	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	Number of Water Meters	Living Unit Equivalent Ratio for 3/4" Used	Total Number of Living Units	Living Units During Impact Fee Period
¾"	2,239	1.0	2,239	11,039	1.0	11,039	8,800
1"	78	1.7	130	385	1.7	641	511
1½"	5	3.3	17	25	3.3	82	66
2"	41	5.3	219	202	5.3	1,078	859
3"	7	11.7	82	35	11.7	403	321
4"	5	20.0	100	25	20.0	493	393
6"	1	45.0	45	5	45.0	222	177
Totals	2,376		2,831	11,714		13,957	11,126

F. WATER DISTRIBUTION SYSTEM

Calculations of the City's water system were updated to reflect recently constructed projects and future projects associated with buildout development conditions. These were modified based on residential population projections shown in Table 1, and the future non-residential land use growth as shown by the City's future land use plan. These calculations were used to determine the required pumping capacity and elevated storage of the city water distribution system.

1) Existing Pump Stations, Ground Storage Reservoirs & Elevated Storage Tanks

The existing water distribution system includes the facilities as shown in Table No. 4:

TABLE NO. 4
EXISTING PUMP STATIONS & GROUND STORAGE

Pump Station	Firm Capacity (Largest Pump on Standby) (MGD)	Number of Ground Storage Reservoirs	Total Ground Storage Available (MG)
Fourth Street Pump Station	2.88	2	1.72
Total:	2.88	2	1.72

The pump stations and ground storage facilities were analyzed based on the maximum daily water demand, while elevated storage tanks act dynamically and were therefore analyzed utilizing the difference between the maximum hourly demand and the maximum daily demand.

2) **Water Distribution Lines**

The water distribution lines consist of all lines within the service area planning boundary supplying water to customers in the City of Crandall. Water lines vary in size from 3/4-inch service lines to 24-inch and larger transmission lines. Unless a smaller diameter water line is expected to be constructed by the City, only those water lines larger than 8-inches in diameter were considered in the Impact Fee calculations. City initiated water lines include the full cost of the proposed facility. The capital cost of proposed water distribution lines includes construction cost, appurtenances (water valves, fire hydrants, taps, etc.), utility relocations, purchase of easements and engineering costs.

3) **Capital Improvement Plan**

To meet the demands of the anticipated residential and non-residential growth over the next 10 years, certain water distribution system improvements are required. The Water System Capital Improvement Plan for Impact Fees provided in Figure 2 shows the recommended water system improvements.

Referring to Figure 2, City-initiated water lines are shown in a red line type, and Developer-initiated water lines are shown in a green line type. Developer-initiated projects are typically those 12-inches in diameter that are expected to be constructed by a developer. These developer-initiated projects are not included in this Impact Fee analysis, as the cost for these projects is the responsibility of the developer.

For proposed water system projects, an average unit cost in 2025 dollars has been estimated based on a limited survey of recently bid projects, plus an estimated cost for engineering and easements. Finance cost is included for each project assuming a bond rate of 6.0% over a 20-year term. These recommended improvements form the basis for the Water System Capital Improvement Plan and total \$17,687,305. Adding the cost of financing brings the total Water System Capital Improvement Plan cost to \$25,108,125. Table No. 5 itemizes each project and the project cost.

Actual capital cost, including construction, engineering, and easements of the various elements of the existing water distribution was utilized where the information was available and provided by the City. The existing cost of facilities was determined from records provided by the City. Based on the available data, the eligible impact fee recovery projects are limited to the City's existing 2.88-MGD 4th Street Pump Station.

TABLE NO. 5
2025-2035 WATER & WASTEWATER IMPACT FEE UPDATE
WATER DISTRIBUION SYSTEM 10-YEAR CAPITAL IMPROVEMENT PLAN

Water Lines

Year	ID #	Project	Size	Total Capital Cost ⁽¹⁾	Debt Service ⁽²⁾	Total Project Cost
2028	3	20-inch Downtown Waterlines	20"	\$5,945,000	\$4,421,244	\$10,366,244
2028	4	12-inch Loop Waterline	12"	\$2,469,460	\$1,836,516	\$4,305,976
2028	5	12-inch East Properties Waterline	12"	\$804,450	\$598,262	\$1,402,712
2028	6	Mesquite 18-inch Waterline (Under Construction)	18"	\$3,400,000	\$2,528,550	\$5,928,550
2028	7	Talty 12-inch Waterline	12"	\$1,636,800	\$1,217,274	\$2,854,074
		Subtotal: Water Lines		\$14,255,710	\$10,601,846	\$24,857,556

Facilities

Year	ID #	Project	Capacity	Total Capital Cost ⁽¹⁾	Debt Service ⁽²⁾	Total Project Cost
2030	1	Mesquite Pump Station Phase 2	4.5 MGD	\$8,800,000	\$6,544,482	\$15,344,482
2027	2	Talty Pump Station	5.0 MGD	\$9,500,000	\$7,065,066	\$16,565,066
2025	8	Cartwright Ranch Elevated Storage Tank	1.0 MG	\$7,000,000	\$5,205,838	\$12,205,838
2028	9	Downtown Elevated Storage Tank	1.0 MG	\$7,000,000	\$5,205,838	\$12,205,838
2030	10	South Storage Tank	1.0 MG	\$7,000,000	\$5,205,838	\$12,205,838
		Subtotal: Pumping and Storage Facilities		\$39,300,000	\$29,227,062	\$68,527,062

Planning Expenses

Year	ID #	Project	Capacity	Total Capital Cost ⁽¹⁾	Debt Service ⁽²⁾	Total Project Cost
2025		Water Impact Fee		\$15,000	\$0	\$15,000
		Subtotal: Planning Expenses		\$15,000		\$15,000
		GRAND TOTAL: Water Distribution System CIP		\$53,570,710	\$39,828,908	\$93,399,618

Notes:

- (1) Opinion of Cost includes:
a) Engineer's Opinion of Construction Cost
b) Professional Services Fees (Survey, Engineering, Testing, Legal)
c) Cost of Easement or Land Acquisitions
- (2) Debt Service based on 20-year simple interest bonds at 6 %

4) Utilized Capacity

Table No. 6 below shows the unit flow assumptions used for analysis of each element of the distribution system:

TABLE NO. 6
WATER DISTRIBUTION SYSTEM ANALYSIS
BASIS OF DEMAND CALCULATION

Type of Facilities	Demand Type	Impact Fee Per Capita Use
Pumping	Maximum Day	350 gallons/day per person
Distribution System	Maximum Hour	700 gallons/day per person
Ground Storage	Maximum Day x 6 Hours / 24 Hours / Day	
Elevated Storage	Maximum Hour (Distribution) –Maximum Day (Pumping) x 6 Hours / 24 Hours / Day	

The utilized capacity was calculated for each year based on the Buildout being 100 percent capacity. The utilized capacity during the Impact Fee period is the difference between the year 2025 percent utilized and the buildout percent utilized, as 2035 is considered buildout. The utilized capacity for each water distribution facility, both existing and proposed, is presented by the Impact Fee Capacity Calculation Tables provided in Appendix A. Table No. 7 summarizes the cost and the utilized capacity of the proposed water lines, pump stations, ground storage reservoirs and elevated storage facilities included in the impact fee period of 2025-2035. Table No. 7 also summarizes the cost and the utilized capacity for the existing recovery facilities in the impact fee period.

The utilized capacity for each existing and proposed water system facility and distribution line included in the impact fee study is presented in the Water Impact Fee Utilized Capacity Tables provided in Appendix “A”.

TABLE NO. 7
SUMMARY OF ELIGIBLE CAPITAL COST & UTILIZED CAPACITY COST

Water System	Total 10-Year Project Cost (\$)	Utilized Capacity During Fee Period (\$)
Existing Water Facilities	\$7,846,610	\$844,600
Planning Expenses	\$15,000	\$15,000
Existing Water System Subtotal:	\$7,861,610	\$859,600
Proposed Water Lines	\$24,857,556	\$24,857,556
Proposed Water Facilities	\$68,527,062	\$68,527,062
Proposed Water System Subtotal:	\$93,384,618	\$93,384,618
TOTAL:	\$101,246,228	\$94,244,218

G. WASTEWATER COLLECTION SYSTEM

1) General

The wastewater collection system components in the impact fee analysis include existing and proposed trunk sewer lines, wastewater lift stations, and force mains. The City's wastewater is conveyed to and treated by the wastewater facilities at the City of Crandall through metering stations.

2) Capital Improvement Plan

The wastewater collection system analysis included eligible existing and proposed lift stations, force mains, and collection lines 12-inches and larger in diameter. Generally, sanitary sewer line sizes 12-inches in diameter and smaller were omitted from the calculation of maximum impact fee, unless identified as a City-initiated and funded capital improvement project.

The proposed wastewater project cost includes necessary appurtenances (manholes, aerial crossings, and the like), purchase of easements, utility relocation, pavement removal and replacement, and engineering costs. Future project cost estimates were based on average unit cost per linear foot and includes engineering, easements, and construction cost. Financing cost is included for each project assuming a bond rate of 6.0% over a 20-year term.

The eligible existing sanitary sewer lines within the study area that were paid for by the City and have capacity available to support new growth were included in the Impact Fee Study. For existing impact fee eligible projects, actual costs were utilized where known and provided by the City.

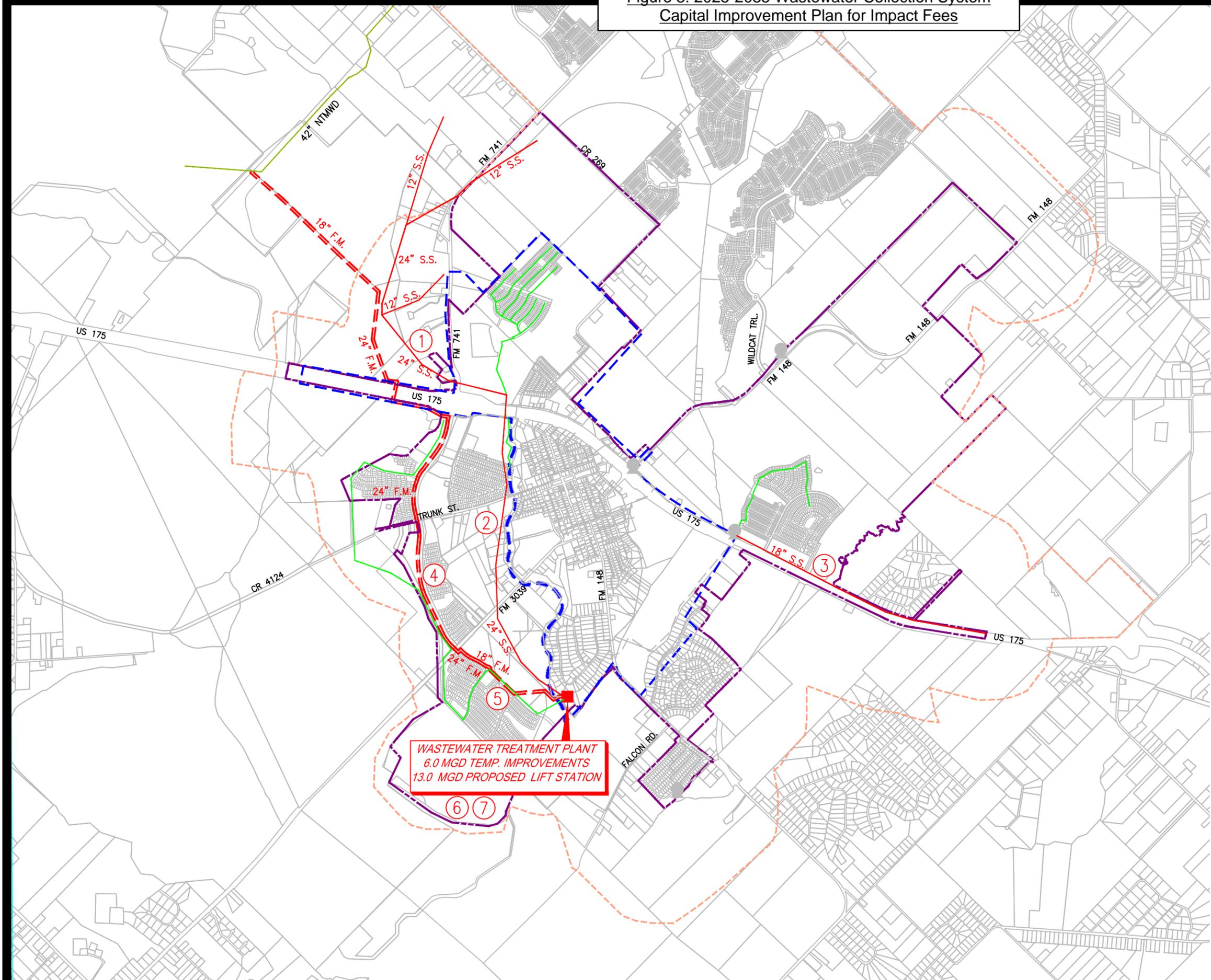
The eligible existing and proposed wastewater lines and facilities are shown on Figure 3 and Table No. 8 itemizes each project and the project cost.

Figure 3: 2025-2035 Wastewater Collection System
Capital Improvement Plan for Impact Fees



CITY OF CRANDALL, TEXAS
WASTEWATER SYSTEM IMPACT FEE ELIGIBLE
CAPITAL IMPROVEMENT PLAN

July 2025
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WASTEWATER TREATMENT PLANT
6.0 MGD TEMP. IMPROVEMENTS
13.0 MGD PROPOSED LIFT STATION

LEGEND

- SEWER CCN
- CRANDALL ETJ
- CITY LIMITS
- EXISTING GRAVITY LINES
- EXISTING FORCEMAIN
- EXISTING LIFT STATION
- IMPACT FEE ELIGIBLE SEWER
- IMPACT FEE ELIGIBLE FORCE MAIN
- DEVELOPER INITIATED SEWER LINE (NOT IMPACT FEE ELIGIBLE)

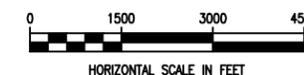


TABLE NO. 8
2025-2035 WATER AND WASTEWATER IMPACT FEE UPDATE
WASTEWATER COLLECTION SYSTEM
10-YEAR CAPITAL IMPROVEMENT PLAN

Wastewater Lines

Year	ID #	Project	Capital Cost (1)	Debt Service (2)	Total Project Cost (\$)
2032	1	12-inch and 24-inch River Ridge North Gravity Sewer	\$6,492,400	\$4,828,341	\$11,320,741
2030	2	24-inch Western Connector Gravity Sewer	\$4,987,710	\$3,709,316	\$8,697,026
2032	3	18-inch South East Gravity Sewer	\$3,137,230	\$2,333,130	\$5,470,360
2025	4	18-inch Southern Force Main	\$15,900,000	\$11,824,689	\$27,724,689
2030	5	Southern 24-inch Force Main	\$20,800,000	\$15,468,776	\$36,268,776
		Subtotal: Wastewater Lines	\$51,317,340	\$38,164,252	\$89,481,592

Wastewater Facilities

Year	ID #	Project	Capital Cost (1)	Debt Service (2)	Total Project Cost (\$)
2025	6	Proposed Temporary Lift Station	\$2,140,000	\$1,591,499	\$3,731,499
2030	7	Proposed Southern Lift Station	\$15,870,800	\$11,802,973	\$27,673,773
		Subtotal: Wastewater Facilities	\$18,010,800	\$13,394,472	\$31,405,272

Planning Expenses

Year	ID #	Project	Capital Cost (1)(b)	Debt Service (2)	Total Project Cost (\$)
2025		Wastewater Impact Fee Calculation	\$15,000	\$0	\$15,000
		Subtotal: Planning and Operations:	\$15,000	\$0	\$15,000
Wastewater Collection System CIP Grand Total:			\$69,343,140	\$51,558,724	\$120,901,864

Notes:

1. Opinion of Cost includes:
 - a. Engineer's Opinion of Construction Cost
 - b. Professional Services Fees (Survey, Engineering, Testing, Legal)
 - c. Cost of Easement or Land Acquisitions
2. Debt Service based on 20-year simple interest bonds at 6.0%

3) **Utilized Capacity**

The utilized capacities for the wastewater collection system were calculated based on land absorption from the residential and non-residential population growth projections in accordance with the City's future land use plan. An assumption of an average per capita flow was determined at 100 gallons per day. The inflow and infiltration was assumed to be 300 gallons per acre per day.

Table No. 9 summarizes the project cost and utilized cost over the impact fee period of 2025 – 2035 for each element of the wastewater system. The utilized capacity for each existing and proposed wastewater facility and collection line included in the impact fee study is presented in the Wastewater Impact Fee Utilized Capacity Tables provided in Appendix “B”.

TABLE NO. 9
SUMMARY OF ELIGIBLE CAPITAL COST & UTILIZED CAPACITY COST

Wastewater System	Total 20-Year Project Cost (\$)	Utilized Capacity During Fee Period (\$)
Existing Wastewater Facilities	\$10,985,254	\$2,807,343
Proposed Wastewater Facilities and Lines	\$120,886,864	\$120,886,864
Planning Expenses	\$15,000	\$15,000
Total:	\$131,887,118	\$123,709,207

H. CALCULATION OF MAXIMUM IMPACT FEES - WATER & WASTEWATER

The maximum impact fees for the water and wastewater systems are calculated separately by dividing the cost of the capital improvements or facility expansions necessitated and attributable to new development in the service area within the ten-year period by the number of living units anticipated to be added to City within the 10-year period as shown on Table No. 3A and Table No. 3B. The calculations are shown below:

Maximum Water Impact Fee	=	Eligible Existing Utilized Cost	+	Eligible Proposed Utilized Cost	
		Number of New Living Unit Equivalent over the Next 10 Years			
	=	\$859,600	+	\$93,384,618	\$94,244,218
				12,643	12,643
Maximum Impact Fee	=	<u>\$7,454</u>			
Allowable Maximum Water Impact Fee: (Max Impact Fee x 50%)*	=	<u>\$3,727</u>			

* - Maximum allowable impact fee is 50% of the maximum calculated impact fee per Chapter 395 LGC

Maximum Wastewater Impact Fee	=	Eligible Existing Utilized Costs	+	Eligible Proposed Utilized Costs	
		Number of New Living Unit Equivalent over the Next 10 Years			
	=	\$2,807,343	+	\$120,901,864	\$123,709,207
				11,126	11,126
Maximum Impact Fee	=	<u>\$11,119</u>			
Allowable Maximum Wastewater Impact Fee: (Max Impact Fee x 50%)	=	<u>\$5,559</u>			

* - Maximum allowable impact fee is 50% of the maximum calculated impact fee per Chapter 395 LGC

Based on the maximum impact fee calculation for water and wastewater, Table No. 10 calculates the maximum impact fee for the various sizes of water meters.

TABLE NO. 10
ALLOWABLE MAXIMUM IMPACT FEE PER METER SIZE

Typical Land Use	Meter Size	LUE	Maximum Impact Fee		Total
			Water	Wastewater	
Single Family Residential	3/4"	1	\$3,727	\$5,559	\$9,287
Single Family Residential	1"	1.7	\$6,212	\$9,265	\$15,478
Single Family Residential	1-1/2"	3.3	\$12,424	\$18,531	\$30,955
Single Family Residential	2"	5.3	\$19,879	\$29,650	\$49,528
Commercial/Retail/Multi Family	3"	11.7	\$43,484	\$64,858	\$108,343
Commercial/Retail/Multi Family	4"	20	\$74,545	\$111,186	\$185,731
Industrial	6"	45	\$167,725	\$250,168	\$417,894



WATER AND WASTEWATER 2025-2035 IMPACT FEE UPDATE

APPENDIX “A”

WATER SYSTEM IMPACT FEE DATA

**PUMP STATIONS
ELEVATED STORAGE TANKS
TRANSMISSION LINES
DISTRIBUTION LINES**

TABLE NO. A-1

**CITY OF CRANDALL, TEXAS
WATER SYSTEM IMPACT FEE STUDY**

EXISTING - FACILITIES

** Average Unit costs are based in 2025 dollars unless otherwise indicated and includes 20% for engineering and easements.*

Pipe Number	Total Capacity	Date of Const.	Total Capital Cost (\$)	20 Year Debt Service @ 6% Simple Interest	Total 20 Year Project Cost (\$)	(MGD or MG) Utilized Capacity			(% Utilized Capacity			(\$ Utilized Capacity			
						2025	2035	During Fee Period	2025	2035	During Fee Period	2025	2035	During Fee Period	
4th Street Pump Station															
The Existing Pump Station at Fourth Street.															
12	2.88 MGD	2025	\$4,500,000	\$3,346,610	\$7,846,610	2.57	2.88	0.31	89%	100%	11%	\$7,002,010	\$7,846,610	\$844,600	
Subtotal:	2.88 MGD	2025	\$4,500,000	\$3,346,610	\$7,846,610							\$7,002,010	\$7,846,610	\$844,600	
Water Facilities - Project CIP Total												\$7,002,010	\$7,846,610	\$844,600	

TABLE NO. A-2

**CITY OF CRANDALL, TEXAS
WATER SYSTEM IMPACT FEE STUDY**

PROPOSED WATER LINES

** Average Unit costs are based in 2025 dollars unless otherwise indicated and includes 20% for engineering and easements.*

Project Number	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost (\$/Ft.)	Total Capital Cost (\$)	20 Year Debt Service @ 6% Simple Interest	Total 20 Year Project Cost (\$)	(% Utilized Capacity)			(\$ Utilized Capacity)		
								2025	2035	During Fee Period	2025	2035	During Fee Period
20-inch Downtown Waterlines													
A group of 20" waterlines to expand capacity throughout the downtown of the city.													
3	23,780	20	2028	\$250.00	\$5,945,000	\$4,421,244	\$10,366,244	0%	100%	100%	\$0	\$10,366,244	\$10,366,244
Subtotal:	23,780		2028		\$5,945,000	\$4,421,244	\$10,366,244				\$0	\$10,366,244	\$10,366,244
12-inch Loop Waterline													
A waterline to provide looping and capacity to the southeast of downtown Crandall.													
4	15,932	12	2028	\$155.00	\$2,469,460	\$1,836,516	\$4,305,976	0%	100%	100%	\$0	\$4,305,976	\$4,305,976
Subtotal:	15,932		2028		\$2,469,460	\$1,836,516	\$4,305,976				\$0	\$4,305,976	\$4,305,976
12-inch East Properties Waterline													
Waterline to provide capacity for expected future development in east Crandall City limits													
5	5,190	12	2028	\$155.00	\$804,450	\$598,262	\$1,402,712	0%	100%	100%	\$0	\$1,402,712	\$1,402,712
Subtotal:	5,190		2028		\$804,450	\$598,262	\$1,402,712				\$0	\$1,402,712	\$1,402,712
Mesquite 18-inch Waterline (Under Constrecution)													
Waterline to provide flow from Mesquite, currently under construction.													
6	N/a	18	2028	\$230.00	\$3,400,000	\$2,528,550	\$5,928,550	0%	100%	100%	\$0	\$5,928,550	\$5,928,550
Subtotal:	0		2028		\$3,400,000	\$2,528,550	\$5,928,550				\$0	\$5,928,550	\$5,928,550
Talty 12-inch Waterline													
Waterline to provide flow from Talty to Talty-Crandall pump station													
7	10,560	12	2028	\$155.00	\$1,636,800	\$1,217,274	\$2,854,074	0%	100%	100%	\$0	\$2,854,074	\$2,854,074
Subtotal:	10,560		2028		\$1,636,800	\$1,217,274	\$2,854,074				\$0	\$2,854,074	\$2,854,074
Water Lines - CIP Total													
TOTAL	55,462				\$14,255,710	\$10,601,846	\$24,857,556				\$0	\$24,857,556	\$24,857,556

TABLE NO. A-3

**CITY OF CRANDALL, TEXAS
WATER SYSTEM IMPACT FEE STUDY**

PROPOSED - FACILITIES

** Average Unit costs are based in 2025 dollars unless otherwise indicated and includes 20% for engineering and easements.*

Project Number	Total Capacity	Date of Const.	Total Capital Cost (\$)	20 Year Debt Service @ 6% Simple Interest	Total 20 Year Project Cost (\$)	(MGD or MG) Utilized Capacity			(% Utilized Capacity			(\$ Utilized Capacity			
						2025	2035	During Fee Period	2025	2035	During Fee Period	2025	2035	During Fee Period	
Mesquite Pump Station Phase 2															
An expansion to 7.0 MGD pumping capacity to supply buildout requirements															
1	4.5 MG	2030	\$8,800,000	\$6,544,482	\$15,344,482	0.00	4.50	4.50	0%	100%	100%	\$0	\$15,344,482	\$15,344,482	
Subtotal:	4.5 MG	2030	\$8,800,000	\$6,544,482	\$15,344,482							\$0	\$15,344,482	\$15,344,482	
Talty Pump Station															
A 5.0 MGD Pump station to pump from Talty to Crandall, with a 1.0 MGD GSR															
2	3 MG	2027	\$9,500,000	\$7,065,066	\$16,565,066	0.00	5.00	5.00	0%	100%	100%	\$0	\$16,565,066	\$16,565,066	
Subtotal:	3 MG	2027	\$9,500,000	\$7,065,066	\$16,565,066							\$0	\$16,565,066	\$16,565,066	
Cartwright Ranch Elevated Storage Tank															
A 1.0 MGD Elevated Storage tank to account for the needs of the city east of Highway 175															
8	1.0 MG	2025	\$7,000,000	\$5,205,838	\$12,205,838	0.00	1.00	1.00	0%	100%	100%	\$0	\$12,205,838	\$12,205,838	
Subtotal:	1.0 MG	2025	\$7,000,000	\$5,205,838	\$12,205,838							\$0	\$12,205,838	\$12,205,838	
Downtown Elevated Storage Tank															
A 1.0 elevated storage tank to account for the needs of the old city															
9	1.0 MG	2028	\$7,000,000	\$5,205,838	\$12,205,838	0.00	1.00	1.00	0%	100%	100%	\$0	\$12,205,838	\$12,205,838	
Subtotal:	1.0 MG	2028	\$7,000,000	\$5,205,838	\$12,205,838							\$0	\$12,205,838	\$12,205,838	
North Storage Tank															
A 1.0 Elevated Storage tank to account for the needs of the city near the Mesquite Pump Station.															
10	1.0 MG	2030	\$7,000,000	\$5,205,838	\$12,205,838	0.00	1.00	1.00	0%	100%	100%	\$0	\$12,205,838	\$12,205,838	
Subtotal:	1.0 MG	2030	\$7,000,000	\$5,205,838	\$12,205,838							\$0	\$12,205,838	\$12,205,838	
Water Facilities - Project CIP Total															
			\$39,300,000	\$29,227,062	\$68,527,062							\$0	\$68,527,062	\$68,527,062	



**WATER AND WASTEWATER
2025-2035 IMPACT FEE UPDATE**

APPENDIX “B”

**WASTEWATER SYSTEM
IMPACT FEE DATA**

**FORCE MAINS
COLLECTION LINES**

TABLE NO. B-1
CITY OF CRANDALL, TEXAS
WASTEWATER SYSTEM IMPACT FEE STUDY

EXISTING - FACILITIES

* Average Unit costs are based in 2025 dollars unless otherwise indicated and includes 20% for engineering and easements.

Pipe Number	Total Capacity	Date of Const.	Total Capital Cost (\$)	20 Year Debt Service @ 6% Simple Interest	Total 20 Year Project Cost (\$)	(MGD) Utilized Capacity			(% Utilized Capacity			(\$ Utilized Capacity			
						2025	2035	During Fee Period	2025	2035	During Fee Period	2025	2035	During Fee Period	
Existing Wastewater Treatment Plant															
The Existing Wastewater Treatment Plant for the City of Crandall															
	3.6 MGD	2025	\$6,300,000	\$4,685,254	\$10,985,254	2.68	3.60	0.92	74%	100%	26%	\$8,177,911	\$10,985,254	\$2,807,343	
Wastewater Facilities - Project CIP Total															
			\$6,300,000	\$4,685,254	\$10,985,254	2.68	3.60	0.92	74%	100%	26%	\$8,177,911	\$10,985,254	\$2,807,343	

TABLE NO. B-2

CITY OF CRANDALL, TEXAS
WASTEWATER SYSTEM IMPACT FEE STUDY

PROPOSED CIP - WASTEWATER COLLECTION LINES

* Average Unit costs are based in 2025 dollars unless otherwise indicated and includes 20% for engineering and easements.

Line Identification	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost (\$/Ft.)	Total Capital Cost (\$)	20 Year Debt Service @ 6% Simple Interest	Total 20 Year Project Cost (\$)	(% Utilized Capacity)			(\$ Utilized Capacity)			
								2025	2035	During Fee Period	2025	2035	During Fee Period	
12-inch and 24-inch River Ridge North Gravity Sewer														
A Sanitary Sewer to provide capacity for Arbors at eastland and river ridge north.														
1	1	7,710	24	2028	\$490.00	\$3,777,900	\$2,809,591	\$6,587,491	0%	100%	100%	\$0	\$6,587,491	\$6,587,491
		10,858	12	2032	\$250.00	\$2,714,500	\$2,018,750	\$4,733,250	0%	100%	100%	\$0	\$4,733,250	\$4,733,250
	Subtotal:	18,568	2032			\$6,492,400	\$4,828,341	\$11,320,741				\$0	\$11,320,741	\$11,320,741
24-inch Western Connector Gravity Sewer														
A 30" collector line along US-175 that connects to the existing lift stations north of US-175														
2	2	10,179	24	2030	\$490.00	\$4,987,710	\$3,709,316	\$8,697,026	0%	100%	100%	\$0	\$8,697,026	\$8,697,026
	Subtotal:	10,179	2030			\$4,987,710	\$3,709,316	\$8,697,026				\$0	\$8,697,026	\$8,697,026
18-inch South East Gravity Sewer														
A Sanitary sewer line to connect to the expected eastern developments in the city limits.														
3	3	8,479	18	2032	\$370.00	\$3,137,230	\$2,333,130	\$5,470,360	0%	100%	100%	\$0	\$5,470,360	\$5,470,360
	Subtotal:	8,479	2032			\$3,137,230	\$2,333,130	\$5,470,360				\$0	\$5,470,360	\$5,470,360
18-inch Southern Force Main														
A force main from the expanded lift stations at the wastewater treatment plant to the 42" NTMWD Sewer line														
4	4	23,064	18	2025	\$370.00	\$20,800,000	\$11,824,689	\$27,724,689	0%	100%	100%	\$0	\$27,724,689	\$27,724,689
	Subtotal:	23,064	2025			\$15,900,000	\$11,824,689	\$27,724,689				\$0	\$27,724,689	\$27,724,689
Southern 24-inch Force Main														
An additional line to be installed to convey increased capacity to the 42" NTMWD Sewer line from the Proposed Southern Lift Station														
4	5	23,064	24	2030	\$490.00	\$11,301,360	\$8,404,721	\$19,706,081	0%	100%	100%	\$0	\$36,268,776	\$36,268,776
	Subtotal:	23,064	2030			\$11,301,360	\$8,404,721	\$19,706,081				\$0	\$36,268,776	\$36,268,776
Wastewater Lines - CIP Total														
	TOTAL	37,226				\$46,718,700	\$31,100,197	\$72,918,897				\$0	\$89,481,592	\$89,481,592

TABLE NO. B-3
CITY OF CRANDALL, TEXAS
WASTEWATER SYSTEM IMPACT FEE STUDY
PROPOSED CIP - WASTEWATER FACILITIES

** Average Unit costs are based in 2025 dollars unless otherwise indicated and includes 20% for engineering and easements.*

Pipe Number	Total Capacity	Date of Const.	Total Capital Cost (\$)	20 Year Debt Service @ 6% Simple Interest	Total 20 Year Project Cost (\$)	(MGD) Utilized Capacity			(% Utilized Capacity			(\$ Utilized Capacity			
						2025	2035	During Fee Period	2025	2035	During Fee Period	2025	2035	During Fee Period	
Proposed Temporary Lift Station															
An interim upgrade to the existing WWTP to allow the city to contain and transport 6 MGD worth of waste															
	6.0 MGD	2025	\$2,140,000	\$1,591,499	\$3,731,499	0.00	6.00	6.00	0%	100%	100%	\$0	\$3,731,499	\$3,731,499	
Subtotal:	6.0 MGD	2025	\$2,140,000	\$1,591,499	\$3,731,499							\$0	\$3,731,499	\$3,731,499	
Proposed Southern Lift Station															
A Lift station that will allow the city to discharge up to 13 MGD of waste which will account for buildout conditions.															
	13 MG	2030	\$15,870,800	\$11,802,973	\$27,673,773	0.00	13.00	13.00	0%	100%	100%	\$0	\$27,673,773	\$27,673,773	
Subtotal:	13 MG	2030	\$15,870,800	\$11,802,973	\$27,673,773							\$0	\$27,673,773	\$27,673,773	
Wastewater Facilities - Project CIP Total															
			\$18,010,800	\$13,394,472	\$31,405,272							\$0	\$31,405,272	\$31,405,272	



WATER & WASTEWATER 2025 - 2035 IMPACT FEE UPDATE

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