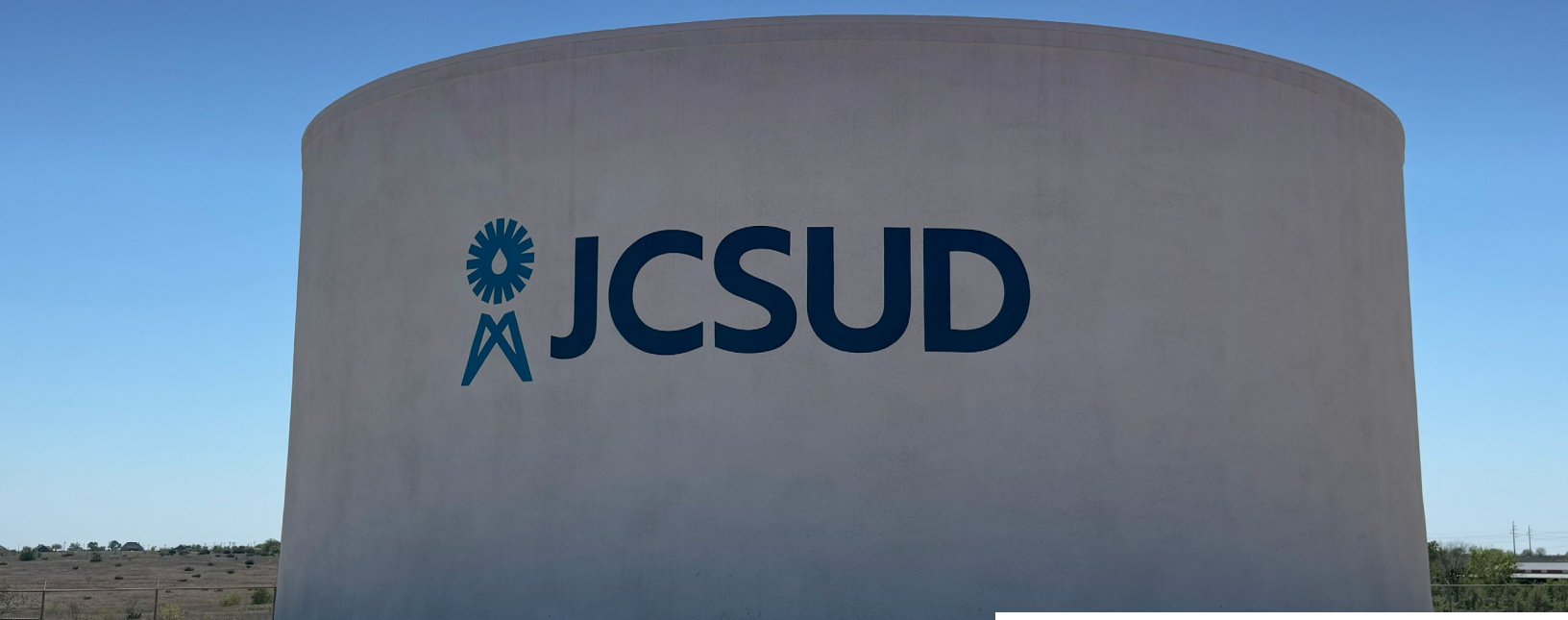
JOHNSON COUNTY
SPECIAL UTILITY DISTRICT

2025 Water Impact Fee Study

ADOPTED BY BOARD OF DIRECTORS:
AUGUST 19, 2025



PREPARED FOR:

JCSUD
JOHNSON COUNTY
SPECIAL UTILITY DISTRICT

PREPARED BY:
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TBPE FIRM REGISTRATION NUMBER: F-928
PROJECT NUMBER: 061002040

2025 Water Impact Fee Study

Prepared for:

Johnson County Special Utility District
Johnson County, TX

Prepared by:

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August 2025

061002040

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EXECUTIVE SUMMARY

INTRODUCTION

Impact Fees are a mechanism for funding the public infrastructure necessitated by new development. Across the country, they are used to fund police and fire facilities, parks, schools, roads, and utilities. In Texas, the legislature has allowed their use for roadway, drainage, water, and wastewater facilities. Johnson County Special Utility District (JCSUD) has utilized Water Impact Fees as a funding tool for infrastructure needs due to unprecedented growth in the District.

In the most basic terms, impact fees are meant to recover the incremental cost of each new unit of development used for new infrastructure needs within a ten-year time period. This study's purpose is to calculate the maximum water impact fee per service unit of new growth.

An impact fee program is anticipated to be designed so that it is **predictable** for both the development community and the District. An impact fee program is **transparent.** This report describes in detail how the fee is calculated and how the Capital Improvements Advisory Committee (CIAC) monitors the impact fee program. An impact fee program is **flexible** in that funds can be used on priority projects and not just on projects adjacent to a specific development. An impact fee program is both **equitable** and **proportional** in that every new development pays an equal fee that is directly related to its systemwide impact.

IMPACT FEE BASICS

Service Areas

A Service Area is a geographic area within which a maximum impact fee is determined. All fees collected within the Service Area must be spent on eligible improvements within the same Service Area. For JCSUD Water Impact Fees, a single service area exists within the Water Certificate of Convenience and Necessity (CCN).

Land Use Assumptions

The Impact Fee determination is required to be based on the projected growth and corresponding capacity needs in a 10-year window. Because there have not been any significant changes in projected land use with the District's Service Area for the years 2025-2035, land use assumptions from the *2023 Water and Wastewater Impact Fee Study* and *2022 Water System Master Plan* remain the same.

Service Units

The "service unit" is a measure of consumption or use of the capital facilities by new development. In other words, it is the unit of measure used to quantify the supply and demand for utilities in the District. Service units are attributable to an individual unit of development and utilized to calculate the maximum impact fee.

The service unit for water impact fees is based on the size of the individual water meters used to serve growth related development. The base water service unit is the water demand associated with the smallest water meter issued for a new residential unit in the District, which is a 5/8 x 3/4-inch meter used for single-family housing.

Water Impact Fee Capital Improvements Plan

The District has identified the Water projects needed to accommodate the projected growth over the next ten (10) years within the District. These projects include recently completed and proposed projects that were determined based on their current or anticipated impact on the Water Service Area.

The Water Impact Fee Capital Improvements Plan (CIP) was developed for the District based on recommended capital improvements outlined in the *2022 Water System Master Plan*, Analyses from individual Pressure Planes 3, 8, 9, 10, 24, and 25, input from District Staff, and growth projections anticipated throughout the District. The recommended improvements will provide the required capacity and reliability to meet projected water demand through 2035. Elements of the water system, including storage facilities, pumping facilities, and the transmission and distribution network were evaluated against industry and District standards, as outlined in the Design Criteria section of this report.

A total of seventeen (17) existing projects and forty-seven (47) proposed projects were identified to develop the Water Impact Fee Capital Improvements Plan. The total project costs (*not* impact fee eligible cost) to be evaluated is $771,403,753 as shown in **Table 2** of this Study.

Recoverable Project Costs

Impact Fees are a one-time fee meant to recover the incremental cost of each new unit of development within a ten-year window. With this consideration, the maximum assessable impact fee does not specifically cover the entire cost of a water project. The calculations that determine the percentage of a project's cost that is impact fee eligible are defined as the project's *recoverable cost*.

The recoverable costs for water projects are calculated by determining the increase in water demand due to growth over the 10-year window. The District's current and future water demand were utilized to calculate the percent utilization of each impact fee eligible project. The change in utilization of each

project is multiplied by the total project cost to determine total recoverable project cost. The total recoverable costs for the water distribution system is $337,716,494 (pre-finance) as shown in **Table 2** of this Study.

Maximum Assessable Impact Fee Calculation

4In simplest terms, the maximum impact fee allowable by law is calculated by dividing the total recoverable cost of the Capital Improvement Plans by the number of new service units of development within the District. In accordance with state law, both the cost of the Capital Improvement Plan and the number of new service units used in the equation are based on the growth and corresponding capacity needs projected to occur within a 10-year window.

In practice, there are many factors that complicate this calculation. The 2025 maximum Water Impact Fee per service unit (5/8 x 3/4-inch meter) allowable by law is $13,462.

Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of impact fees. A Capital Improvements Advisory Committee (CIAC) is required to review the Land Use Assumptions and the Capital Improvements Plan used in calculating the maximum fee, and to provide findings for consideration by the District Board. This CIAC also reviews the calculation and resulting maximum fees and provides its findings to the District Board. The composition of the CIAC is required to have adequate representation of the building and development communities. For JCSUD, the CIAC members include real estate, development, and building industry professionals within the District Boundary. The District Board then conducts a public hearing on the Impact Fee Resolution.

Following policy adoption, the CIAC is tasked with advising the District Board of the need to update the Land Use Assumptions or the Impact Fee Capital Improvements Plan at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the Impact Fee, once in place, and advises the District Board as necessary.

Chapter 395 of the Texas Local Government Code requires a public hearing before the District Board to approve an impact fee program. The public hearing to discuss the land use assumptions and the capital improvement plans will be held on August 19, 2025. If the Board chooses, the adoption of an impact fee resolution will follow the public hearing held on August 19, 2025.

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INTRODUCTION

Johnson County Special Utility District (JCSUD) retained the services of Kimley-Horn and Associates, Inc., for the purpose of updating the impact fees for water system improvements required to serve new development. These fees were updated in accordance with Chapter 395 of the *Texas Local Government Code* that details the procedure Texas political subdivisions must follow to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 in September 2001 to define an impact fee as "a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development."

Chapter 395 mandates that impact fees be reviewed and updated at least every five (5) years. Due to unprecedented growth experienced within the District, the District initiated a review of its Capital Improvements Plans (CIP) and associated Water Impact Fees prior to the five-year requirement and as allowed by Chapter 395. The purpose of this report is to satisfy the requirements of the law and provide JCSUD with an updated impact fee capital improvements plan and associated maximum assessable water impact fee.

The study process was comprised of four tasks:

A. Land Use Assumptions

Because there have not been any significant changes in projected land use with the District's Service Area for the years 2025-2035, land use assumptions from the *2022 Water System Maser Plan* remain the same.

B. Determination of 10-year Growth Projections

This task involved reviewing JCSUD's *2023 Water Impact Fee Study* projected growth rate percentages completed by Kimley-Horn and Associates, Inc. (separate contract) and its growth projection compatibility with actual 2025 connection data and 5-year and beyond 5-year projected data held in the District's model. The District had also tasked several other Consulting Engineering firms to perform individual pressure plane analyses for Pressure Planes 3, 8, 9, and 10. Kimley-Horn performed an individual pressure plane analysis for Pressure Planes 24 and 25 as part of a separate contract. Through comparisons of data from the *2023 Water Impact Fee Study*, data presented in the individual pressure plane analyses, actual connection data, and discussions with the District, growth rates for each Pressure Plane for a 5-

year and beyond 5-year basis were determined and applied to determine the projected service units in the 10-year planning window.

C. Impact Fee Capital Improvement Plan

This task involved reviewing the water capital improvements plan outlined in *2022 Water System Master Plan*. Due to unprecedented growth within the District that was not accounted for in the 2022 analysis, there were several infrastructure projects added or modified since the *2022 Water System Master Plan*. Discussions were also held with District staff to identify projects that will be constructed in the 10-year planning window to meet the design criteria outlined in *Chapter 290* of the *Texas Administrative Code (Public Drinking Water)*.

D. Impact Fee Analysis and Report

This task included calculating the additional service units, recoverable costs from the CIP, and credit reduction. Financing and credit reduction costs were calculated by NewGen Strategies and Solutions, LLC. These values were then used to determine the maximum assessable water impact fee.

Impact Fee Study Service Area

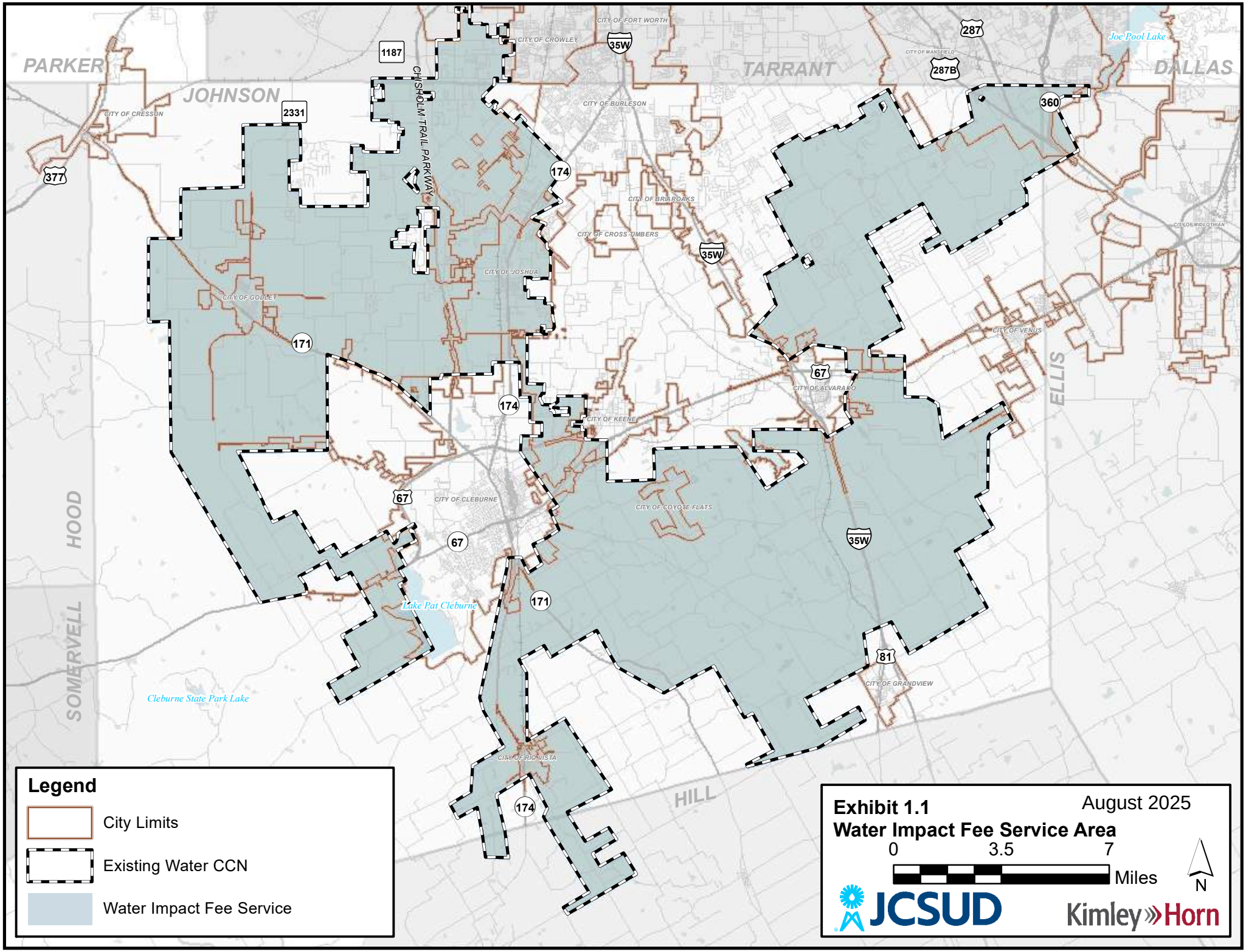
According to Chapter 395 of the Local Government Code, a Service Area refers to the area within the corporate boundaries or extraterritorial jurisdiction of the political subdivision to be served by the capital improvement or facilities specified in the Capital Improvement Plan. Funds collected in the specific service areas must be spent in the service area collected.

Water Impact Fee Service Areas

The geographic boundary of the proposed water impact fee service area for water facilities is shown in **Exhibit 1.1**. The Water Impact Fee Service Area includes the existing Water Certificate of Convenience and Necessity (CCN).

Ultimate Land Use

Because there have not been any significant changes in projected land use with the District's Service Area for the years 2025-2035, land use assumptions from the *2022 Water System Maser Plan* remain the same. For the undeveloped areas within the District, assumptions based on the 2022 Ultimate Land Use Map (**Exhibit 1.2**) from the *2022 Water System Maser Plan* were used to estimate the growth potential of land within the Impact Fee Study Water Service Area.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CITY OF MANSFIELD
CITY OF CRESSON
CITY OF BRIAROAKS
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CITY OF GRANDVIEW
CITY OF RIO VISTA
CITY OF MIDLOTHIAN
CHISHOLM TRAIL PARKWAY
Joe Pool Lake
Lake Pat Cleburne
Cleburne State Park Lake
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City Limits
Existing Water CCN
Water Impact Fee Service
Exhibit 1.1
Water Impact Fee Service Area
August 2025
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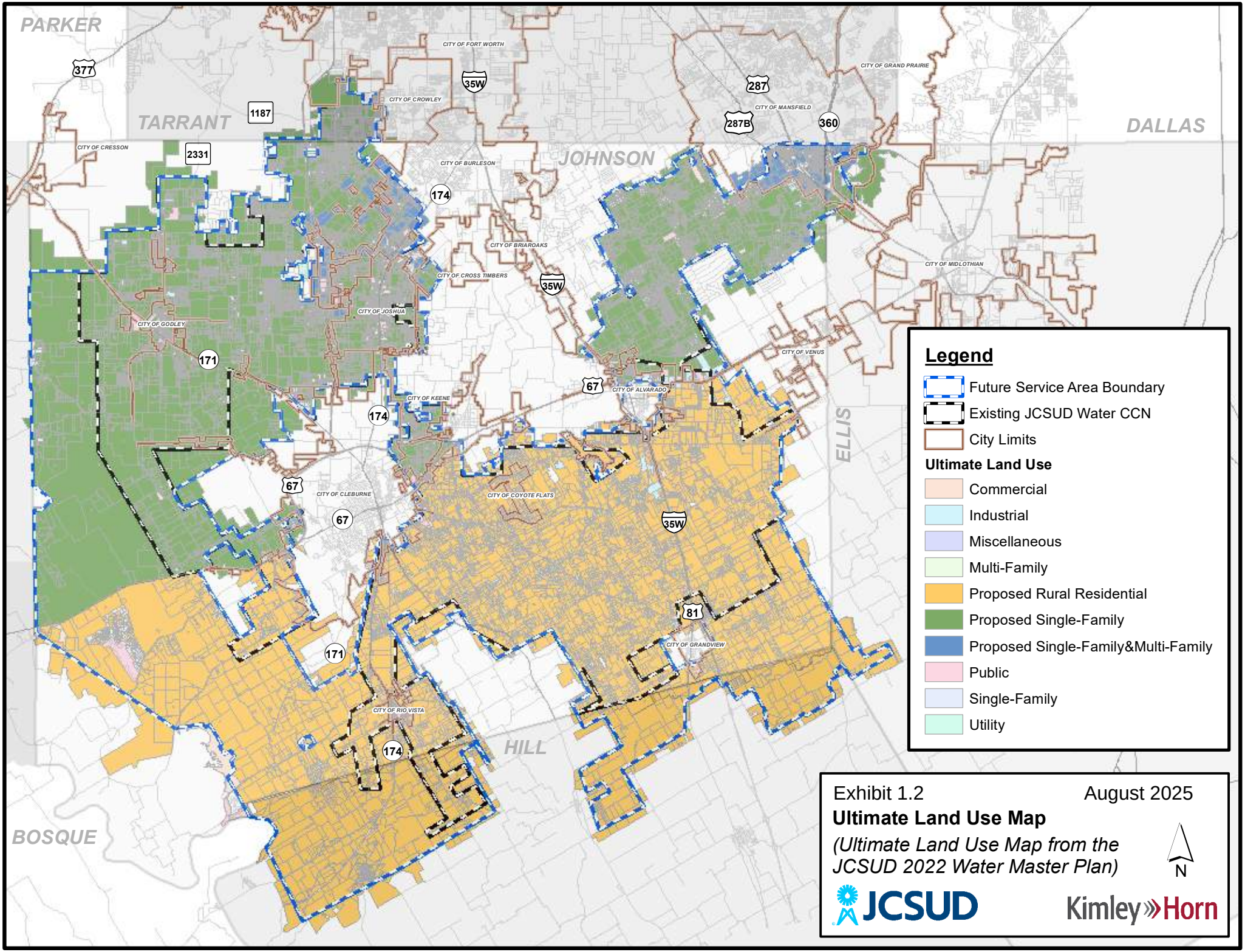
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Legend
Future Service Area Boundary
Existing JCSUD Water CCN
City Limits
Ultimate Land Use
Commercial
Industrial
Miscellaneous
Multi-Family
Proposed Rural Residential
Proposed Single-Family
Proposed Single-Family&Multi-Family
Public
Single-Family
Utility
Exhibit 1.2
August 2025
Ultimate Land Use Map
(Ultimate Land Use Map from the JCSUD 2022 Water Master Plan)
N
JCSUD
Kimley»Horn

DETERMINATION OF 10-YEAR GROWTH PROJECTIONS

Growth projections from 2025-2035 for the District were established using growth trendlines, growth averages, probable future developments, and generally accepted planning principles. The following documents and factors were considered in developing these projections:

- Probable future developments
- Historical and anticipated growth trends
- Ultimate Land Use Plan from the *2022 Water System Master Plan*
- Connection projections from individual pressure plane analysis

2025 Active Connection Data

As a basis for the 10-year growth projection for the Water Impact Fee Service Area, 2025 connection count data by pressure plane and meter size was obtained from the District to establish a baseline.

10-Year Growth Rate Percentage Projections

The determination of the growth rate percentages by pressure plane was developed through a comparison of the following three scenarios:

(1) Comparison to 2021 Connection Data by Pressure Plane

During the *2023 Water Impact Fee Study,* existing connection count data by pressure plane was received for 2021. A historic yearly growth rate percentage was developed by comparing the growth rate per year from 2021 to 2025.

(2) Comparison to Data Held in District's Hydraulic Analysis Tracking Spreadsheets

The District's Hydraulic Analysis Tracking spreadsheets hold data for 2025 active connections, developments held in the model (projected developments within 5-year period), and developments that are not in the model but have been reviewed (projected development within a 10 to 15-year period). A projected 5-year and beyond 5-year growth rate percentage was able to be established by comparing the 2025 active connections to the projected 5 to 15-year projected connection count data.

(3) Comparisons to Individual Pressure Plane Memos

For pressure planes experiencing a rapid amount of growth, individual pressure plane analyses were completed for Pressure Planes 3, 8, 9, 10, 24, and 25. Within each of these analyses, a recommended 5-year and beyond 5-year growth rate percentage was developed.

Based on discussions with the District and comparisons between the various growth rate percentages developed, the analysis identified growth rates for each pressure plane that averaged 6.2% and 3.8% for the 5-year and beyond 5-year planning window, respectively. The analysis predicted a water connection count of 41,936 in 2035. Existing and 10-year connection counts and projected growth rates can be found in **Table 1** below. These connection values were converted to service units for the financial analysis performed by NewGen Strategies and Solutions, LLC, as shown in the **Water Impact Fee Calculation** section of this report.

Table 1: Connection and Growth Rate Projections

Pressure Plane	Existing Connections (2025)	10-Year Connections	Adjusted 5-Year Growth Rate	Beyond 5-Year Growth Rate
1	3,828	5,395	5.00%	2.00%
3	627	1,123	6.00%	6.00%
5	242	303	2.99%	1.58%
8	7,720	11,393	4.51%	3.43%
9	244	312	2.50%	2.50%
10	148	383	10.00%	10.00%
13	3,566	8,021	12.00%	5.00%
18	196	265	4.10%	2.00%
19	460	563	1.10%	3.00%
24	2,817	5,066	9.18%	3.00%
25	1,883	5,213	15.00%	6.60%
34	3,433	3,899	1.54%	1.02%
Total	**25,164**	**41,936**		

CAPITAL IMPROVEMENT PLAN

The purpose of a capital improvements plan is to provide the District with a logical strategy for upgrading and expanding its water distribution system to accommodate future growth and address existing system deficiencies. The CIP is developed using eligible projects identified during the master planning process and through discussions with District staff. State law only allows cost recovery associated with projects in a ten (10) year planning window from the time of the impact fee study. Kimley-Horn completed the *2022 Water System Master Plan* and recommended the system improvements to accommodate growth through the District's build-out. These projects have since been re-evaluated to account for several large developments and anticipated growth that is scheduled to be constructed within the planning window to be able to comply with the requirements set forth in *Chapter 290* of the *Texas Administrative Code (Public Drinking Water)*, which are listed below.

DESIGN CRITERIA

In accordance with *Chapter 290* of the *Texas Administrative Code (Public Drinking Water)*, the following design criteria is followed when planning for future water infrastructure and is the basis for establishing the Capital Improvement Plan projects needed to support demand within the District.

E. WATER LINES

Water distribution and transmission lines shall be sized to maintain a minimum of 40 pounds per square inch (psi) throughout the system during peak hour demand conditions and a peak day demand plus fire flow with a minimum pressure of 20 psi. Tank filling with a maximum pressure of 100 psi. In addition, the transmission lines shall be designed for a maximum velocity of 5.0 feet per second during normal operations and 10 feet per second during emergency conditions.

F. STORAGE TANKS

(a) Elevated Storage Tanks

Elevated storage serves three purposes:

- Functionally, elevated storage equalizes the pumping rate to compensate for daily variations in demand and to maintain a constant pumping rate (usually referred to as operational storage), or a pumping rate that conforms to the requirements of the electrical rate structure.
- Provides pressure maintenance and protection against surges created by instantaneous demand, such as fire flow and main breaks, and instantaneous change in supply, such as pumps turning on and off.

- Maintains a reserve capacity for fire protection and pressure maintenance in case of power failure to one or more pump stations. Sufficient storage should be maintained to provide four hours of fire flow demand during a loss of power to the pump station and water treatment plant.

The design criteria set for the District consists of three levels.

- Level 1: Adequate operational (equalization) storage established by determining the required volume to equalize the daily functions in flow during the maximum day demand.
- Level 2: The reserve volume equal to 1,000 gpm for two hours required for fire protection.
- Level 3: Emergency storage equal to 20% of the combined equalization and fire storage volume.

The minimum requirements for storage are as follows:

- Total Storage - Equal to 200 gallons per connection.
- Elevated Storage - Equal to 100 gallons per connection; or
- Elevated Storage – Equal to 200 gallons per connection for a firm pumping capacity reduction from 2.0 gpm per connection to 0.6 gpm per connection.

(b) Ground Storage Tanks

Ground storage serves two functions:

- Equalization for differing feed rates between the water supply and pumping to the system; and
- Emergency capacity in the event of temporary loss of water supply.

Generally, ground storage facilities are located at water supply points or at each pump station within the water distribution system. Although ground and elevated storage facilities perform separate functions within the system, both are aimed at decreasing the impact of demand fluctuations. The design criteria set for the District is to provide adequate storage volume to meet 50% of the maximum day demand.

G. Pump Stations

Pumping capacities must provide the maximum demand or the peak hour demand required by the water system or the suggested capacities established by TCEQ (2.0 gallons per minute per

connection or have a total capacity of at least 1,000 gallons per minute). Pumping capacity should supply the maximum demand with sufficient redundancy to allow for the largest pump at the pump station to be out of service. This is known as firm pumping capacity. The design criteria set for the District is to maintain pumping facilities with a firm pumping capacity equal to or greater than the existing and projected maximum day water demand through the 25-year planning period.

CAPITAL IMPROVEMENT PLAN PROJECT LIST

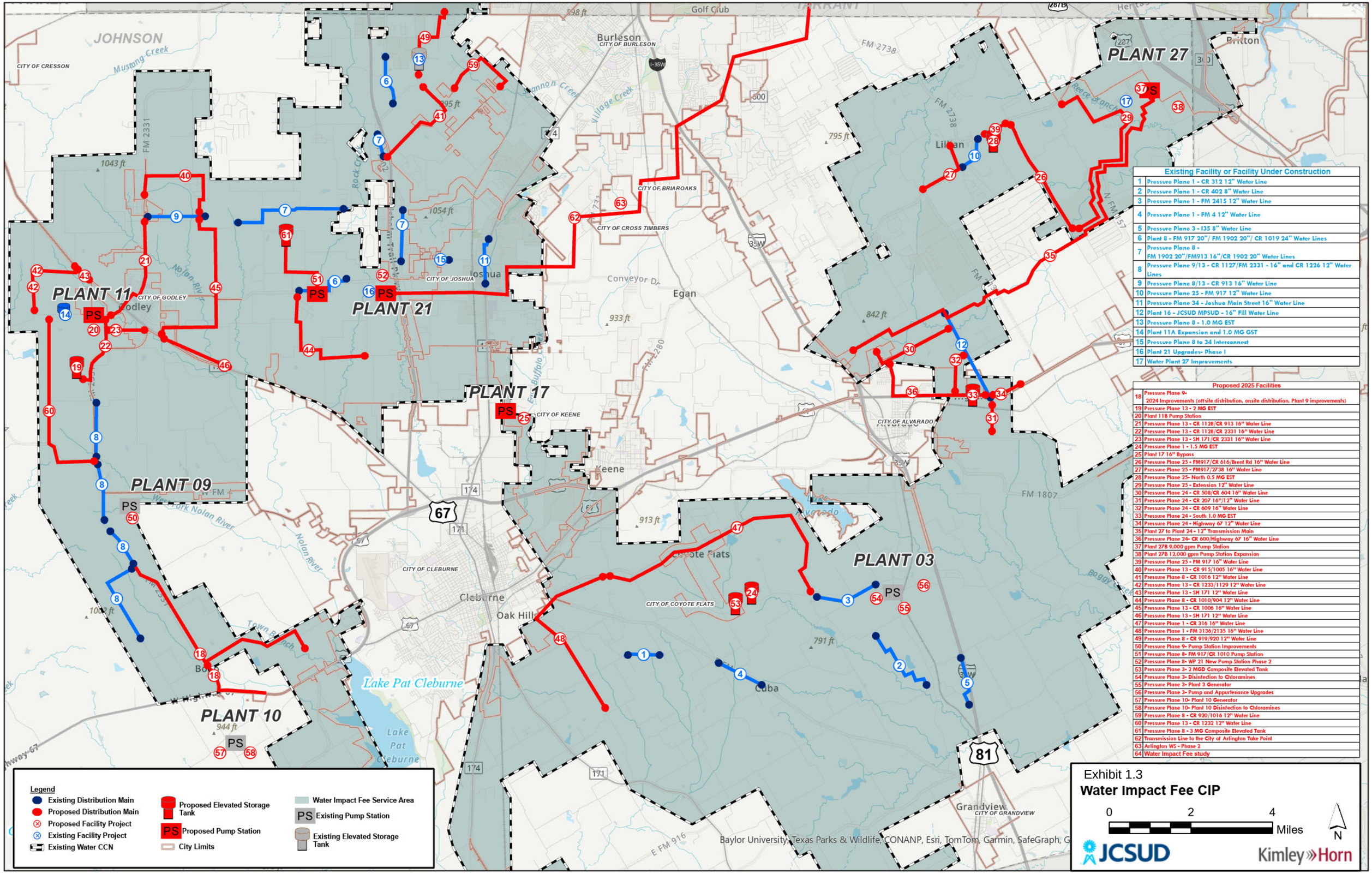
Seventeen (17) existing projects, forty-seven (47) proposed projects, and the Water Impact Fee Study are determined eligible for recoverable cost through impact fees over the next 10 years. The total cost of these projects is **$771,403,753**. The projected total recoverable cost through impact fees is **$337,716,494**. After debt service costs are added and the credit reduction calculation is complete, **$246,617,115** is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in **Table 2** and illustrated in **Exhibit 1.3**.

Table 2: Water Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost

Proj. #	Description	2035 Required Capacity (*Percent Utilization*)	2025-2035 Required Capacity (*Percent Utilization*)	2035 Projected Recoverable Cost	Total Project Cost
EXISTING					
1	Pressure Plane 1 - CR 312 12" Water Line	60%	60%	$292,209	$487,015
2	Pressure Plane 1 - CR 402 8" Water Line	60%	60%	$548,126	$913,544
3	Pressure Plane 1 - FM 2415 12" Water Line	60%	60%	$543,606	$906,010
4	Pressure Plane 1 - FM 4 12" Water Line	60%	60%	$384,156	$640,260
5	Pressure Plane 3 - I35 8" Water Line	32%	32%	$167,808	$524,400
6	Plant 8 - FM 917 20"/ FM 1902 20"/ CR 1019 24" Water Lines	49%	49%	$953,775	$1,946,479
7	Pressure Plane 8 - FM 1902 20"/FM913 16"/CR 1902 20" Water Lines	49%	49%	$810,075	$1,653,214
8	Pressure Plane 9/13 - CR 1127/FM 2331 16" and CR 1226 12" Water Lines	44%	44%	$1,697,208	$3,857,291
9	Pressure Plane 8/13 - CR 913 16" Water Line	45%	45%	$1,908,729	$4,214,619
10	Pressure Plane 25 - FM 917 12" Water Line	34%	34%	$763,640	$2,246,000
11	Pressure Plane 34 - Joshua Main Street 16" Water Line	74%	74%	$2,185,017	$2,952,725
12	Plant 16 - JCSUD MPSUD - 16" Fill Water Line	54%	54%	$807,504	$1,495,378
13	Pressure Plane 8 - 1.0 MG EST	100%	100%	$6,210,831	$6,210,831
14	Plant 11A Expansion and 1.0 MG GST	15%	15%	$445,500	$2,970,000
15	Pressure Plane 8 to 34 Interconnect	43%	43%	$206,400	$480,000

Proj. #	Description	2035 Required Capacity (*Percent Utilization*)	2025-2035 Required Capacity (*Percent Utilization*)	2035 Projected Recoverable Cost	Total Project Cost
16	Plant 21 Upgrades- Phase I	100%	100%	$199,182	$199,182
17	Water Plant 27 Improvements	34%	34%	$285,030.50	$838,325
			Existing Subtotal	**$18,408,796**	**$32,562,273**
			PROPOSED		
18	Pressure Plane 9 - 2024 Improvements (offsite distribution, onsite	99%	99%	$4,108,500	$4,150,000
19	Pressure Plane 13 - 2 MG EST	43%	43%	$4,742,900	$11,030,000
20	Plant 11B Pump Station	12%	12%	$1,320,000	$11,000,000
21	Pressure Plane 13 - CR 1128/CR 913 16" Water Line	43%	43%	$2,868,100	$6,670,000
22	Pressure Plane 13- CR 1128/CR 2331 16" Water Line	43%	43%	$1,960,800	$4,560,000
23	Pressure Plane 13 - SH 171/CR 2331 16" Water Line	43%	43%	$1,044,900	$2,430,000
24	Pressure Plane 1- 1.5 MG EST	5%	5%	$483,125	$9,662,500
25	Plant 17 16" Bypass	60%	60%	$174,000	$290,000
26	Pressure Plane 25 - FM 917/CR 616/Brent Rd 16" Water Line	34%	34%	$5,007,520	$14,728,000
27	Pressure Plane 25 - FM 917/2738 16" Water Line	34%	34%	$2,074,680	$6,102,000
28	Pressure Plane 25- North 0.5 MG EST	4%	4%	$266,280	$6,657,000
29	Pressure Plane 25- Extension 12" Water Line	34%	34%	$1,813,560	$5,334,000
30	Pressure Plane 24 - CR 508/CR 604 16" Water Line	54%	54%	$4,795,740	$8,881,000
31	Pressure Plane 24 - CR 207 16"/12" Water Line	54%	54%	$5,361,660	$9,929,000
32	Pressure Plane 24 - CR 609 16" Water Line	54%	54%	$5,229,360	$9,684,000
33	Pressure Plane 24 - South 1.0 MG EST	43%	43%	$5,059,810	$11,767,000
34	Pressure Plane 24 - Highway 67 12" Water Line	54%	54%	$1,143,180	$2,117,000
35	Plant 27 to Plant 24 - 12" Transmission Main	41%	41%	$10,644,010	$25,961,00
36	Pressure Plane 24 - CR 600/Highway 67 16" Water Line	54%	54%	$4,676,400	$8,660,000
37	Plant 27B 9,000 GPM Pump Station	8%	8%	$1,573,040	$19,663,000
38	Plant 27B 12,000 GPM Pump Station Expansion	6%	6%	$119,700	$1,995,000
39	Pressure Plane 25 - FM 917 16" Water Line	34%	34%	$1,657,840	$4,876,000
40	Pressure Plane 13 - CR 915/1005 16" Water Line	43%	43%	$2,915,400	$6,780,000
41	Pressure Plane 8 - CR 1016 12" Water Line	49%	49%	$2,582,300	$5,270,000
42	Pressure Plane 13 - CR 1233/1129 12" Water Line	43%	43%	$1,896,300	$4,410,000
43	Pressure Plane 13 - SH 171 12" Water Line	43%	43%	$559,000	$1,300,000
44	Pressure Plane 8 - CR 1010/904 12" Water Line	49%	49%	$2,998,800	$6,120,000
45	Pressure Plane 13 - CR 1006 16" Water Line	43%	43%	$4,386,000	$10,200,000

Proj. #	Description	2035 Required Capacity (*Percent Utilization*)	2025-2035 Required Capacity (*Percent Utilization*)	2035 Projected Recoverable Cost	Total Project Cost
46	Pressure Plane 13 - SH 171 12" Water Line	43%	43%	$1,505,000	$3,500,000
47	Pressure Plane 1- CR 316 16" Water Line	60%	60%	$9,282,000	$15,470,000
48	Pressure Plane 1- FM 3136/2135 16" Water Line	60%	60%	$6,486,000	$10,810,000
49	Pressure Plane 8 - CR 919/920 12" Water Line	49%	49%	$1,626,800	$3,320,000
50	Pressure Plane 9 - Pump Station Improvements	51%	51%	$969,000	$1,900,000
51	Pressure Plane 8 - FM 917/CR 1010 Pump Station	43%	43%	$7,151,063.40	$16,630,380
52	Pressure Plane 8 - WP 21 New Pump Station Phase 2	43%	43%	$8,308,847	$19,322,900
53	Pressure Plane 3 - 2 MGD Composite Elevated Tank	11%	11%	$1,320,000	$12,000,000
54	Pressure Plane 3 - Disinfection to Chloramines	32%	32%	$118,560	$370,500
55	Pressure Plane 3 - Plant 3 Generator	32%	32%	$499,200	$1,560,000
56	Pressure Plane 3 - Pump and Appurtenance Upgrades	28%	28%	$146,832	$524,400
57	Pressure Plane 10 - Plant 10 Generator	22%	22%	$158,400	$720,000
58	Pressure Plane 10- Plant 10 Disinfection to Chloramines	22%	22%	$32,890	$149,500
59	Pressure Plane 8 - CR 920/1016 12" Water Line	49%	49%	$2,013,900	$4,110,000
60	Pressure Plane 13 - CR 1232 12" Water Line	43%	43%	$3,569,000	$8,300,000
61	Pressure Plane 8 - 3 MG Composite Elevated Tank	55%	55%	$8,690,000	$15,800,000
62	Transmission Line to the City of Arlington Take Point	46%	46%	$165,140,000	$359,000,000
63	Arlington WS - Phase 2	46%	46%	$20,700,000	$45,000,000
64	Water Impact Fee Study	100%	100%	$127,300	$127,300
			Proposed Subtotal	$319,307,697	$734,691,480
			Total	**$337,716,494**	**$771,403,753**



Existing Facility or Facility Under Construction	
1	Pressure Plane 1 - CR 312 12" Water Line
2	Pressure Plane 1 - CR 402 8" Water Line
3	Pressure Plane 1 - FM 2415 12" Water Line
4	Pressure Plane 1 - FM 4 12" Water Line
5	Pressure Plane 3 - I35 8" Water Line
6	Plant 8 - FM 917 20"/ FM 1902 20"/ CR 1019 24" Water Lines
7	Pressure Plane 8 - FM 1902 20"/FM913 16"/CR 1902 20" Water Lines
8	Pressure Plane 9/13 - CR 1127/FM 2331 - 16" and CR 1226 12" Water Lines
9	Pressure Plane 8/13 - CR 913 16" Water Line
10	Pressure Plane 25 - FM 917 12" Water Line
11	Pressure Plane 34 - Joshua Main Street 16" Water Line
12	Plant 16 - JCSUD MPSUD - 16" Fill Water Line
13	Pressure Plane 8 - 1.0 MG EST
14	Plant 11A Expansion and 1.0 MG GST
15	Pressure Plane 8 to 34 Interconnect
16	Plant 21 Upgrades- Phase I
17	Water Plant 27 Improvements

Proposed 2025 Facilities	
18	Pressure Plane 9- 2024 Improvements (offsite distribution, onsite distribution, Plant 9 improvements)
19	Pressure Plane 13 - 2 MG EST
20	Plant 11B Pump Station
21	Pressure Plane 13 - CR 1128/CR 913 16" Water Line
22	Pressure Plane 13 - CR 1128/CR 2331 16" Water Line
23	Pressure Plane 13 - SH 171/CR 2331 16" Water Line
24	Pressure Plane 1 - 1.5 MG EST
25	Plant 17 16" Bypass
26	Pressure Plane 25 - FM917/CR 616/Brent Rd 16" Water Line
27	Pressure Plane 25 - FM917/2738 16" Water Line
28	Pressure Plane 25- North 0.5 MG EST
29	Pressure Plane 25 - Extension 12" Water Line
30	Pressure Plane 24 - CR 508/CR 604 16" Water Line
31	Pressure Plane 24 - CR 207 16"/12" Water Line
32	Pressure Plane 24 - CR 609 16" Water Line
33	Pressure Plane 24 - South 1.0 MG EST
34	Pressure Plane 24 - Highway 67 12" Water Line
35	Plant 27 to Plant 24 - 12" Transmission Main
36	Pressure Plane 24- CR 600/Highway 67 16" Water Line
37	Plant 27B 9,000 gpm Pump Station
38	Plant 27B 12,000 gpm Pump Station Expansion
39	Pressure Plane 25 - FM 917 16" Water Line
40	Pressure Plane 13 - CR 915/1005 16" Water Line
41	Pressure Plane 8 - CR 1016 12" Water Line
42	Pressure Plane 13 - CR 1233/1129 12" Water Line
43	Pressure Plane 13 - SH 171 12" Water Line
44	Pressure Plane 8 - CR 1010/904 12" Water Line
45	Pressure Plane 13 - CR 1006 16" Water Line
46	Pressure Plane 13 - SH 171 12" Water Line
47	Pressure Plane 1 - CR 316 16" Water Line
48	Pressure Plane 1 - FM 3136/2135 16" Water Line
49	Pressure Plane 8 - CR 919/920 12" Water Line
50	Pressure Plane 9- Pump Station Improvements
51	Pressure Plane 8- FM 917/CR 1010 Pump Station
52	Pressure Plane 8- WP 21 New Pump Station Phase 2
53	Pressure Plane 3- 2 MGD Composite Elevated Tank
54	Pressure Plane 3- Disinfection to Chloramines
55	Pressure Plane 3- Plant 3 Generator
56	Pressure Plane 3- Pump and Appurtenance Upgrades
57	Pressure Plane 10- Plant 10 Generator
58	Pressure Plane 10- Plant 10 Disinfection to Chloramines
59	Pressure Plane 8 - CR 920/1016 12" Water Line
60	Pressure Plane 13 - CR 1232 12" Water Line
61	Pressure Plane 8 - 3 MG Composite Elevated Tank
62	Transmission Line to the City of Arlington Take Point
63	Arlington WS - Phase 2
64	Water Impact Fee study

Legend
- Existing Distribution Main
- Proposed Distribution Main
- Proposed Facility Project
- Existing Facility Project
- Existing Water CCN
- Proposed Elevated Storage Tank
- PS Proposed Pump Station
- City Limits
- Water Impact Fee Service Area
- PS Existing Pump Station
- Existing Elevated Storage Tank

Exhibit 1.3

Water Impact Fee CIP

0 2 4 Miles

N

JCSUD

Kimley»Horn

SERVICE UNITS

Chapter 395 of the Local Government Code defines a service unit as follows, "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years."

SERVICE UNIT CALCULATION

The service unit for the District's water impact fees is the 5/8 x 3/4-inch water meter. A service unit is the water demand of flow associated with the 5/8 x 3/4-inch meter utilized by the District, Mueller Solid State Meter (SSM), which is typically used by a single-family residence served by JCSUD. For meters larger than 1-inch, the District utilizes Octave (Master) Meters. All meters greater than 5/8 x 3/4-inch have a service unit multiplier determined by the ratio of each larger meter's capacity to the capacity of the 5/8 x 3/4-inch meter.

Multiplying the number of existing connections for each meter size by the meter's conversion equivalency yields the total service units for that meter size. For this study, any meters labeled as "Empty/Pulled Tap" were assumed to be 5/8 x 3/4-inch meters that are either in construction or constructed for homes that are currently vacant. Summing all meter sizes yields the total number of water service units connected to the District's water system. The current service unit multipliers (service units/meter) and corresponding service units based on 2025 connection count data are shown in **Table 3**.

Table 3: Total Service Units for 2025

Meter Size	Active Meter Connections	Conversion Ratio (service units/meter)	Service Units
5/8"x3/4"	20,680	1	20,680
3/4"	261	1.2	313
1"	260	2.2	572
1-1/2"	1	5	5
2"	83	10	830
3"	12	20	240
4"	6	40	240
6"	2	64	128
Empty/Pulled Tap	3,489	1	3,489
Total Active Connections:	24,794	Total Service Units:	26,497
		Current ratio of Active Connections to Service Units:	1.07

(1) Data Sources: JCSUD (2025)

According to data provided by JCSUD, there are currently 24,794 active water meter connections within the system, equating to 26,497 service units. From there, a ratio is calculated between the number of active connections and service units. Based on the District's 10-year growth projections, water service will be required for 41,936 connections by the year 2035, shown in **Table 1**, which is converted to an estimated 10-year service unit value of 44,817. Subtracting the existing 26,497 service units, an additional **18,320** service units are predicted to become active in the 10-year planning window. This value was used to calculate the maximum assessable water impact fee in **Table 4** below.

Impact fee law allows for a credit calculation to credit the utility revenues or ad valorem taxes that are allocated to pay for a portion of future capital improvements. The intent of this credit is to prevent the District from double charging development for future capital improvements via impact fees and utility rates. If the District chooses not to do a financial analysis to determine the credit value, they are required by law to reduce the recoverable cost by 50 percent. The District chose to perform a financial analysis.

MAXIMUM ASSESSABLE IMPACT FEE DETERMINATION

The impact fee determination method employed by NewGen Strategies and Solutions, LLC is developed through a financial based model that recognizes the requirements of Chapter 395, including the recognition of cash and/or debt financing, interest earnings, fund balances, and applicable credits associated with the use of utility revenues. In developing the components of the financial model, assumptions must be made that include the following:

- Financing
    - Method of financing (i.e. cash or debt financing)
    - The level of financing (e.g. 75% debt)
    - Cost of financing
    - Debt repayment structure
- Timing and Level of Expenditures and Revenues
- Interest Earnings
- Annual Service Unit Growth
- Portion of Utility Revenue Used to Fund Impact Fee Water Improvements

While the assumptions employed in determining the maximum assessable impact fee are a reasonable basis for forecasting, these assumptions may not reflect actual future conditions. To address this, Chapter 395 requires the monitoring of impact fees through the Capital Improvement Advisory Committee (CIAC) who can update or revise impact fees to reflect the actual implementation of the impact fee program.

FINANCING

Once the cost of additional capacity that is attributable to growth is determined, a District must decide how the cost will be financed: cash and/or debt. Actual costs of capital for any previously funded projects, whether partially or fully funded, are also included.

Based on discussions with District staff, it is assumed that the District will debt finance 75% of the future project costs, and the remaining 25% with cash. For debt financing, the cost of financing is based on discussions with District staff for bonds issued with 20-year terms as shown in the Water Financial Analysis

Appendix of this report. Debt service payments for each future debt issue are assumed to remain constant over the issue's term.

Timing and Level of Expenditures and Revenues

The exact timing and annual level of cash capital expenditures over the forecast period is currently indeterminate, therefore it is assumed that capital expenditures will occur in equal amounts over the 10-year program period. It is also assumed that the District will expand debt proceeds over a 3-year timeframe for debt-financed capital projects. For the calculation of the maximum assessable impact fee, debt is assumed to be issued in equal amounts for each year. In order to recognize the full amount of debt to be issued for the cost of capacity added that is attributable to growth during the 10-year period, a portion of years eight, nine, and ten are assumed to be spent in the final three years.

Interest Earnings

While debt is issued over 20-year terms and impact fees developed are to be charged over a 10-year period, a sufficient fund balance must be generated to meet the future debt service obligations. Fund balances were identified for each service area as a potential source for the current Impact Fee CIP. Because of the generation of the fund balance, excess monies will be available for interest earnings.

Chapter 395 states that interest earnings are funds of the impact fee account and are to be held to the same restrictions as impact fee revenues. In order to recognize that interest earnings are used to fund only impact fee eligible improvements, interest earnings are credited against the costs recoverable through impact fees. Chapter 395 does not require the upfront recognition of interest earnings in the impact fee determination. To acknowledge the time value of the impact fee payer's monies, interest earnings have been credited. For this analysis, interest is assumed to be earned at an annual rate of 4.0% per discussion with District staff.

Annual Service Unit Growth

The timing and annual level of service unit growth over the 10-year program period is currently indeterminate, therefore it is assumed that service unit growth will be consistent over the 10-year forecast.

Portion of Utility Revenue Used to Fund Impact Fee Water Improvements

Credit for the portion of ad valorem tax and/or utility service revenues generated by new service units during the program period are used for payment of the improvements included in the Water Impact Fee CIP. The credit is not a determination to recognize the total utility revenue generated by new service units, but is a credit for the portion of utility revenue that is used for payment of the improvements included in the Water Impact Fee CIP. Theoretically, the credit determination could be zero ($0) if the District does not

utilize any of the new service unit utility revenue to fund improvements that are included in the Water Impact Fee CIP.

To be conservative and recognize potential cash flow issues that can occur with the funding of major capital improvement projects, it is assumed that the debt-funded projects (75% of the improvement costs included in the Water Impact Fee CIP but not otherwise funded) could potentially be funded by utility revenue.

When an impact fee program is in place, payments made through utility revenue will consist of revenue generated by new service units in the defined service area and existing service units throughout the District; therefore, the portion attributable to the new service units in the defined service area must be isolated. The credit calculation illustrating how the credit is isolated is shown in the Water Financial Analysis Appendix of this report.

MAXIMUM ASSESSABLE IMPACT FEE

A breakdown of the 10-year recoverable costs and the associated water impact fee is as follows:

Table 4: Water 10-Year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$	337,716,494
Financing Costs	$	165,769,380
Interest Earnings	$	(91,669,287)
Existing Fund Balance	$	(9,483,623)
Subtotal/Pre-Credit Impact Fee	$	402,332,964
Credit for Utility Revenues	$	(155,715,849)
Maximum Recoverable Cost for Impact Fee	**$**	**246,617,115**

Per NewGen financial analysis, see the Appendix – Summary of Water Impact Fee Determination

$$\text{Impact fee per Service Unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional Service Units}}$$

$$\text{Impact fee per Service Unit} = \frac{\$246,617,115}{18,320}$$

$$\text{Impact fee per Service Unit} = \$13,462$$

Therefore, the maximum assessable impact fee per Service Unit is **$13,462**.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8 x 3/4-inch meter. The maximum impact fee that could be assessed for other meter sizes is based on the Equivalency Table (**Table 5**).

Table 5: Maximum Assessable water Impact Fee for Commonly Used Meters

Meter Size	Safe Maximum Operating Capacity (GPM)*	Service Unit Equivalent	Maximum Assessable Water Impact Fee
5/8"x3/4"	25	1	$13,462
3/4"	30	1.2	$16,154
1"	55	2.2	$29,616
2"	250	10	$134,620
3"	500	20	$269,240
4"	1,000	40	$538,480
6"	1,600	64	$861,568
8"	2,800	112	$1,507,744

**Operating capacities obtained from American Water Works Association (AWWA) C715-18(R22)

APPENDIX

WATER FINANCIAL ANALYSIS

Johnson County SUD - 2025 Water Impact Fee Study
Capital Improvement Plan for Impact Fees
Impact Fee Summary Table
Water Service Area

0	Existing Fund Balance	$ 9,483,623
1	Existing Number of Service Units	26,497
2	Total Number of Services Units for Planning Period	44,817
3	Additional Service Units Added During Planning Period (Line 2 - Line 1)	18,320
4	Total Cost of the Water Impact Fee CIP	$ 771,403,753
5	Recoverable Cost for Impact Fee Planning Period	$ 337,716,494
6	Percent Recoverable for Water Impact Fee Planning Period (Line 5 / Line 4)	43.78%
7	Financing Costs (From Financial Analysis)	$ 165,769,380
8	Interest Earnings (From Financial Analysis)	$ (91,669,287)
9	Recoverable Cost of Water Impact Fee and Financing Costs (Line 5 + Line 7 + Line 8 - Line 0)	$ 402,332,964
10	Pre-Credit Maximum Fee (Line 9 / Line 3)	$ 21,962
11	Credit for Utility Revenues (From Financial Analysis)	$ (155,715,849)
12	Recoverable Cost of Water Impact Fee and Financing (Line 9 + Line 11)	$ 246,617,115
13	Maximum Assessable Fee (Line 12 / Line 3)	$ 13,462

SUMMARY OF WATER IMPACT FEE DETERMINATION

Water Service Area

Recoverable Impact Fee CIP Costs	$	337,716,494	Table 2.1
Financing Cost		165,769,380	See Detail Below
Interest Earnings		(91,669,287)	Water Appendices - page 3
Pre Credit Recoverable Cost for Impact Fee	**$**	**402,332,964**	**Sum of Above**
Credit for Utility Revenues		(155,715,849)	Water Appendices - page 6
Maximum Recoverable Cost for Impact Fee	**$**	**246,617,115**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees. Reference is the Table 2: Water Impact Fee Capital Improvements.

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues.

New Annual Debt Service	$	397,695,517	Water Appendices - page 2
Existing Annual Debt Service		16,476,574	Water Appendices - page 2
Principal Component (New and Existing Debt)		(248,402,711)	Water Appendices - page 1
Financing Costs	$	165,769,380	

Interest Earnings:

Represents the interest earned on cash flows and assumes a 4.00% annual interest rate. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 3 of Water Appendices.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Utility Revenues:

In 2001, the Local Government Code Chapter 395 was amended to include a credit for utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund impact fee eligible projects. Reference is page 6 of Water Appendices.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Revenues. This is the maximum cost that can be recovered through impact fees.

Johnson County SUD - 2025 Water Impact Fee Study

Capital Improvement Plan for Impact Fees
Impact Fee Calculation Assumptions
Water Service Area

I. General Assumptions

Annual Interest Rate on Deposits [1]	4.00%
Annual Service Unit Growth [2]	1,832
Existing Fund Balance [3]	9,483,623

Portion of Projects Funded by Existing Debt [4]	$ 14,725,663
Non-debt Funded Project Cost [5]	89,313,783
New Project Cost Funded Through New Debt [6]	233,677,048
Total Recoverable Project Cost [7]	$ 337,716,494

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ 23,367,705	5.00%	20
2	23,367,705	5.00%	20
3	23,367,705	5.50%	20
4	23,367,705	5.50%	20
5	23,367,705	6.00%	20
6	23,367,705	6.00%	20
7	23,367,705	6.00%	20
8	23,367,705	6.00%	20
9	23,367,705	6.00%	20
10	23,367,705	6.00%	20
Total	$ 233,677,048		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 8,931,378
2	16,720,613
3	24,509,848
4	32,299,083
5	32,299,083
6	32,299,083
7	32,299,083
8	32,299,083
9	32,299,083
10	32,299,083
11	23,367,705
12	15,578,470
13	7,789,235
Total	322,990,831

(1) Per discussions with District Staff
(2) Per Kimley-Horn Impact Fee Study
(3) Per discussions with District Staff
(4) Per discussions with District Staff
(5) This assumes 25% of new project costs funded through sources other than debt, unless specified otherwise
(6) This assumes 75% of new project costs funded through new debt issues, unless specified otherwise
(7) Table 2.1 Water Impact Fee Capital Improvements
(8) Assumes new debt issued in equal annual amounts
(9) Per discussions with District Staff
(10) Assumes new debt proceeds expended over a 3-year timeframe
Non-debt funded capital expenditures allocated per discussions with District Staff

Non-debt funded capital expenditures allocated per discussions with District Staff

Johnson County SUD - 2025 Water Impact Fee Study

Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Water Service Area

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ 1,875,085	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,875,085
2	1,875,085	1,875,085	-	-	-	-	-	-	-	-	3,750,170
3	1,875,085	1,875,085	1,955,394	-	-	-	-	-	-	-	5,705,564
4	1,875,085	1,875,085	1,955,394	1,955,394	-	-	-	-	-	-	7,660,958
5	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	-	-	-	-	-	9,698,261
6	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	-	-	-	-	11,735,564
7	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	-	-	-	13,772,867
8	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	-	-	15,810,170
9	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	-	17,847,473
10	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
11	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
12	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
13	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
14	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
15	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
16	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
17	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
18	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
19	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
20	1,875,085	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	19,884,776
21	-	1,875,085	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	18,009,691
22	-	-	1,955,394	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	16,134,606
23	-	-	-	1,955,394	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	14,179,212
24	-	-	-	-	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	12,223,818
25	-	-	-	-	-	2,037,303	2,037,303	2,037,303	2,037,303	2,037,303	10,186,515
26	-	-	-	-	-	-	2,037,303	2,037,303	2,037,303	2,037,303	8,149,212
27	-	-	-	-	-	-	-	2,037,303	2,037,303	2,037,303	6,111,909
28	-	-	-	-	-	-	-	-	2,037,303	2,037,303	4,074,606
29	-	-	-	-	-	-	-	-	-	2,037,303	2,037,303
	$ 37,501,702	$ 37,501,702	$ 39,107,878	$ 39,107,878	$ 40,746,060	$ 40,746,060	$ 40,746,060	$ 40,746,060	$ 40,746,060	$ 40,746,060	$397,695,517

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ 1,875,085	$ 8,931,378	$ (23,367,705)	$ 1,230,364	$ (200,819)	$ (11,531,696)
2	3,750,170	16,720,613	(23,367,705)	1,235,159	(605,608)	(2,267,370)
3	5,705,564	24,509,848	(23,367,705)	1,232,191	(1,191,789)	6,888,110
4	7,660,958	32,299,083	(23,367,705)	1,230,434	(1,926,223)	15,896,547
5	9,698,261	32,299,083	(23,367,705)	1,233,884	(2,808,315)	17,055,209
6	11,735,564	32,299,083	(23,367,705)	1,229,422	(3,801,326)	18,095,038
7	13,772,867	32,299,083	(23,367,705)	1,229,194	(4,892,609)	19,040,830
8	15,810,170	32,299,083	(23,367,705)	417,424	(5,779,086)	19,379,886
9	17,847,473	32,299,083	(23,367,705)	417,967	(7,006,040)	20,190,778
10	19,884,776	32,299,083	(23,367,705)	416,601	(8,298,507)	20,934,248
11	19,884,776	23,367,705	-	416,582	(8,298,500)	35,370,563
12	19,884,776	15,578,470	-	417,915	(8,299,044)	27,582,116
13	19,884,776	7,789,235	-	417,370	(8,298,822)	19,792,559
14	19,884,776	-	-	416,591	(8,298,503)	12,002,864
15	19,884,776	-	-	-	(8,128,215)	11,756,561
16	19,884,776	-	-	-	(8,128,215)	11,756,561
17	19,884,776	-	-	-	(8,128,215)	11,756,561
18	19,884,776	-	-	-	(8,128,215)	11,756,561
19	19,884,776	-	-	-	(8,128,215)	11,756,561
20	19,884,776	-	-	-	(8,128,215)	11,756,561
21	18,009,691	-	-	-	(7,361,745)	10,647,946
22	16,134,606	-	-	-	(6,595,274)	9,539,332
23	14,179,212	-	-	-	(5,795,976)	8,383,236
24	12,223,818	-	-	-	(4,996,678)	7,227,140
25	10,186,515	-	-	-	(4,163,898)	6,022,617
26	8,149,212	-	-	-	(3,331,119)	4,818,093
27	6,111,909	-	-	-	(2,498,339)	3,613,570
28	4,074,606	-	-	-	(1,665,559)	2,409,047
29	2,037,303	-	-	-	(832,780)	1,204,523
PTD	-	-	-	4,935,475	-	4,935,475
	$ 397,695,517	$ 322,990,831	$ (233,677,048)	$ 16,476,574	$ (155,715,849)	$ 347,770,025

(1) Water Appendices - page 2 Section I
(2) Water Appendices - page 1
(3) Eligible outstanding debt funded projects as a percent of outstanding principal times outstanding annual debt service
(4) Water Appendices - page 6

Johnson County SUD - 2025 Water Impact Fee Study

Capital Improvement Plan for Impact Fees

Impact Fee Calculation

Water Service Area

Year	Number of Years to End of Period	Future Value Escalation: Interest Rate Factor	Future Value Escalation: Recovery Fee Factor	Annual Service Units: Actual	Annual Service Units: Escalated	Annual Expense: Actual	Annual Expense: Escalated
1	29	3.0587	1.0000	1,832	5,603	$ (11,531,696)	$ (35,271,739)
2	28	2.9410	1.0000	1,832	5,388	(2,267,370)	(6,668,417)
3	27	2.8279	1.0000	1,832	5,181	6,888,110	19,479,017
4	26	2.7192	1.0000	1,832	4,981	15,896,547	43,225,146
5	25	2.6146	1.0000	1,832	4,790	17,055,209	44,592,042
6	24	2.5140	1.0000	1,832	4,606	18,095,038	45,491,105
7	23	2.4173	1.0000	1,832	4,428	19,040,830	46,027,725
8	22	2.3243	1.0000	1,832	4,258	19,379,886	45,045,511
9	21	2.2349	1.0000	1,832	4,094	20,190,778	45,125,290
10	20	2.1490	1.0000	1,832	3,937	20,934,248	44,987,410
11	19	2.0663	1.0000	-	-	35,370,563	73,087,356
12	18	1.9869	1.0000	-	-	27,582,116	54,801,762
13	17	1.9104	1.0000	-	-	19,792,559	37,812,514
14	16	1.8370	1.0000	-	-	12,002,864	22,048,809
15	15	1.7663	1.0000	-	-	11,756,561	20,765,731
16	14	1.6984	1.0000	-	-	11,756,561	19,967,049
17	13	1.6331	1.0000	-	-	11,756,561	19,199,085
18	12	1.5702	1.0000	-	-	11,756,561	18,460,659
19	11	1.5098	1.0000	-	-	11,756,561	17,750,634
20	10	1.4518	1.0000	-	-	11,756,561	17,067,917
21	9	1.3959	1.0000	-	-	10,647,946	14,863,899
22	8	1.3423	1.0000	-	-	9,539,332	12,804,172
23	7	1.2906	1.0000	-	-	8,383,236	10,819,617
24	6	1.2410	1.0000	-	-	7,227,140	8,968,779
25	5	1.1933	1.0000	-	-	6,022,617	7,186,522
26	4	1.1474	1.0000	-	-	4,818,093	5,528,094
27	3	1.1032	1.0000	-	-	3,613,570	3,986,606
28	2	1.0608	1.0000	-	-	2,409,047	2,555,517
29	1	1.0200	1.0000	-	-	1,204,523	1,228,614
PTD		1.0000	1.0000	-	-	4,935,475	4,935,475
					47,266		$ 665,871,899

Annual Interest Rate:		4.00%
Total Escalated Expense for Entire Period	$	665,871,899
Total Escalated Service Units		47,266
Maximum Assessable Impact Fee for Water Service Area	**$**	**13,462**

Johnson County SUD - 2025 Water Impact Fee Study

Capital Improvement Plan for Impact Fees

Credit Determination

Water Service Area

Year	Eligible Revenue Funded Cost [1]	Annual Service Units	Eligible Debt Service per Service Unit	Annual Growth in Service Units (Cumulative)	Credit for Annual Utility Rate Revenues
1	$ 3,105,449	28,329	$ 109.62	1,832	$ 200,819
2	4,985,329	30,161	165.29	3,664	605,608
3	6,937,755	31,993	216.85	5,496	1,191,789
4	8,891,392	33,825	262.86	7,328	1,926,223
5	10,932,145	35,657	306.59	9,160	2,808,315
6	12,964,986	37,489	345.84	10,992	3,801,326
7	15,002,061	39,321	381.53	12,824	4,892,609
8	16,227,594	41,153	394.32	14,656	5,779,086
9	18,265,440	42,985	424.93	16,488	7,006,040
10	20,301,377	44,817	452.99	18,320	8,298,507
11	20,301,358	44,817	452.99	18,320	8,298,500
12	20,302,690	44,817	453.02	18,320	8,299,044
13	20,302,146	44,817	453.00	18,320	8,298,822
14	20,301,367	44,817	452.99	18,320	8,298,503
15	19,884,776	44,817	443.69	18,320	8,128,215
16	19,884,776	44,817	443.69	18,320	8,128,215
17	19,884,776	44,817	443.69	18,320	8,128,215
18	19,884,776	44,817	443.69	18,320	8,128,215
19	19,884,776	44,817	443.69	18,320	8,128,215
20	19,884,776	44,817	443.69	18,320	8,128,215
21	18,009,691	44,817	401.85	18,320	7,361,745
22	16,134,606	44,817	360.01	18,320	6,595,274
23	14,179,212	44,817	316.38	18,320	5,795,976
24	12,223,818	44,817	272.75	18,320	4,996,678
25	10,186,515	44,817	227.29	18,320	4,163,898
26	8,149,212	44,817	181.83	18,320	3,331,119
27	6,111,909	44,817	136.38	18,320	2,498,339
28	4,074,606	44,817	90.92	18,320	1,665,559
29	2,037,303	44,817	45.46	18,320	832,780
Total	$ 409,236,616				$ 155,715,849

2025 Service Units[2]	26,497	
Ten Year Growth in Service Units[2]	18,320	
	10	years
Annual Growth in Service Units	1,832	
Credit Amount	**$ 155,715,849**	

(1) Water Appendices - page 2 Section II

(2) Per Kimley-Horn Impact Fee Study

Johnson County SUD - 2025 Water Impact Fee Study

Capital Improvement Plan for Impact Fees

Impact Fee Project Funding

Water Service Area

Impact Fee Project Name[1]	Cost In Service Area [1]	Impact Fee Recoverable Cost[1]	Debt Funded[2] Existing	Debt Funded[2] Proposed	Non-Debt Funded[2]
Pressure Plane 1 - CR 312 12" Water Line	$ 487,015	$ 292,209	$ 292,209	$ -	$ -
Pressure Plane 1 - CR 402 8" Water Line	913,544	548,126	548,126	-	-
Pressure Plane 1 - FM 2415 12" Water Line	906,010	543,606	543,606	-	-
Pressure Plane 1 - FM 4 12" Water Line	640,260	384,156	384,156	-	-
Pressure Plane 3 - I35 8" Water Line	524,400	167,808	167,808	-	-
Plant 8 - FM 917 20"/ FM 1902 20"/ CR 1019 24" Water Lines	1,946,479	953,775	953,775	-	-
Pressure Plane 8 - FM 1902 20"/FM913 16"/CR 1902 20" Water Lines	1,653,214	810,075	810,075	-	-
Pressure Plane 9/13 - CR 1127/FM 2331 16" and CR 1226 12" Water Lines	3,857,291	1,697,208	1,697,208	-	-
Pressure Plane 8/13 - CR 913 16" Water Line	4,241,619	1,908,729	1,908,729	-	-
Pressure Plane 25 - FM 917 12" Water Line	2,246,000	763,640	763,640	-	-
Pressure Plane 34 - SH 174 16" Water Line	2,952,725	2,185,017	-	-	2,185,017
Plant 16 - JCSUD MPSUD - 16" Fill Water Line	1,495,378	807,504	-	-	807,504
Pressure Plane 8 - 1.0 MG EST	6,210,831	6,210,831	6,210,831	-	-
Plant 11A Expansion and 1.0 MG GST	2,970,000	445,500	445,500	-	-
Pressure Plane 8 to 34 Interconnect	480,000	206,400	-	-	206,400
Plant 21 Upgrades - Phase I	199,182	199,182	-	-	199,182
Water Plant 27 Improvements	838,325	285,031	-	-	285,031
Pressure Plane 9- 2024 Improvements (offsite distribution, onsite distribution, F	4,150,000	4,108,500	-	3,081,375	1,027,125
Pressure Plane 13 - 2 MG EST	11,030,000	4,742,900	-	-	4,742,900
Plant 11B Pump Station	11,000,000	1,320,000	-	990,000	330,000
Pressure Plane 13 - CR 1128/CR 913 16” Water Line	6,670,000	2,868,100	-	-	2,868,100
Pressure Plane 13 - CR 1128/CR 2331 16” Water Line	4,560,000	1,960,800	-	1,470,600	490,200
Pressure Plane 13 - SH 171/CR 2331 16” Water Line	2,430,000	1,044,900	-	783,675	261,225
Pressure Plane 1 - 1.5 MG EST	9,662,500	483,125	-	362,344	120,781
Plant 17 16” Bypass	290,000	174,000	-	130,500	43,500
Pressure Plane 25 - FM917/CR 616/Brent Rd 16” Water Line	14,728,000	5,007,520	-	3,755,640	1,251,880
Pressure Plane 25 - FM917/2738 16” Water Line	6,102,000	2,074,680	-	1,556,010	518,670
Pressure Plane 25- North 0.5 MG EST	6,657,000	266,280	-	199,710	66,570
Pressure Plane 25 - Extension 12" Water Line	5,334,000	1,813,560	-	1,360,170	453,390
Pressure Plane 24 - CR 508 16” Water Line	8,881,000	4,795,740	-	3,596,805	1,198,935
Pressure Plane 24 - CR 207 16” Water Line	9,929,000	5,361,660	-	4,021,245	1,340,415
Pressure Plane 24 - CR 609 16" Water Line	9,684,000	5,229,360	-	3,922,020	1,307,340
Pressure Plane 24 - South 1.0 MG EST	11,767,000	5,059,810	-	3,794,858	1,264,953
Pressure Plane 24 - Highway 67 12" Water Line	2,117,000	1,143,180	-	857,385	285,795
Plant 27 to Plant 24 - 12" Transmission Main	25,961,000	10,644,010	-	7,983,008	2,661,003
Pressure Plane 24- CR 600/Highway 67 16" Water Line	8,660,000	4,676,400	-	3,507,300	1,169,100
Plant 27B 9,000 gpm Pump Station	19,663,000	1,573,040	-	1,179,780	393,260
Plant 27B 12,000 gpm Pump Station Expansion	1,995,000	119,700	-	89,775	29,925
Pressure Plane 25 - FM 917 16" Water Line	4,876,000	1,657,840	-	1,243,380	414,460
Pressure Plane 13 - CR 915/1005 16” Water Line	6,780,000	2,915,400	-	2,186,550	728,850
Pressure Plane 8 - CR 1016 12” Water Line	5,270,000	2,582,300	-	1,936,725	645,575
Pressure Plane 13 - CR 1233/1129 12” Water Line	4,410,000	1,896,300	-	1,422,225	474,075
Pressure Plane 13 - SH 171 12” Water Line	1,300,000	559,000	-	419,250	139,750
Pressure Plane 8 - CR 1010/904 12” Water Line	6,120,000	2,998,800	-	2,249,100	749,700
Pressure Plane 13 - CR 1006 16” Water Line	10,200,000	4,386,000	-	3,289,500	1,096,500
Pressure Plane 13 - SH 171 12” Water Line	3,500,000	1,505,000	-	1,128,750	376,250
Pressure Plane 1 - CR 316 16” Water Line	15,470,000	9,282,000	-	6,961,500	2,320,500
Pressure Plane 1 - FM 3136/2135 16” Water Line	10,810,000	6,486,000	-	4,864,500	1,621,500
Pressure Plane 8 - CR 919/920 12” Water Line	3,320,000	1,626,800	-	1,220,100	406,700
Pressure Plane 9- Pump Station Improvements	1,900,000	969,000	-	726,750	242,250
Pressure Plane 8- FM 917/CR 1010 Pump Station	16,630,380	7,151,063	-	5,363,297	1,787,766
Pressure Plane 8- WP 21 New Pump Station Phase 2	19,322,900	8,308,847	-	6,231,635	2,077,212
Pressure Plane 3- 2 MGD Composite Elevated Tank	12,000,000	1,320,000	-	990,000	330,000
Pressure Plane 3- Disinfection to Chloramines	370,500	118,560	-	88,920	29,640
Pressure Plane 3- Plant 3 Generator	1,560,000	499,200	-	374,400	124,800
Pressure Plane 3- Pump and Appurtenance Upgrades	524,400	146,832	-	110,124	36,708
Pressure Plane 10- Plant 10 Generator	720,000	158,400	-	118,800	39,600
Pressure Plane 10- Plant 10 Disinfection to Chloramines	149,500	32,890	-	24,668	8,223
Pressure Plane 8 - CR 920/1016 12” Water Line	4,110,000	2,013,900	-	1,510,425	503,475

Pressure Plane 13 - CR 1232 12” Water Line	8,300,000	3,569,000	-	2,676,750	892,250
Pressure Plane 8 - 3 MG Composite Elevated Tank	15,800,000	8,690,000	-	6,517,500	2,172,500
Transmission Line to the City of Arlington Take Point	359,000,000	165,140,000	-	123,855,000	41,285,000
Arlington WS - Phase 2	45,000,000	20,700,000	-	15,525,000	5,175,000
Water Impact Fee Update	127,300	127,300	-	-	127,300
Total	$ 771,403,753	$ 337,716,494	$ 14,725,663	$ 233,677,048	$ 89,313,783

(1) Table 2: Water Impact Fee Capital Improvements

(2) Per discussions with District staff