

CITY OF FORT WORTH

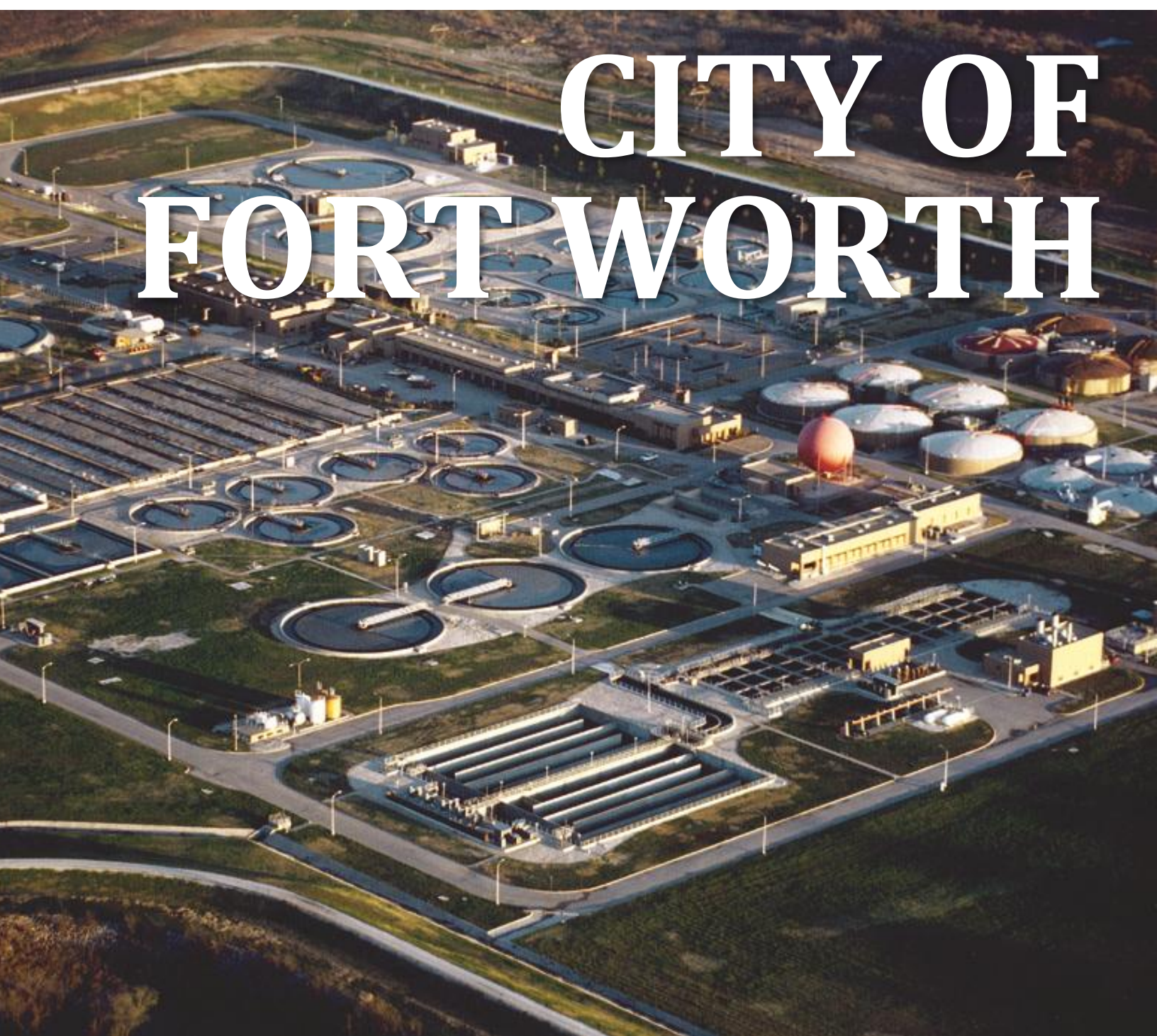


EXHIBIT F: CAPITAL IMPROVEMENT PLAN - WASTEWATER (2025-2045)

PREPARED BY:
FREESE AND NICHOLS, INC.
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WATER & WASTEWATER IMPACT FEE UPDATE

EXHIBIT F: CAPITAL IMPROVEMENT PLAN - WASTEWATER (2025 – 2045)

Prepared for:

Fort Worth Water



March 7, 2025

Prepared by:

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Prepared for:

Fort Worth Water



3/7/2025

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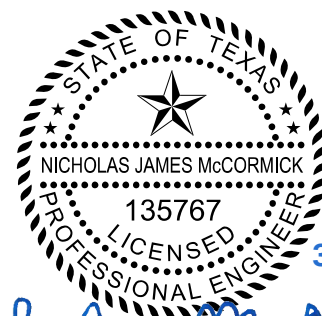
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1.0 INTRODUCTION

In accordance with Texas Local Government Code (TLGC), Chapter 395, the City of Fort Worth commissioned Freese and Nichols, Inc., to conduct a Water and Wastewater Impact Fee Study. This report establishes the engineering basis for the fee schedule, updating the previous study completed in 2021.

Impact fees provide the City of Fort Worth a mechanism for recouping the cost associated with expanding the municipal wastewater system to accommodate growth in the service area. The City of Fort Worth owns and operates a system comprised of treatment facilities, lift stations, and pipelines that are continuously improved and expanded. The schedule for future investment in the wastewater system is known as the Capital Improvement Plan (CIP). The CIP was updated as a part of this study with capital project scope and cost provided by previously commissioned master planning documents and input from Fort Worth Water staff.

The report describes the basis for establishing which City of Fort Worth wastewater facilities are eligible to be included in the impact fee analysis. The additional facilities required to accommodate growth during the study period are summarized.

2.0 EXISTING WASTEWATER COLLECTION SYSTEM

2.1 WASTEWATER TREATMENT PLANTS

The City of Fort Worth provides wastewater service to retail customers within the city and to 22 wholesale customers in the surrounding counties. The Fort Worth wastewater collection system is primarily a gravity flow system that follows the major drainage features of the service area. The City's collection system consists of 12 sewer basins. There are currently three major wastewater treatment facilities serving the study area: the Village Creek Water Reclamation Facility (WRF), which is owned and operated by the City of Fort Worth, and the Denton Creek Wastewater Treatment Plant (WWTP) and the Central Regional WWTP, which are both owned and operated by the Trinity River Authority (TRA). The Village Creek WRF serves the majority of the population within the study area. The TRA Basin is served by the TRA Central WWTP, and the Denton Creek Basin is served by the TRA Denton Creek WWTP.

2.2 LIFT STATIONS AND FORCE MAINS

The City of Fort Worth currently operates 33 lift stations, which pump wastewater into gravity sewers. The City has made a conscious effort to limit the number of lift stations in the collection system. These lift stations are required because of local topographical constraints or to pump flows across sewer basins.

Appendix A summarizes the existing lift station capacities.

3.0 PROJECTED WASTEWATER FLOWS

The *2024 Wastewater Collection System Master Plan* recommends using a 95 gallons per capita day (gpcd) and 30 gallons per employee per day (gped) for future residential and commercial growth, which accounts for groundwater infiltration (GWI).

In order to calculate the annual average day wastewater flows, the population and employment growth projections were taken from *Exhibit B: Wastewater Land Use Assumptions Report*.

The *2024 Wastewater Collection System Master Plan* did not use a straight average flow to peak flow peaking factor because the City utilized an extended period simulation model to determine the projected peak flows. The model used the RTK method, which calculates a different peaking factor for each scenario dependent on the amount of rainfall, peaking time, and recession time. From the *2024 Wastewater Collection System Master Plan*, the annual average flow to peak wet weather flow ratio approximates 4.0, which was used to calculate the peak flows for future growth.

The wholesale customer flow was provided by the wholesale customers as part of the wholesale customer surveys. **Table 3-1** summarizes the projected wastewater flows for the City of Fort Worth and its wholesale customers.

Table 3-1 Projected Wastewater Flows

Entity	Planning Year	Average Day Flow (MGD)	Peak Wet Weather Flow (MGD)
City of Fort Worth	2025	117.21	468.84
	2035	143.36	573.44
Wholesale Customers (Portion Served by Fort Worth)	2025	32.53	105.09
	2035	39.77	127.66
Total Flow	2025	149.74	573.93
	2035	183.13	701.10

4.0 WASTEWATER CAPITAL IMPROVEMENTS

This section establishes the wastewater facilities and engineering studies that are eligible for inclusion in the calculation of the impact fee. Projects included in the CIP are designated to increase system capacity as a result of projected growth. Only those projects warranted by capacity needs derived from growth occurring during the study period (2025-2035) can be included in the impact fee calculation. Additionally, projects are excluded from the impact fee calculation if alternate mechanisms for cost recovery are in place. Facilities included in the impact fee study are TRA projects, City of Fort Worth wastewater treatment facilities, lift stations, interceptors and engineering studies.

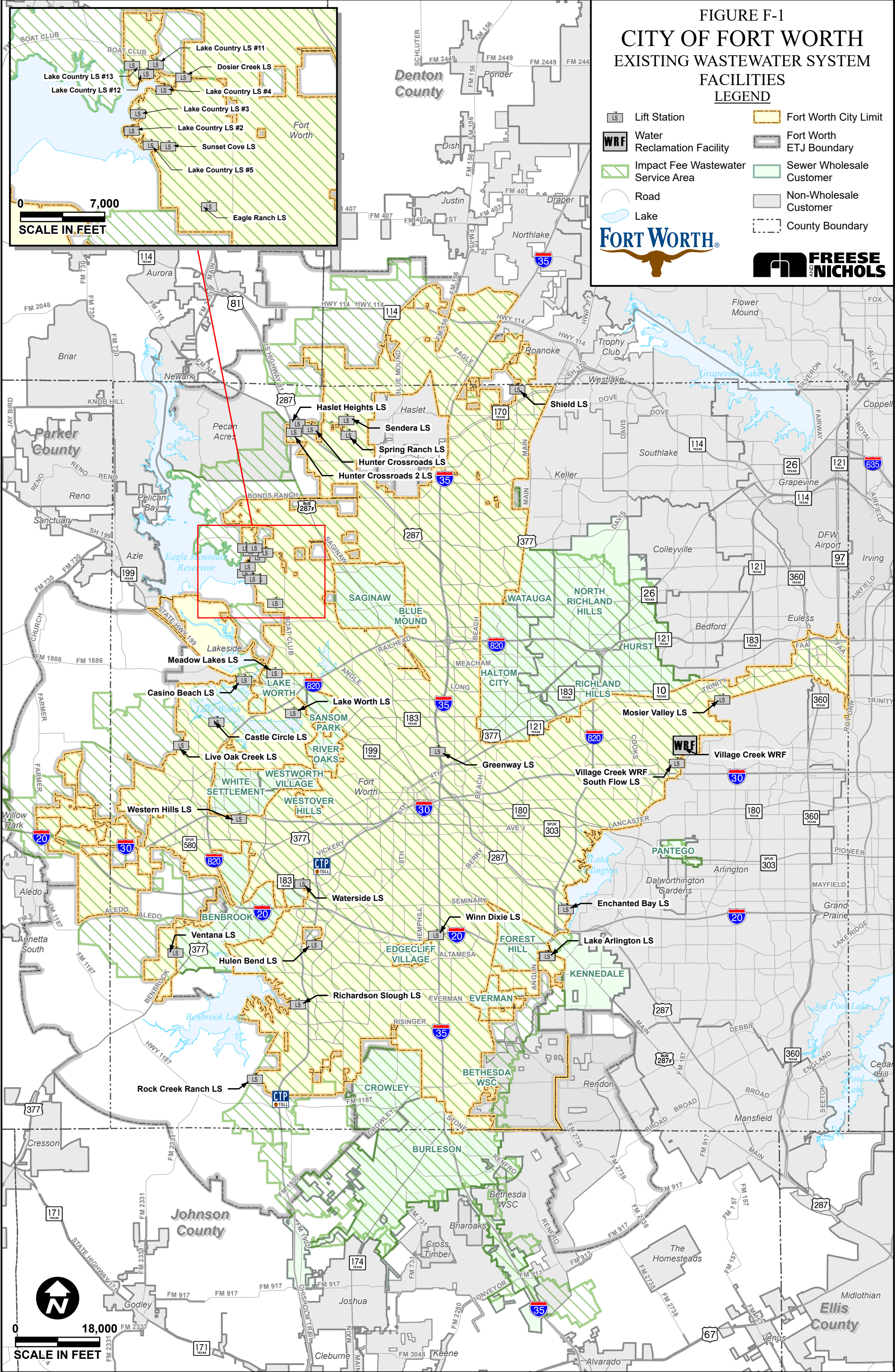
Table 4-1 provides a summary of each wastewater CIP project cost and allocation for the 2025-2035 study period. Project costs do not include costs associated with purchasing land, unless specified in the “Project Phase” field. The 2025 percent utilization is the portion of a project’s capacity required to serve existing development. It is not included in the impact fee cost calculations. The 2025-2035 percent utilization is the portion of the project’s capacity that will be required to serve development projected to occur from 2025 to 2035. The portion of a project’s total cost that is used to serve development projected to occur from 2025 through 2035 is calculated as the total cost multiplied by the 2025-2035 percent utilization. Only this portion of the cost is used in the impact fee analysis. The percent utilization beyond 2035 is the portion of a project’s capacity allocated to development projected to occur after 2035.

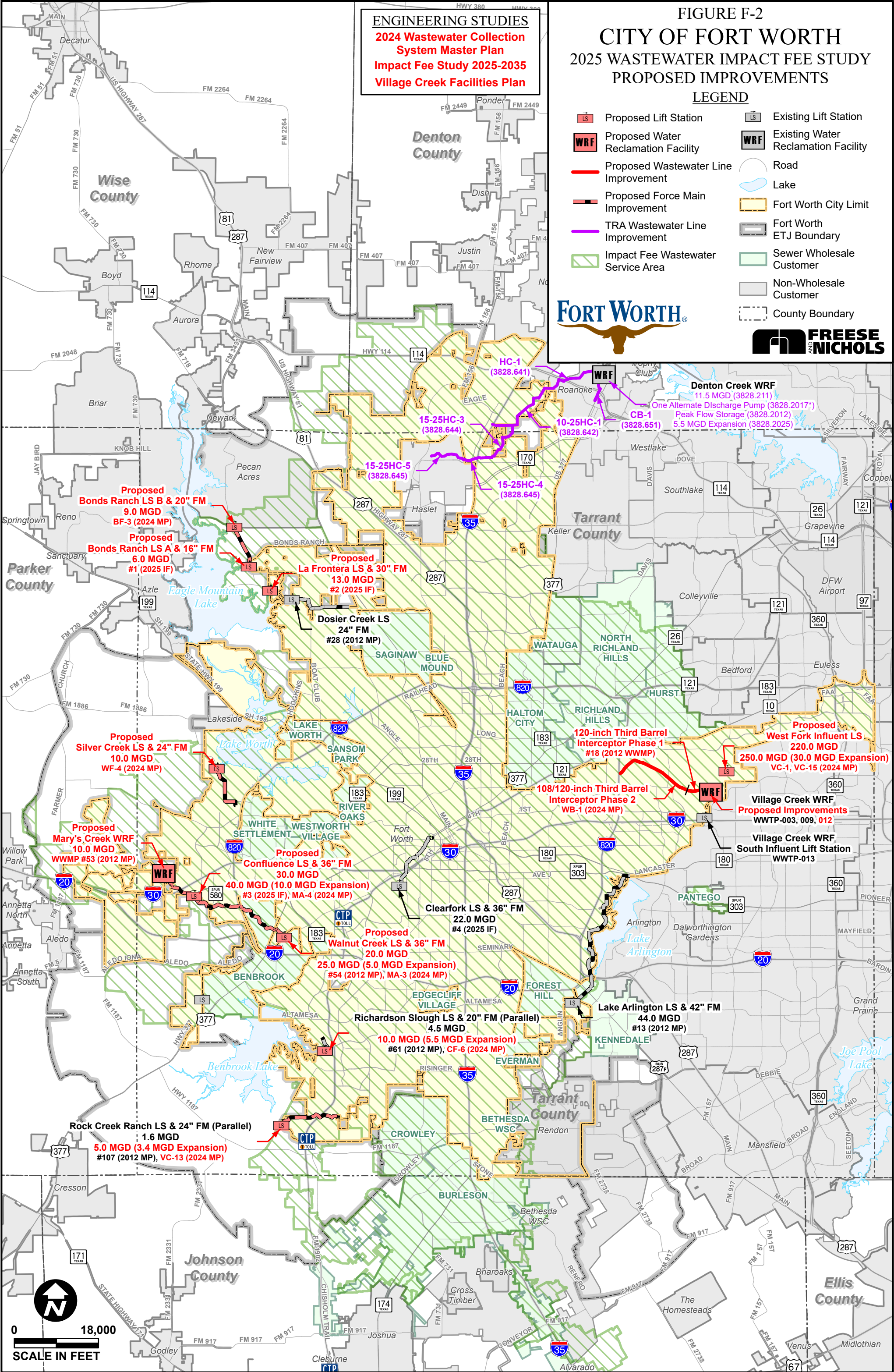
Figures F-1 and **F-2** show existing and proposed facilities, respectively, for the impact fee study period. **Appendix B** describes each wastewater CIP project for the 2025-2035 planning period. A project description, the purpose of each project, and the portion of each project that is allocated to associated growth are included.

Project ID	Project Title	Project Phase	TRA Project Cost	Fort Worth Participation Cost ³	Project Status	Initial Project Cost	Project Cost in 2025 Dollars	Start Date	Completion Date	Added Capacity (MGD)	% Allocated to Existing 2025 Capacity	Cost Allocated to Existing 2025 Capacity	% Allocated to 2025-2035 Impact Fees	Cost Allocated to 2025-2035 Impact Fees (2025 Dollars)	% Allocated to Impact Fees after 2035	Cost Allocated to Impact Fees after 2035
TRINITY RIVER AUTHORITY PROJECTS																
3828.211	Denton Creek WRF Expansion to 11.5 MGD	Const	\$47,595,000	\$27,557,505	Completed	-	\$27,557,505	2019	2020	6.5 MGD	89%	\$35,195,894	11%	\$3,031,326	0%	\$0
3828.651	CB-1 36-inch Parallel Relief Interceptor	Const	\$5,317,548	\$3,078,860	Completed	-	\$3,078,860	2013	2015	18.7 MGD	13%	\$574,375	34%	\$1,046,812	53%	\$2,341,682
3828.641	HC-1 Relief Int. (460H-DCRWS)	Eng	\$2,407,149	\$1,393,739	Completed	-	\$1,393,739	2015	2021	11.2 MGD	23%	\$460,015	33%	\$459,934	44%	\$880,028
3828.641	HC-1 Relief Int. (460H-DCRWS)	Const	\$17,650,502	\$10,219,641	Completed	-	\$10,219,641	2019	2022	11.2 MGD	23%	\$3,373,072	33%	\$3,372,481	44%	\$6,452,833
3828.2017 ²	One Alternate Discharge Pump	Eng	\$161,330	\$93,410	Completed	-	\$93,410	2016	2018	14 MGD	89%	\$119,302	11%	\$10,275	0%	\$0
3828.2017 ²	One Alternate Discharge Pump	Const	\$449,555	\$260,292	Completed	-	\$260,292	2019	2021	14 MGD	89%	\$332,440	11%	\$28,632	0%	\$0
3828.642	10-25HC-1 Relief Int. (740H - 460H)	Land	\$1,241,000	\$718,539	Completed	-	\$718,539	2015	2019	50 MGD	17%	\$175,292	37%	\$265,859	46%	\$474,319
3828.642	10-25HC-1 Relief Int. (740H - 460H)	Const	\$13,534,537	\$7,836,497	Completed	-	\$7,836,497	2019	2023	50 MGD	17%	\$1,911,758	37%	\$2,899,504	46%	\$5,172,993
3828.644	15-25HC-3 Relief Int. (1320H to 740H)	Land	\$800,000	\$463,200	UD/UC	-	\$463,200	2019	2023	23 MGD	18%	\$119,647	42%	\$194,544	40%	\$265,883
3828.644	15-25HC-3 Relief Int. (1320H to 740H)	Const	\$17,744,142	\$10,273,858	UD/UC	-	\$10,273,858	2024	2026	23 MGD	18%	\$2,653,800	42%	\$4,315,020	40%	\$5,897,333
3828.645	15-25HC-4/15-25HC-5 Relief Int. & MS 10_0HC (1320H-1780H)	Land	\$1,042,000	\$603,318	UD/UC	-	\$603,318	2020	2024	10 MGD	23%	\$199,130	37%	\$223,228	40%	\$346,313
3828.645	15-25HC-4/15-25HC-5 Relief Int. & MS 10_0HC (1320H-1780H)	Const	\$17,100,000	\$9,900,900	UD/UC	-	\$9,900,900	2025	2026	10 MGD	23%	\$3,267,869	37%	\$3,663,333	40%	\$5,683,250
3828.2012	Peak Flow Storage	Eng	\$5,213,000	\$3,018,327	UD/UC	-	\$3,018,327	2022	2023	30.6 MGD	40%	\$1,732,560	60%	\$1,810,996	0%	\$0
3828.2012	Peak Flow Storage	Const	\$47,500,000	\$27,502,500	UD/UC	-	\$27,502,500	2024	2025	30.6 MGD	40%	\$15,786,806	60%	\$16,501,500	0%	\$0
3828.2025	Denton Creek WRF Expansion to 16.0 MGD	Eng	\$16,500,000	\$9,553,500	UD/UC	-	\$9,553,500	2022	2024	4.5 MGD	0%	\$0	60%	\$5,732,100	40%	\$5,483,838
3828.2025	Denton Creek WRF Expansion to 16.0 MGD	Const	\$217,750,000	\$126,077,250	UD/UC	-	\$126,077,250	2024	2027	4.5 MGD	0%	\$0	60%	\$75,646,350	40%	\$72,370,039
TRINITY RIVER AUTHORITY PROJECTS TOTAL							\$238,551,337	TRINITY RIVER AUTHORITY PROJECTS ELIGIBLE COST					\$119,201,894			
TREATMENT FACILITIES																
WWTP-003	Deep Bed Media Filters 1-20 Modifications	Design	-	-	Completed	\$1,032,750	\$1,032,750	2011	2016	80 MGD	80%	\$1,443,125	20%	\$206,550	0%	\$0
WWTP-003	Deep Bed Media Filters 1-20 Modifications	CM\Insp	-	-	Completed	\$995,000	\$995,000	2011	2016	80 MGD	80%	\$1,390,374	20%	\$199,000	0%	\$0
WWTP-003	Deep Bed Media Filters 1-20 Modifications	Const	-	-	Completed	\$16,889,298	\$16,889,298	2011	2016	80 MGD	80%	\$23,600,448	20%	\$3,377,860	0%	\$0
WWTP-009	VCWRF Peak Flow Diversion Structure (Equalization Basin for Peak Flows)	CM\Const	-	-	Completed	\$25,364,975	\$25,364,975	2012	2018	100 MGD	65%	\$30,644,098	35%	\$8,877,741	0%	\$0
WWTP-013	VCWRF South Influent LS (V-3)	Eng	-	-	Completed	\$2,456,720	\$2,456,720	2017	2021	120 MGD	64%	\$1,628,594	36%	\$884,419	0%	\$0
WWTP-013	VCWRF South Influent LS (V-3)	Const	-	-	Completed	\$25,972,345	\$25,972,345	2021	2024	120 MGD	64%	\$17,217,426	36%	\$9,350,044	0%	\$0
#53 (2012 MP)	Mary's Creek WRF Site Selection & Land Purchase	Land	-	-	Completed	\$4,950,000	\$4,950,000	2011	2011	10 MGD	66%	\$3,306,045	24%	\$1,188,000	10%	\$500,916
#53 (2012 MP)	Mary's Creek Satellite Plant (MP-053)	Permitting\Eng	-	-	UD/UC	\$21,497,288	\$21,497,288	2022	2025	10 MGD	66%	\$23,952,195	24%	\$5,159,349	10%	\$3,629,121
#53 (2012 MP) ¹	Mary's Creek Satellite Plant (MP-053)	Const	-	-	UD/UC	\$412,800,000	\$421,056,000	2026	2029	10 MGD	66%	\$469,138,961	24%	\$101,053,440	10%	\$71,081,661
WWTP-012-1	VCWRF Replace Primary Clarifiers 1-12 (Phase 2B of 191 MGD Expansion)	Study\Eng	-	-	UD/UC	\$5,145,425	\$5,145,425	2021	2024	25 MGD	0%	\$0	89%	\$4,579,428	11%	\$993,636
WWTP-012-2	VCWRF Replace Primary Clarifiers 1-12 (Phase 2B of 191 MGD Expansion)	CM\Const	-	-	UD/UC	\$49,159,867	\$49,159,867	2024	2027	25 MGD	0%	\$0	89%	\$43,752,282	11%	\$9,128,956
WWTP-012-3	VCWRF Replace Primary Clarifiers 1-12 (Phase 2B of 191 MGD Expansion)	CM\Const	-	-	UD/UC	\$49,159,867	\$49,159,867	2024	2027	25 MGD	0%	\$0	89%	\$43,752,282	11%	\$9,128,956
VC-1 (2024 MP) ¹	220.0 MGD Firm Capacity West Fork Influent LS	Eng	-	-	Proposed	\$13,156,000	\$13,419,120	2025	2026	220 MGD	46%	\$10,420,765	54%	\$7,246,325	0%	\$0
VC-1 (2024 MP) ¹	220.0 MGD Firm Capacity West Fork Influent LS	Const	-	-	Proposed	\$65,780,000	\$67,095,600	2026	2028	220 MGD	46%	\$52,103,822	54%	\$36,231,624	0%	\$0
VC-15 (2024 MP) ¹	West Fork Influent LS Expansion to 250.0 MGD Firm Capacity	Eng	-	-	Proposed	\$780,000	\$795,600	2029	2030	30 MGD	0%	\$0	100%	\$795,600	0%	\$0
VC-15 (2024 MP) ¹	West Fork Influent LS Expansion to 250.0 MGD Firm Capacity	Const	-	-	Proposed	\$3,900,000	\$3,978,000	2030	2033	30 MGD	0%	\$0	100%	\$3,978,000	0%	\$0
TREATMENT FACILITIES TOTAL							\$708,967,855	TREATMENT FACILITIES ELIGIBLE COST					\$270,631,944			

Project ID	Project Title	Project Phase	TRA Project Cost	Fort Worth Participation Cost ³	Project Status	Initial Project Cost	Project Cost in 2025 Dollars	Start Date	Completion Date	Added Capacity (MGD)	% Allocated to Existing 2025 Capacity	Cost Allocated to Existing 2025 Capacity	% Allocated to 2025-2035 Impact Fees	Cost Allocated to 2025-2035 Impact Fees (2025 Dollars)	% Allocated to Impact Fees after 2035	Cost Allocated to Impact Fees after 2035	
REGIONAL LIFT STATIONS AND INTERCEPTORS																	
#107 (2012 MP)	Rock Creek Lift Station 24-inch Parallel FM	Eng	-	-	Completed	\$109,000	\$109,000	2023	2024	14 MGD	0%	\$0	64%	\$69,760	36%	\$39,240	
#107 (2012 MP)	Rock Creek Lift Station 24-inch Parallel FM	Const	-	-	Completed	\$3,324,539	\$3,324,539	2024	2025	14 MGD	0%	\$0	64%	\$2,127,705	36%	\$1,196,834	
#28 (2012 MP)	Dosier Creek 24-inch FM	Eng	-	-	Completed	\$987,371	\$987,371	2015	2019	14 MGD	47%	\$464,064	12%	\$118,485	41%	\$404,822	
#28 (2012 MP)	Dosier Creek 24-inch FM	Const	-	-	Completed	\$3,292,565	\$3,292,565	2019	2022	14 MGD	47%	\$1,547,506	12%	\$395,108	41%	\$1,349,952	
#13 (2012 MP)	44.0 MGD Firm Capacity Lake Arlington LS & 42-inch FM	Eng	-	-	Completed	\$4,622,381	\$4,622,381	2018	2020	44 MGD	42%	\$2,122,124	29%	\$1,340,490	29%	\$1,465,276	
#13 (2012 MP)	44.0 MGD Firm Capacity Lake Arlington LS & 42-inch FM	Const	-	-	UD/UC	\$69,735,190	\$69,735,190	2020	2025	44 MGD	42%	\$29,796,270	29%	\$20,223,205	29%	\$20,573,615	
#4 2025 IF	22.0 MGD Clearfork LS & 36-inch FM	Eng	-	-	Completed	\$2,156,466	\$2,156,466	2018	2022	22 MGD	0%	\$0	42%	\$905,716	58%	\$1,334,630	
#4 2025 IF	22.0 MGD Clearfork LS & 36-inch FM	Const	-	-	Completed	\$42,799,683	\$42,799,683	2022	2024	22 MGD	0%	\$0	42%	\$17,975,867	58%	\$26,488,582	
#61 (2012 MP)	4.5 MGD Firm Capacity Richardson Slough LS & 20-inch FM	Eng	-	-	UD/UC	\$477,575	\$477,575	2023	2025	4.5 MGD	84%	\$413,671	16%	\$76,412	0%	\$0	
#61 (2012 MP)	4.5 MGD Firm Capacity Richardson Slough LS & 20-inch FM	Const	-	-	UD/UC	\$4,047,600	\$4,047,600	2025	2026	4.5 MGD	84%	\$4,549,028	16%	\$647,616	0%	\$0	
#1 2025 IF	6.0 MGD Firm Capacity Bonds Ranch LS A & 16-inch FM	Eng	-	-	UD/UC	\$1,143,312	\$1,143,312	2023	2024	12 MGD	0%	\$0	14%	\$160,064	86%	\$2,298,454	
#1 2025 IF	6.0 MGD Firm Capacity Bonds Ranch LS A & 16-inch FM	Const	-	-	UD/UC	\$9,399,151	\$9,399,151	2024	2025	12 MGD	0%	\$0	14%	\$1,315,881	86%	\$22,879,053	
#2 2025 IF	13.0 MGD Firm Capacity La Frontera LS & 30-inch FM	Eng	-	-	UD/UC	\$1,143,312	\$1,143,312	2021	2024	13 MGD	0%	\$0	13%	\$148,631	87%	\$6,774,016	
#2 2025 IF	13.0 MGD Firm Capacity La Frontera LS & 30-inch FM	Const	-	-	UD/UC	\$7,865,925	\$7,865,925	2024	2026	13 MGD	0%	\$0	13%	\$1,022,570	87%	\$11,552,787	
#54 (2012 MP)	20.0 MGD Firm Capacity Walnut Creek LS & 36-inch FM	Eng	-	-	UD/UC	\$3,760,510	\$3,760,510	2025	2026	20 MGD	81%	\$5,142,206	19%	\$714,497	0%	\$0	
#54 (2012 MP) ¹	20.0 MGD Firm Capacity Walnut Creek LS & 36-inch FM	Land/Const	-	-	UD/UC	\$45,649,000	\$46,561,980	2027	2028	20 MGD	81%	\$63,669,900	19%	\$8,846,776	0%	\$0	
#3 2025 IF	30.0 MGD Firm Capacity Confluence LS & 36-inch FM	Eng	-	-	UD/UC	\$3,760,510	\$3,760,510	2025	2026	30 MGD	73%	\$4,634,334	27%	\$1,015,338	0%	\$0	
#3 2025 IF ¹	30.0 MGD Firm Capacity Confluence LS & 36-inch FM	Land/Const	-	-	UD/UC	\$38,511,000	\$39,281,220	2027	2028	30 MGD	73%	\$48,408,936	27%	\$10,605,929	0%	\$0	
WF-4 (2024 MP) ¹	10.0 MGD Firm Capacity Silver Creek LS & 24-inch FM	Eng	-	-	UD/UC	\$1,659,200	\$1,692,384	2025	2026	10 MGD	9%	\$320,388	15%	\$253,858	76%	\$2,705,501	
WF-4 (2024 MP) ¹	10.0 MGD Firm Capacity Silver Creek LS & 24-inch FM	Const	-	-	UD/UC	\$17,336,840	\$17,683,577	2026	2027	10 MGD	9%	\$2,686,769	15%	\$2,652,537	76%	\$22,688,272	
BF-3 (2024 MP) ¹	9.0 MGD Firm Capacity Bonds Ranch B LS & 20-inch FM	Eng	-	-	Proposed	\$2,000,000	\$2,040,000	2032	2033	9 MGD	0%	\$0	14%	\$285,600	86%	\$1,754,400	
BF-3 (2024 MP) ¹	9.0 MGD Firm Capacity Bonds Ranch B LS & 20-inch FM	Const	-	-	Proposed	\$20,000,000	\$20,400,000	2033	2035	9 MGD	0%	\$0	14%	\$2,856,000	86%	\$29,617,359	
MA-3 (2024 MP) ¹	Walnut Creek LS Expansion to 25.0 MGD Firm Capacity	Eng	-	-	Proposed	\$3,250,000	\$3,315,000	2029	2030	5 MGD	0%	\$0	53%	\$1,756,950	47%	\$1,558,050	
MA-3 (2024 MP) ¹	Walnut Creek LS Expansion to 25.0 MGD Firm Capacity	Const	-	-	Proposed	\$16,250,000	\$16,575,000	2030	2033	5 MGD	0%	\$0	53%	\$8,784,750	47%	\$13,151,313	
MA-4 (2024 MP) ¹	Confluence LS Expansion to 40.0 MGD Firm Capacity	Eng	-	-	Proposed	\$6,500,000	\$6,630,000	2028	2029	10 MGD	0%	\$0	40%	\$2,652,000	60%	\$6,715,564	
MA-4 (2024 MP) ¹	Confluence LS Expansion to 40.0 MGD Firm Capacity	Const	-	-	Proposed	\$32,500,000	\$33,150,000	2029	2033	10 MGD	0%	\$0	40%	\$13,260,000	60%	\$33,577,820	
CF-6 (2024 MP) ¹	Richardson Slough LS Expansion to 10.0 MGD Firm Capacity	Eng	-	-	Proposed	\$3,900,000	\$3,978,000	2025	2026	5.5 MGD	0%	\$0	92%	\$3,659,760	8%	\$318,240	
CF-6 (2024 MP) ¹	Richardson Slough LS Expansion to 10.0 MGD Firm Capacity	Const	-	-	Proposed	\$19,500,000	\$19,890,000	2026	2028	5.5 MGD	0%	\$0	92%	\$18,298,800	8%	\$2,686,226	
#18 (2012 MP)	120-inch Third Barrel Interceptor Phase 1	Eng	-	-	UD/UC	\$1,944,710	\$1,983,604	2021	2027	227 MGD	0%	\$0	53%	\$1,051,310	47%	\$1,573,876	
#18 (2012 MP)	120-inch Third Barrel Interceptor Phase 1	Const	-	-	UD/UC	\$26,958,800	\$27,497,976	2028	2030	227 MGD	0%	\$0	53%	\$14,573,927	47%	\$21,818,068	
WB-1 (2024 MP) ¹	108/120-inch Third Barrel Interceptor Phase 2	Eng	-	-	Proposed	\$14,167,400	\$14,450,748	2027	2029	204 MGD	0%	\$0	52%	\$7,514,389	48%	\$11,709,795	
WB-1 (2024 MP) ¹	108/120-inch Third Barrel Interceptor Phase 2	Const	-	-	Proposed	\$70,837,000	\$72,253,740	2029	2033	204 MGD	0%	\$0	52%	\$37,571,945	48%	\$58,548,972	
VC-13 (2024 MP) ¹	Rock Creek LS Expansion to 5.0 MGD Firm Capacity	Eng	-	-	Proposed	\$2,210,000	\$2,254,200	2025	2026	3.5 MGD	0%	\$0	99%	\$2,231,658	1%	\$22,542	
VC-13 (2024 MP) ¹	Rock Creek LS Expansion to 5.0 MGD Firm Capacity	Const	-	-	Proposed	\$11,050,000	\$11,271,000	2026	2028	3.5 MGD	0%	\$0	99%	\$11,158,290	1%	\$190,274	
REGIONAL LIFT STATIONS AND INTERCEPTORS TOTAL							\$499,533,519	REGIONAL LIFT STATIONS AND INTERCEPTORS ELIGIBLE COST							\$196,271,824		
ENGINEERING STUDIES																	
-	2024 Wastewater Collection System Master Plan	Study	-	-	In Progress	\$2,250,000	\$2,250,000	2022	2025	-	0%	\$0	25%	\$562,500	75%	\$1,687,500	
WWTP-043	Village Creek Facilities Plan	Study	-	-	Proposed	\$2,000,000	\$2,000,000	2025	2026	-	0%	\$0	100%	\$2,000,000	0%	\$0	
-	Impact Fee Study 2025-2035	Study	-	-	In Progress	\$224,042	\$228,523	2024	2025	-	0%	\$0	100%	\$228,523	0%	\$0	
ENGINEERING STUDIES TOTAL							\$4,478,523	ENGINEERING STUDIES ELIGIBLE COST							\$2,791,023		
GRAND TOTAL							\$1,451,531,234	WASTEWATER CIP ELIGIBLE COST							\$588,896,685		

¹Inflation rate of 2% utilized for estimating future projects in 2025 dollars.
²One alternate discharge pump was included in Plant Rehab Phase 1 Project.
³Fort Worth cost participation is assumed to be 57.9% of the TRA project cost.





5.0 IMPACT FEE ANALYSIS

Table 5-1 summarizes the impact fee eligible costs for projects from **Table 4-1**. The calculated cumulative interest includes the following assumptions:

- Existing impact fee eligible CIP
 - Based on the actual interest for the already outstanding debt for the full term of the bond issuance.
- Future impact fee eligible CIP
 - Based on the project's start date.
 - Cash-funding Fort Worth projects under \$5,000,000.
 - Utilizing a bond issuance cost of 2.0%.
 - Utilizing an interest rate of 4.0%.
 - Utilizing a Fort Worth bond term of 30 years.
 - Utilizing a TRA bond term of 20 years.

A more detailed explanation of the cumulative interest is included in the impact fee credit analysis, which can be found in **Appendix C**.

Table 5-1 2025-2035 Impact Fee Eligible Costs

CIP Category	Total Growth Related Cost	% Allocated to 2025-2035 Impact Fees	2025-2035 Growth Related Cost
TRA Projects	\$238,551,337	50%	\$119,201,894
Treatment Facilities	\$708,967,855	38%	\$270,631,944
Lift Stations/Interceptors	\$499,533,519	39%	\$196,271,824
Engineering Studies	\$4,478,523	62%	\$2,791,023
ELIGIBLE IMPACT FEE CIP SUBTOTAL			\$588,896,685
Cumulative Interest - Fort Worth			\$211,764,008
Cumulative Interest - TRA			\$40,748,275
TOTAL IMPACT FEE ELIGIBLE COST			\$841,408,968

5.1 SERVICE UNITS

Costs between various customer types and sizes are allocated through the application of equivalent meters. Since the 5/8" x 3/4" water meter is the most frequently used meter by the residential customer, a factor has been calculated to relate the capacities of other meter sizes to the 5/8" x 3/4" meter capacity. **Table 5-2** presents the factors developed using meter type and maximum flow rates information from the American Water Works Association (AWWA) M22 Sizing Water Service Lines and Meters Table 6-1.

Table 5-2 AWWA Meter Equivalency Factors

Meter Size	Meter Type	5/8" x 3/4" Equivalency Factor
5/8" x 3/4"	Multijet	1.00
3/4"	Multijet	1.50
1"	Multijet	2.50
1-1/2"	Multijet	5.00
2"	Multijet	8.00
3"	Turbine Class II	21.75
4"	Turbine Class II	37.50
6"	Turbine Class II	80.00
8"	Turbine Class II	140.00
10"	Turbine Class II	210.00

Appendix D contains the current number of water meters for residential and non-residential customers by meter size for the City of Fort Worth, as well as for the wholesale customers who provided this information to FNI. The number of equivalent meters was also calculated for the City and wholesale customers.

The next calculation step determines factors for population per residential meter and employment per non-residential meter. **Table 5-3** summarizes this calculation for the City of Fort Worth and its wholesale customers using 2024 information.

Table 5-3 Development of Factors of 2024 Population and Employment by Equivalent Meter

Description	Residential	Non-Residential
City of Fort Worth		
Number of Equivalent Meters	369,872	91,672
Population / Employment	995,952	667,584
Population per Equivalent Meter	2.69	--
Employment per Equivalent Meter	--	7.28
Wholesale Customers		
Number of Equivalent Meters	126,486	38,853
Population / Employment	362,609	164,563
Population per Equivalent Meter	2.87	--
Employment per Equivalent Meter	--	4.24

FNI did not receive meter count information from two of Fort Worth's wholesale wastewater customers;

however, their meter counts were estimated based on growth since the previous impact fee study. The number of equivalent meters used to calculate the wholesale customers' population/employment per equivalent meter in **Table 5-3** is the total number of equivalent meters served by Fort Worth for all its wholesale customers. In order to more accurately estimate the population/employment per equivalent meter, FNI divided the number of equivalent meters by the sum of population or employment served by Fort Worth.

The projected increase in equivalent meters between 2025 and 2035 uses the ratios in **Table 5-3** and the population and employment projections for 2025 and 2035 in *Exhibit B- Wastewater Land Use Assumptions Report*. The calculation is shown below:

City of Fort Worth Increase in Equivalent Meters

Residential	= Population Change / Population per Equivalent Meter = (1,264,157 – 1,017,863) / 2.69 = 91,559 Service Units
Non- Residential	= Employment Change / Employment per Equivalent Meter = (775,564 – 683,904) / 7.28 = 12,591 Service Units
Fort Worth Total	= Residential + Non-Residential = 91,559 + 12,591 = 104,150 Service Units

Wholesale Customers Increase in Equivalent Meters

Residential	= Population Change / Population per Equivalent Meter = (436,431 – 371,547) / 2.87 = 22,608 Service Units
Non- Residential	= Employment Change / Employment per Equivalent Meter = (196,475 – 168,165) / 4.24 = 6,677 Service Units
Wholesale Total	= Residential + Non-Residential = 22,608 + 6,677 = 29,285 Service Units
Grand Total	= Fort Worth Total + Wholesale Total = 104,150 + 29,285 = 133,435 Service Units

5.2 MAXIMUM ALLOWABLE IMPACT FEE CALCULATION

Impact fees are the quotient of the total cost of eligible CIP for the study period from **Table 5-1** divided by the increase in equivalent meters from **Section 5.1**. This fee equals the wastewater impact fee per service unit for a 5/8" x 3/4" water meter size.

$$\begin{aligned}\text{Wastewater Impact Fee per Service Unit} &= \text{Max Infrastructure Cost} / \text{Increase in Equivalent Meters} \\ &= \$841,408,968 / 133,435 \\ &= \$6,306 \text{ per } 5/8" \times 3/4" \text{ equivalent meter}\end{aligned}$$

The maximum allowable impact fee that can be collected is calculated by subtracting a credit from the impact fee eligible cost. A detailed impact fee credit analysis is included in **Appendix C**. A summary of the maximum allowable water impact fee including the credit analysis is shown in **Table 5-4**.

Table 5-4 Wastewater Impact Fee with Credit Analysis	
Credit Analysis Methodology	
Preliminary Maximum Calculated Infrastructure Cost	\$841,408,968
Minus the CREDIT	(\$11,638,466)
Max Allowable Calculated Infrastructure Cost	\$829,770,502
Service Units	133,435
Max Allowable Impact Fee per Service Unit	\$6,218

The wastewater impact fees for meters other than 5/8" x 3/4" are the product of the fee per 5/8" x 3/4" equivalent meter multiplied by the respective equivalent meter factor from **Table 5-2**. The maximum allowable wastewater impact fees are provided in **Table 5-5**.

Table 5-5 Wastewater Impact Fees by Meter Size			
Meter Size	5/8" x 3/4" Equivalency Factor	Calculated Impact Fee per Service Unit (Before Subtracting Credit)	Maximum Allowable Impact Fee (After Subtracting Credit)
5/8" x 3/4"	1.00	\$6,306	\$6,218
3/4"	1.50	\$9,459	\$9,327
1"	2.50	\$15,765	\$15,545
1-1/2"	5.00	\$31,530	\$31,090
2"	8.00	\$50,448	\$49,744
3"	21.75	\$137,155	\$135,241
4"	37.50	\$236,475	\$233,175
6"	80.00	\$504,480	\$497,440
8"	140.00	\$882,840	\$870,520
10"	210.00	\$1,324,260	\$1,305,780

Appendix A

Existing Wastewater Lift Station Capacities

APPENDIX A

Existing Fort Worth Wastewater Lift Stations

No.	Name	Address	Firm Capacity (MGD)	Total # of Pumps
1	Casino Beach	7551 Surfside Drive	0.61	2
2	Castle Circle	9101 Heron Drive	1.01	2
3	Dosier Creek	9241 Boat Club Road	10.08	3
4	Eagle Ranch	6692 Robertson Road	0.51	2
5	Enchanted Bay	5788 Vesta Farley Road	0.71	2
6	Greenway	1000 Nixon Road	2.02	2
7	Haslet Heights	2484 Avondale Haslet Road	0.68	2
8	Hulen Bend	6401 Oakmont Boulevard	1.27	2
9	Hunter Crossroads	13050 Avondale Farms Drive	0.29	2
10	Hunter Crossroads 2	13010 Saginaw Boulevard	0.18	2
11	Lake Arlington	4865 Freeman Drive	44.00	3
12	Lake Country # 2	7903 Skylake Drive	0.14	2
13	Lake Country # 3	8831 Random Road	0.79	2
14	Lake Country # 4	9033 Crosswind Drive	0.94	2
15	Lake Country # 5	8420 Crosswind Drive	0.82	2
16	Lake Country # 11	9401 Boat Club Road	0.86	2
17	Lake Country # 12	9341 Mountain Lake	0.82	2
18	Lake Country # 13	9331 Dosier Cove West	0.50	2
19	Lake Worth	6201 Cahoba Drive	2.16	2
20	Live Oak	731 Verna Trail North	2.88	2
21	Meadow Lakes	4691 St. Thomas Place	0.50	2
22	Mosier Valley	3120 House Anderson Road	0.15	2
23	Richardson Slough	7990 Old Granbury Road	4.67	3
24	Rock Creek Ranch	10716 Tarleton Way Road	1.58	2
25	Sendera Ranch	1092 Avondale Haslet Road	1.47	2
26	Shield	14050 Park Vista Boulevard	0.95	2
27	Village Creek WRF South	4500 Wilma Lane	120.00	4
28	Spring Ranch	1100 Travis Court	0.37	2
29	Sunset Cove	8505 Lake Country Drive	4.03	3
30	Ventana	10351 Orchard Way	1.67	2
31	Waterside	3912 Watercourse Drive	0.74	2
32	Western Hills	2717 Glenrock Drive	0.58	2
33	Winn Dixie	200 SW Loop 820	0.16	2

Appendix B

Wastewater CIP Projects

Appendix B

Wastewater CIP Projects

TRINITY RIVER AUTHORITY PROJECTS

Project Title: **Denton Creek WRF Expansion to 11.5 MGD (3828.211)**

- Description: Construction of a 6.5 MGD expansion of TRAs Denton Creek Water Reclamation Facility (WRF).
- Purpose: Provide treatment capacity to address potential growth needs by expanding the existing treatment plant.
- Allocation: This project is allocated 11% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period.

Project Title: **CB-1 36-inch Parallel Relief Interceptor (3828.651)**

- Description: Land purchase and construction of a 36-inch relief interceptor conveying water to the Denton Creek WRF.
- Purpose: Provide conveyance capacity to address potential growth needs by paralleling the existing interceptor.
- Allocation: This project is allocated 34% in the study period. Allocation was determined using the projected Denton Creek average day flow (2035) to the Interceptor, divided by the capacity shown in the Denton Creek wastewater model's interceptors which was provided by TRA.

Project Title: **HC-1 Relief Interceptor (460H-DCWRS) (3828.641)**

- Description: Design and construction of approximately 15,000 ft of 72- to 84-inch diameter relief pipeline conveying water to the Denton Creek WRF.
- Purpose: Provide conveyance capacity to address potential growth needs.
- Allocation: This project is allocated 33% during the study period. Allocation was determined using the projected growth in peak wet weather flow (2025–2035) to the Relief Interceptor, divided by the full capacity of the pipe.

Appendix B

Wastewater CIP Projects

Project Title: One Alternate Discharge Pump (3828.2017)

- Description:** Design and construction of one alternate discharge pump at the Denton Creek WRF.
- Purpose:** Provide additional discharge capacity at the Denton Creek WRF to address potential growth needs.
- Allocation:** This project is allocated 11% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period.

Project Title: 10.25HC-1 Relief Interceptor (740H – 460H) (3828.642)

- Description:** Land purchase and construction of 12,500 feet of a relief interceptor conveying water to the Denton Creek WRF.
- Purpose:** Provide conveyance capacity to address potential growth needs.
- Allocation:** This project is allocated 37% during the study period. Allocation was determined using the projected growth in peak wet weather flow (2025–2035) to the Relief Interceptor, divided by the full capacity of the pipe.

Project Title: 10.25HC-3 Relief Interceptor (1320H – 740H) (3828.644)

- Description:** Land purchase and construction of 13,100 feet of a relief interceptor conveying water to the Denton Creek WRF.
- Purpose:** Provide conveyance capacity to address potential growth needs.
- Allocation:** This project is allocated 42% during the study period. Allocation was determined using the projected growth in peak wet weather flow (2025–2035) to the Relief Interceptor, divided by the full capacity of the pipe.

Appendix B

Wastewater CIP Projects

Project Title: 15-25HC-4/15-25HC-5 Relief Interceptor and MS 10_OHC (1320H – 1780H) (3828.644)

Description: Land purchase and construction of 13,100 feet of a relief interceptor conveying water to the Denton Creek WRF.

Purpose: Provide conveyance capacity to address potential growth needs.

Allocation: This project is allocated 37% during the study period. Allocation was determined using the projected growth in peak wet weather flow (2025–2035) to the Relief Interceptor, divided by the full capacity of the pipe.

Project Title: Peak Flow Storage (3828.2012)

Description: Design and construction of a peak flow storage structure at the Denton Creek WRF.

Purpose: Provide additional peak flow storage capacity at the Denton Creek WRF to address potential growth needs.

Allocation: This project is allocated 60% during the study period. Allocation was determined using the projected growth in average day flow (2025–2035), divided by the added capacity.

Project Title: Denton Creek WRF Expansion to 16 MGD (3828.2025)

Description: Design and construction of a 5 MGD expansion of TRAs Denton Creek Water Reclamation Facility (WRF).

Purpose: Provide treatment capacity to address potential growth needs by expanding the existing treatment plant.

Allocation: This project is allocated 60% in the study period. Allocation was determined using the projected growth in average day flow (2025–2035), divided by the added capacity.

Appendix B

Wastewater CIP Projects

TREATMENT FACILITIES

Project Title: Deep Bed Media Filters (WWTP-003)

- Description:** Modification of the deep bed media filters 1-20.
- Purpose:** Provides added treatment capacity at the Village Creek Reclamation Facility (VCWRF).
- Allocation:** This project is allocated 20% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period. The existing utilization will be 80%, which was determined by the 2025 average day flow entering the VCWRF, divided by the capacity of the VCWRF.

Project Title: VCWRF Peak Flow Diversion Structure (Equalization Basin for Peak Flows) (WWTP-009)

- Description:** Design and construction of a wastewater diversion and peak flow storage basin adjacent to the VCWRF.
- Purpose:** Detention facility will equalize the peak influent flows to the VCWRF. This project will divert and store the peak flows for later treatment under normal conditions.
- Allocation:** This project is allocated 35% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period. The existing utilization will be 65%, which was determined by the 2025 peak wet weather flow entering the VCWRF, divided by the capacity of the VCWRF.

Project Title: VCWRF South Influent LS (V-3) (WWTP-013)

- Description:** Design and construction of an influent lift station at the VCWRF.
- Purpose:** The influent lift station is needed to address growth by providing added influent capacity at the VCWRF.
- Allocation:** This project is allocated 36% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period. The existing utilization will be 64%, which was determined by the 2025 peak wet weather flow entering the LS, divided by the capacity of the LS.

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Wastewater CIP Projects

Project Title: Mary's Creek WRF Site Selection and Land Purchase (#53 2012 MP)

- Description:** Land purchase for Mary's Creek WRF to address growth related needs in the Clear Fork sewer basin.
- Purpose:** Provide treatment capacity to address growth needs by constructing a new treatment facility to serve portions of the Clear Fork Basin.
- Allocation:** This project is allocated 24% in the study period. Allocation was determined using the existing flow to Mary's Creek, divided by the additional capacity the Mary's Creek satellite plant (10 MGD).

Project Title: Mary's Creek Satellite Plant (MP-053) (#53 2012 MP)

- Description:** Design and construction of Mary's Creek WRF to address growth related needs in the Clear Fork Basin.
- Purpose:** Provide treatment capacity to address growth needs by constructing a new treatment facility to serve portions of the Clear Fork Basin.
- Allocation:** This project is allocated 24% in the study period. Allocation was determined using the existing flow to Mary's Creek, divided by the additional capacity the Mary's Creek satellite plant (10 MGD).

Project Title: VCWRF Replace Primary Clarifiers 1-12 (Phase 2B of 191 MGD Expansion) (WWTP-012-1)

- Description:** Design and construction for the replacement of primary clarifiers 1 – 12 and addition of a new grit removal system sized to meet the 191 MGD expansion requirements.
- Purpose:** The addition of new primary clarifiers to replace the existing primary clarifiers 1-12 would greatly increase the functional capacity of the primary clarifiers and increase hydraulic capacity of the internal 96-inch pipeline. Primary clarifiers 1 - 12 at VCWRF are a hydraulic bottleneck which needs to be addressed to realize the planned expansion to 191 MGD. In addition to being a hydraulic bottleneck, the reliability of the clarifiers is impacted by large amounts of grit (particularly at higher flows). These clarifiers need to be replaced before the 191 MGD capacity can be realized and a new grit removal system needs to be added to increase reliability in capacity and treatment.
- Allocation:** This project is allocated 89% in the study period. Allocation was determined using the projected average day flow (2035) to the VCWRF, divided by the ultimate capacity of the VCWRF (191 MGD).

Appendix B

Wastewater CIP Projects

Project Title: 220 MGD Firm Capacity West Fork Influent LS (VC-1 – 2024 MP)

- Description:** Design and construction of a 220 MGD firm capacity LS.
- Purpose:** The existing twin interceptors are surcharging under existing low flow conditions. The construction of the West Fork Influent LS is to alleviate the surcharging as well as provide capacity for future growth.
- Allocation:** This project is allocated 54% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period. The existing utilization will be 46%, which was determined by the 2025 peak wet weather flow entering the LS, divided by the capacity of the LS (220 MGD).

Project Title: West Fork Influent LS Expansion to 250 MGD Firm Capacity (VC-15 – 2024 MP)

- Description:** Design and construction of a 30 MGD expansion to the West Fork Influent LS.
- Purpose:** The existing twin interceptors are surcharging under existing low flow conditions. The expansion of the West Fork Influent LS is to alleviate the surcharging as well as provide capacity for future growth.
- Allocation:** This project is allocated 100% in the study period. Allocation was determined by the projected peak wet weather flow (2035) entering the LS, divided by the ultimate capacity of the LS (250 MGD).

Appendix B

Wastewater CIP Projects

REGIONAL LIFT STATIONS AND INTERCEPTORS

Project Title: Rock Creek Lift Station 24-inch Parallel Force Main (#107 – 2012 MP)

Description: Design and construction of a 24-inch parallel force main for the Rock Creek LS.

Purpose: Provide future wastewater capacity to growth-related service areas.

Allocation: This project is allocated 64% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the force main, divided by the capacity of the force main (14 MGD).

Project Title: Dosier Creek 24-inch Force Main (#28 – 2012 MP)

Description: Design and construction of 24-inch force main in the Marine Creek and Big Fossil Basins.

Purpose: Provide expanded wastewater capacity to the Marine Creek Basin. Due to tight corridors and easements in the downtown area the future flow will be pumped from the Marine Creek Basin to the Big Fossil Basin through the Dosier Creek Lift Station. The transfer of flow will reduce the amount of flow through the downtown corridor and delay the need for paralleling larger interceptors in that area.

Allocation: This project is allocated 12% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the force main, divided by the capacity of the force main (14 MGD).

Project Title: 44 MGD Firm Capacity Lake Arlington Lift Station and 42-inch Force Main (#13 – 2012 MP)

Description: Design and construction of a 44.0 MGD firm capacity lift station and 42-inch force main in the Village Creek Basin.

Purpose: Provide expanded wastewater capacity to the Village Creek Basin west of Lake Arlington.

Allocation: This project is allocated 29% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the LS, divided by the capacity of the LS (44 MGD).

Appendix B

Wastewater CIP Projects

Project Title: 22 MGD Clearfork Lift Station and 36-inch Force Main (#4 – 2025 IF)

- Description:** Design and construction of a 22.0 MGD capacity lift station and 36-inch force main.
- Purpose:** Provide expanded wastewater capacity to the Village Creek Basin.
- Allocation:** This project is allocated 42% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the LS, divided by the capacity of the LS (22 MGD).

Project Title: 4.5 MGD Firm Capacity Richardson Slough Lift Station and 20-inch Force Main (#61 – 2012 MP)

- Description:** Design and construction of a 4.5 MGD firm capacity lift station and 20-inch force main.
- Purpose:** Provide expanded wastewater capacity to growth-related service areas.
- Allocation:** This project is allocated 16% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period. The existing utilization will be 84%, which was determined by the 2025 peak wet weather flow entering the LS, divided by the capacity of the LS (4.5 MGD).

Project Title: 6 MGD Firm Capacity Bonds Ranch Lift Station A and 16-inch Force Main (#1 – 2025 IF)

- Description:** Design and construction of a 12 MGD firm capacity lift station and 24-inch force main to serve future growth.
- Purpose:** Provide future wastewater service to the northwest portions of the City.
- Allocation:** This project is allocated 14% in the study period. Allocation was determined by the projected peak wet weather flow (2035) entering the LS, divided by the capacity of the LS (12 MGD).

Appendix B

Wastewater CIP Projects

Project Title: 13 MGD Firm Capacity La Frontera Lift Station and 30-inch Force Main (#2 – 2025 IF)

- Description:** Design and construction of a 13 MGD firm capacity lift station and 30-inch force main to serve future growth.
- Purpose:** Provide expanded wastewater capacity to growth-related service areas.
- Allocation:** This project is allocated 13% in the study period. Allocation was determined by the projected peak wet weather flow (2035) entering the LS, divided by the capacity of the LS (13 MGD).

Project Title: 20 MGD Firm Capacity Walnut Creek Lift Station and 36-inch Force Main (#54 – 2012 MP)

- Description:** Design and construction of a 20.0 MGD firm capacity lift station and 36-inch force main in the Clear Fork Basin.
- Purpose:** Provide expanded wastewater capacity to growth-related service areas.
- Allocation:** This project is allocated 19% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period. The existing utilization will be 81%, which was determined by the 2025 peak wet weather flow entering the LS, divided by the capacity of the LS (20 MGD).

Project Title: 30 MGD Firm Capacity Confluence Lift Station and 36-inch Force Main (#3 – 2025 IF)

- Description:** Design and construction of a 30.0 MGD firm capacity lift station and 36-inch force main.
- Purpose:** Provide expanded wastewater capacity to growth-related service areas.
- Allocation:** This project is allocated 27% in the study period. Allocation was determined assuming the remaining capacity is projected to be fully utilized in the planning period. The existing utilization will be 73%, which was determined by the 2025 peak wet weather flow entering the LS, divided by the capacity of the LS (30 MGD).

Appendix B

Wastewater CIP Projects

Project Title: 10 MGD Firm Capacity Silver Creek Lift Station and 24-inch Force Main (#3 – 2025 IF)

- Description:** Design and construction of a 10.0 MGD firm capacity lift station and 24-inch force main.
- Purpose:** Provide future wastewater service to growth-related service areas.
- Allocation:** This project is allocated 15% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the LS, divided by the firm capacity of the LS (10 MGD).

Project Title: 9 MGD Firm Capacity Bonds Ranch Lift Station B and 20-inch Force Main (BF-3 – 2024 MP)

- Description:** Design and construction of a 9 MGD firm capacity lift station and 20-inch force main to serve future growth.
- Purpose:** Provide future wastewater service to the northwest portions of the City.
- Allocation:** This project is allocated 14% in the study period. Allocation was determined by the projected peak wet weather flow (2035) entering the LS, divided by the firm capacity of the LS (9 MGD).

Project Title: Walnut Creek Lift Station Expansion to 25 MGD Firm Capacity (MA-3 – 2024 MP)

- Description:** Design and construction of a 5.0 MGD firm capacity expansion to the Walnut Creek LS.
- Purpose:** Provide expanded wastewater capacity to growth-related service areas.
- Allocation:** This project is allocated 53% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the LS, divided by the added capacity of the LS (5 MGD).

Appendix B

Wastewater CIP Projects

Project Title: Confluence Lift Station Expansion to 40 MGD Firm Capacity (MA-3 – 2024 MP)

- Description:** Design and construction of a 10.0 MGD firm capacity expansion to the Confluence LS.
- Purpose:** Provide expanded wastewater capacity to growth-related service areas.
- Allocation:** This project is allocated 40% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the LS, divided by the added capacity of the LS (5 MGD).

Project Title: Richardson Slough Lift Station Expansion to 10 MGD Firm Capacity (CF-6 – 2024 MP)

- Description:** Design and construction of a 5.5 MGD firm capacity expansion to the Richardson Slough LS.
- Purpose:** Provide expanded wastewater capacity to growth-related service areas.
- Allocation:** This project is allocated 92% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the LS, divided by the added capacity of the LS (5.5 MGD).

Project Title: 120-inch Third Barrel Interceptor Phase 1 (#18 – 2012 MP)

- Description:** Design and construction of a 120-inch wastewater interceptor west of the VCWRF.
- Purpose:** Provide conveyance capacity to accommodate projected growth.
- Allocation:** This project is allocated 53% in the study period. Allocation was determined by the projected peak wet weather flow (2035) within the interceptor, divided by the added capacity of the interceptor (227 MGD).

Appendix B

Wastewater CIP Projects

Project Title: **108/120-inch Third Barrel Interceptor Phase 2 (WB-1 – 2024 MP)**

- Description: Design and construction of a 108/120-inch wastewater interceptor west of the VCWRF.
- Purpose: Provide conveyance capacity to accommodate projected growth.
- Allocation: This project is allocated 52% in the study period. Allocation was determined by the projected peak wet weather flow (2035) within the interceptor, divided by the added capacity of the interceptor (204 MGD).

Project Title: **Rock Creek Lift Station Expansion to 5 MGD Firm Capacity (VC-13 – 2024 MP)**

- Description: Design and construction of a 5.0 MGD firm capacity expansion to the Rock Creek LS.
- Purpose: Provide expanded wastewater capacity to growth-related service areas.
- Allocation: This project is allocated 99% in the study period. Allocation was determined by the projected growth in peak wet weather flow (2025–2035) entering the LS, divided by the added capacity of the expansion (5.0 MGD).

Appendix B

Wastewater CIP Projects

ENGINEERING STUDIES

Project Title: 2024 Wastewater Collection System Master Plan

- Description:** An engineering study to update the 2005 Water Master Plan.
- Purpose:** The water master plan projects system flows and requirements for the 20-year period from 2013 to 2033. The water master plan guides the capital improvements program to ensure cost effective expansion of the system.
- Allocation:** 25% of the cost for the 2024 Wastewater Master Plan can be allocated to the study period as 10 of the 40 years of the plan's useful life are within the study period.

Project Title: Village Creek Facilities Plan

- Description:** An engineering study to update the Village Creek Basin.
- Purpose:** The Village Creek Facilities Plan will project system flows and requirements for the Village Creek Basin. The plan guides the capital improvements within the Village Creek Basin to ensure cost effective expansion of the system.
- Allocation:** 100% of the cost for the Village Creek Facilities Plan can be allocated to the study period as the plan's useful life is within the study period.

Project Title: Impact Fee Study (2025 – 2035)

- Description:** An engineering study to revise the impact fee ordinance and recalculate the maximum allowable fee which can be assessed.
- Purpose:** By statute, the impact fee report and ordinance must be updated every five years.
- Allocation:** 100% of the cost for the 2025 impact fee study can be allocated to the study period as all ten years are within the study period. The impact fee covers water and wastewater, with 50% of costs allocated to each. This study replaces the 2022 Impact Fee Study, therefore the costs associated with the 2022 Impact Fee Study are not eligible for the 2025 impact fee update.

Appendix C

Impact Fee Credit Analysis

TECHNICAL MEMORANDUM



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TO: Matt Kusnir, P.E., Fort Worth Water
Julie Perez, P.E., Fort Worth Water

FROM: Kara Shuror, Freese and Nichols, Inc.
Nicholas McCormick, P.E., Freese and Nichols, Inc.

SUBJECT: 2025 Fort Worth Water/Wastewater Impact Fee Update:
Credit Methodology Memorandum

DATE: March 7, 2025

1.0 INTRODUCTION

In accordance with Texas Local Government Code (TLGC), Chapter 395, the City of Fort Worth commissioned Freese and Nichols, Inc. (FNI), to conduct a Water and Wastewater Impact Fee Study. For this study, FNI completed the maximum allowable impact fee calculation, including the rate credit analysis in compliance with Chapter 395. The calculated impact fee includes the outstanding debt service (principal and interest) of existing facilities with excess capacity and the projected debt service (principal and interest) of the future facilities identified in the 10-year Capital Improvement Plan (CIP). This memorandum establishes the methodology utilized for the rate credit analysis and summarizes the preliminary results.

2.0 DEBT SERVICE INTEREST CALCULATION

When calculating the impact fee, eligible interest is based on existing and future debt service. The existing debt service is debt service associated with existing facilities with excess capacity, while the future debt service is based on future facilities.

For the existing impact fee eligible facilities, the interest considered in the impact fee is based on the outstanding debt as documented in established debt schedules. Specifically, the existing debt service is based upon impact fee eligible outstanding debt for Fort Worth, Trinity River Authority (TRA), and Tarrant Regional Water District (TRWD). The interest included in the impact fee is the total impact fee eligible interest for the term of the existing debt, per discussions with City staff.

The interest for the future facilities is calculated using the assumptions in **Table 1**. The proposed debt is based upon the 10-year water and wastewater impact fee eligible CIP. In the CIP, if a project's start date is in 2025 or

later and has a cost greater than \$5 million, it is assumed that it will be financed with long term debt. Any amounts under \$5 million are assumed to be cash-funded. The interest included in the impact fee is the total impact fee eligible interest for the term of the debt.

Table 1: Future Debt Service Assumptions

Debt Service Details	Assumption
Bond Issuance Cost	2.0%
Interest Rate	4.0%
Fort Worth Term	30 years
TRWD Term	30 years
TRA Term	20 years

3.0 RATE CREDIT CALCULATION

The rate credit methodology was developed by FNI and was applied to the impact fee calculation. Chapter 395 prescribes that a utility must provide a credit to account for any portion of ad valorem tax or utility service revenues that would also be reflected in the developed impact fees and paid by new service units in the program period. The utility may choose to do a detailed rate credit analysis, or automatically cap the maximum allowable impact fee at 50% of the impact fee eligible infrastructure costs. In this case, a rate credit analysis was performed to determine the applicable credit for the program period.

The purpose of this credit is to ensure that new growth is not charged twice for the portion of capital improvements attributed to them, once through the impact fee and then again through water or wastewater rates. The code does not specifically address the way in which this credit is to be calculated. Each utility should calculate the credit in a way that is consistent with the operation of the fund, the way they finance capital improvements, and the way these capital improvements costs are represented in utility rates. The next section describes how Fort Worth's credit was calculated.

FNI utilized the projected Service Unit Equivalents (SUE), developed as part of the Land Use Assumptions, to determine the pro rata share of the existing debt (interest and principal) attributable to each SUE on the system for each year of the impact fee period (2025 – 2034). The resulting cost per SUE was multiplied by the cumulative growth in SUE's for each year of the impact fee period, resulting in the portion of the existing debt (interest and principal) that future customers would pay for in water/wastewater rates. This represents the credit to the impact fees required to avoid "double counting" and this credit was subtracted from the total impact fee eligible

infrastructure costs. **Table 2** summarizes the results of the water credit calculation. **Table 3** summarizes the results of the wastewater credit calculation.

Table 2: Preliminary Water Credit Analysis Summary

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Water Impact Fee Eligible Interest + Principle for 10-Year Period	\$11,622,373	\$21,817,018	\$21,856,757	\$21,450,199	\$21,453,998	\$22,721,657	\$28,883,186	\$28,793,473	\$28,729,032	\$28,632,339
Total Service Unit Equivalents (SUE) Each Year	755,080	770,897	786,713	802,530	818,346	834,163	849,980	865,796	881,613	897,429
Cost per SUE	\$15.39	\$28.30	\$27.78	\$26.73	\$26.22	\$27.24	\$33.98	\$33.26	\$32.59	\$31.90
Cumulative SUE's in 10-Year Period	15,817	31,633	47,450	63,266	79,083	94,900	110,716	126,533	142,349	158,166
Portion Paid by Growth in 10-Year Period	\$243,453	\$895,246	\$1,318,268	\$1,690,999	\$2,073,262	\$2,584,958	\$3,762,251	\$4,208,056	\$4,638,726	\$5,046,260
Total Credit	\$26,461,479									

Table 3: Preliminary Wastewater Credit Analysis Summary

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Wastewater Impact Fee Eligible Interest + Principle for 10-Year Period	\$11,532,345	\$11,533,780	\$11,560,501	\$11,254,371	\$11,255,551	\$11,220,174	\$11,087,227	\$11,089,166	\$11,091,710	\$11,086,567
Total Service Unit Equivalents (SUE) Each Year	626,883	640,227	653,570	666,914	680,257	693,601	706,944	720,288	733,631	746,975
Cost per SUE	\$18.40	\$18.02	\$17.69	\$16.88	\$16.55	\$16.18	\$15.68	\$15.40	\$15.12	\$14.84
Cumulative SUE's in 10-Year Period	13,344	26,687	40,031	53,374	66,718	80,061	93,405	106,748	120,092	133,435
Portion Paid by Growth in 10-Year Period	\$245,471	\$480,770	\$708,069	\$900,703	\$1,103,910	\$1,295,124	\$1,464,892	\$1,643,436	\$1,815,654	\$1,980,437
Total Credit	\$11,638,466									

4.0 MAXIMUM ALLOWABLE IMPACT FEE CALCULATION

The maximum allowable impact fees are the result of taking the total cost of expansion for the study period, minus the calculated credit, and dividing by the increase in SUE's. This fee equals the maximum allowable impact fee per service unit for a 5/8" x 3/4" water meter. A summary of the maximum allowable impact fee calculation for both water and wastewater is shown in **Table 4**.

Table 4: Preliminary Credit Analysis Summary

	Water	Wastewater
Preliminary Maximum Calculated Infrastructure Cost	\$1,050,944,830	\$841,408,968
Minus the CREDIT	(\$26,461,479)	(\$11,638,466)
Max Allowable Calculated Infrastructure Cost	\$1,024,483,351	\$829,770,502
Service Units	158,166	133,435
Max Allowable Impact Fee per Service Unit	\$6,477	\$6,218

Appendix D

Wastewater Meter Summary

Appendix D Water Meter Summary

City of Fort Worth

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	220,645	220,645	220,645
3/4"	1.50	2,689	2,689	4,034
1"	2.50	21,698	21,698	54,245
1-1/2"	5.00	1,903	1,903	9,515
2"	8.00	1,755	1,755	14,040
3"	21.75	43	43	935
4"	37.50	98	98	3,675
6"	80.00	163	163	13,040
8"	140.00	46	46	6,440
10"	210.00	3	3	630
TOTAL		249,043	249,043	327,199
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	6,841	6,841	6,841
3/4"	1.50	18	18	27
1"	2.50	2,459	2,459	6,148
1-1/2"	5.00	1,560	1,560	7,800
2"	8.00	3,642	3,642	29,136
3"	21.75	392	392	8,526
4"	37.50	327	327	12,263
6"	80.00	156	156	12,480
8"	140.00	63	63	8,820
10"	210.00	24	24	5,040
TOTAL		15,482	15,482	97,081

Wholesale Customer: Benbrook Water Authority

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	5,128	5,128	5,128
3/4"	1.50	42	42	63
1"	2.50	3,169	3,169	7,923
1-1/2"	5.00	5	5	25
2"	8.00	3	3	24
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		8,347	8,347	13,163
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	157	157	157
3/4"	1.50	6	6	9
1"	2.50	325	325	813
1-1/2"	5.00	71	71	355
2"	8.00	228	228	1,824
3"	21.75	38	38	827
4"	37.50	2	2	75
6"	80.00	5	5	400
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		832	832	4,460

Appendix D Water Meter Summary

Wholesale Customer: Bethesda Water Supply Corporation % of Wastewater Demands Served by FTW (2025): 1.00%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	10,623	106	106
3/4"	1.50	78	1	2
1"	2.50	49	0	0
1-1/2"	5.00	3	0	0
2"	8.00	3	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		10,756	107	108
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	173	2	2
3/4"	1.50	23	0	0
1"	2.50	54	1	3
1-1/2"	5.00	20	0	0
2"	8.00	55	1	8
3"	21.75	5	0	0
4"	37.50	7	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		337	4	13

Wholesale Customer: City of Blue Mound % of Wastewater Demands Served by FTW (2025): 100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	786	786	786
3/4"	1.50	0	0	0
1"	2.50	0	0	0
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		786	786	786
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	25	25	25
3/4"	1.50	0	0	0
1"	2.50	5	5	13
1-1/2"	5.00	2	2	10
2"	8.00	4	4	32
3"	21.75	1	1	22
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		37	37	102

Appendix D Water Meter Summary

Wholesale Customer: City of Burleson

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	15,728	15,728	15,728
3/4"	1.50	2	2	3
1"	2.50	250	250	625
1-1/2"	5.00	3	3	15
2"	8.00	1	1	8
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		15,984	15,984	16,379
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	374	374	374
3/4"	1.50	2	2	3
1"	2.50	188	188	470
1-1/2"	5.00	107	107	535
2"	8.00	300	300	2,400
3"	21.75	57	57	1,240
4"	37.50	5	5	188
6"	80.00	1	1	80
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		1,034	1,034	5,290

Wholesale Customer: City of Crowley

% of Wastewater Demands Served by FTW (2020):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	6,796	6,796	6,796
3/4"	1.50	0	0	0
1"	2.50	24	24	60
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		6,820	6,820	6,856
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	159	159	159
3/4"	1.50	0	0	0
1"	2.50	105	105	263
1-1/2"	5.00	32	32	160
2"	8.00	100	100	800
3"	21.75	12	12	261
4"	37.50	2	2	75
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		410	410	1,718

Appendix D Water Meter Summary

Wholesale Customer: City of Edgecliff Village

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	90	90	90
3/4"	1.50	1,615	1,615	2,423
1"	2.50	52	52	130
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		1,757	1,757	2,643
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	0	0	0
1"	2.50	0	0	0
1-1/2"	5.00	13	13	65
2"	8.00	11	11	88
3"	21.75	5	5	109
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		29	29	262

Wholesale Customer: City of Everman

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	1,831	1,831	2,747
1"	2.50	8	8	20
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		1,839	1,839	2,767
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	150	150	225
1"	2.50	8	8	20
1-1/2"	5.00	6	6	30
2"	8.00	21	21	168
3"	21.75	3	3	65
4"	37.50	1	1	38
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		189	189	546

Appendix D Water Meter Summary

Wholesale Customer: City of Forest Hill

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	4,429	4,429	6,644
1"	2.50	7	7	18
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		4,436	4,436	6,662
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	166	166	249
1"	2.50	69	69	173
1-1/2"	5.00	37	37	185
2"	8.00	62	62	496
3"	21.75	1	1	22
4"	37.50	2	2	75
6"	80.00	1	1	80
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		338	338	1,280

Wholesale Customer: City of Haltom City

% of Wastewater Demands Served by FTW (2020):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	11,174	11,174	11,174
3/4"	1.50	0	0	0
1"	2.50	3	3	8
1-1/2"	5.00	0	0	0
2"	8.00	38	38	304
3"	21.75	1	1	22
4"	37.50	1	1	38
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		11,217	11,217	11,546
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	1306	1,306	1,306
3/4"	1.50	0	0	0
1"	2.50	7	7	18
1-1/2"	5.00	0	0	0
2"	8.00	33	33	264
3"	21.75	3	3	65
4"	37.50	1	1	38
6"	80.00	2	2	160
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		1,352	1,352	1,851

Appendix D Water Meter Summary

Wholesale Customer: City of Hurst

% of Wastewater Demands Served by FTW (2025):

92%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	9,630	8,860	8,860
3/4"	1.50	1	1	2
1"	2.50	1,548	1,424	3,560
1-1/2"	5.00	37	34	170
2"	8.00	7	6	48
3"	21.75	1	1	22
4"	37.50	1	1	38
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		11,225	10,327	12,700
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	603	555	555
3/4"	1.50	0	0	0
1"	2.50	440	405	1,013
1-1/2"	5.00	292	269	1,345
2"	8.00	286	263	2,104
3"	21.75	38	35	761
4"	37.50	22	20	750
6"	80.00	6	6	480
8"	140.00	1	1	140
10"	210.00	0	0	0
TOTAL		1,688	1,554	7,148

Wholesale Customer: City of Kennedale

% of Wastewater Demands Served by FTW (2020):

0%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	2,543	0	0
1"	2.50	313	0	0
1-1/2"	5.00	5	0	0
2"	8.00	4	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		2,865	0	0
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	229	0	0
1"	2.50	57	0	0
1-1/2"	5.00	13	0	0
2"	8.00	38	0	0
3"	21.75	44	0	0
4"	37.50	3	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		384	0	0

Appendix D Water Meter Summary

Wholesale Customer: Lake Worth

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	1,582	1,582	2,373
1"	2.50	186	186	465
1-1/2"	5.00	0	0	0
2"	8.00	1	1	8
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		1,769	1,769	2,846
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	113	113	170
1"	2.50	145	145	363
1-1/2"	5.00	47	47	235
2"	8.00	120	120	960
3"	21.75	19	19	413
4"	37.50	6	6	225
6"	80.00	0	0	0
8"	140.00	1	1	140
10"	210.00	0	0	0
TOTAL		451	451	2,506

Wholesale Customer: City of North Richland Hills

% of Wastewater Demands Served by FTW (2025):

20%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	20,488	4,098	6,147
1"	2.50	993	199	498
1-1/2"	5.00	5	1	5
2"	8.00	15	3	24
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		21,501	4,301	6,674
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	827	165	248
1"	2.50	448	90	225
1-1/2"	5.00	73	15	75
2"	8.00	887	177	1,416
3"	21.75	8	2	44
4"	37.50	22	4	150
6"	80.00	4	1	80
8"	140.00	3	1	140
10"	210.00	0	0	0
TOTAL		2,272	455	2,378

Appendix D Water Meter Summary

Wholesale Customer: City of Pantego

% of Wastewater Demands Served by FTW (2025):

50%

*Meter count information not received. Meter counts estimated based on previous IF study.

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	881	441	441
3/4"	1.50	20	10	15
1"	2.50	0	0	0
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		901	451	456
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	198	99	149
1"	2.50	87	44	110
1-1/2"	5.00	25	13	65
2"	8.00	31	16	128
3"	21.75	0	0	0
4"	37.50	3	2	75
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		344	174	527

Wholesale Customer: City of Richland Hills

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	2,829	2,829	4,244
1"	2.50	88	88	220
1-1/2"	5.00	18	18	90
2"	8.00	19	19	152
3"	21.75	1	1	22
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		2,955	2,955	4,728
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	10	10	15
1"	2.50	79	79	198
1-1/2"	5.00	31	31	155
2"	8.00	46	46	368
3"	21.75	4	4	87
4"	37.50	2	2	75
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		172	172	898

Appendix D Water Meter Summary

Wholesale Customer: City of River Oaks

% of Wastewater Demands Served by FTW (2025):

100%

*Meter count information not received. Meter counts estimated based on previous IF study.

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	2,746	2,746	4,119
1"	2.50	96	96	240
1-1/2"	5.00	26	26	130
2"	8.00	23	23	184
3"	21.75	1	1	22
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		2,892	2,892	4,695
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	130	130	195
1"	2.50	27	27	68
1-1/2"	5.00	24	24	120
2"	8.00	19	19	152
3"	21.75	1	1	22
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		201	201	557

Wholesale Customer: City of Saginaw

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	7,870	7,870	11,805
1"	2.50	12	12	30
1-1/2"	5.00	0	0	0
2"	8.00	35	35	280
3"	21.75	3	3	65
4"	37.50	1	1	38
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		7,921	7,921	12,218
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	162	162	243
1"	2.50	154	154	385
1-1/2"	5.00	9	9	45
2"	8.00	134	134	1,072
3"	21.75	12	12	261
4"	37.50	7	7	263
6"	80.00	2	2	160
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		480	480	2,429

Appendix D Water Meter Summary

Wholesale Customer: Sansom Park

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	1,539	1,539	1,539
3/4"	1.50	0	0	0
1"	2.50	0	0	0
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		1,539	1,539	1,539
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	102	102	102
3/4"	1.50	0	0	0
1"	2.50	7	7	18
1-1/2"	5.00	0	0	0
2"	8.00	10	10	80
3"	21.75	10	10	218
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		129	129	418

Wholesale Customer: Trinity River Authority

% of Wastewater Demands Served by FTW (2020):

0%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	0	0	0
1"	2.50	0	0	0
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		0	0	0
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	0	0	0
1"	2.50	0	0	0
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		0	0	0

Appendix D Water Meter Summary

Wholesale Customer: City of Watauga

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	8,052	8,052	12,078
1"	2.50	2	2	5
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		8,054	8,054	12,083
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	131	131	197
1"	2.50	115	115	288
1-1/2"	5.00	7	7	35
2"	8.00	110	110	880
3"	21.75	2	2	44
4"	37.50	1	1	38
6"	80.00	2	2	160
8"	140.00	2	2	280
10"	210.00	0	0	0
TOTAL		370	370	1,922

Wholesale Customer: Westover Hills

% of Wastewater Demands Served by FTW (2025):

100%

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	12	12	18
1"	2.50	90	90	225
1-1/2"	5.00	160	160	800
2"	8.00	47	47	376
3"	21.75	2	2	44
4"	37.50	1	1	38
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		312	312	1,501
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	3	3	3
3/4"	1.50	0	0	0
1"	2.50	0	0	0
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		3	3	3

Appendix D Water Meter Summary

Wholesale Customer: **City of Westworth Village** % of Wastewater Demands Served by FTW (2020): **100%**

*Meter count information not received. Meter counts estimated based on previous IF study.

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	543	543	815
1"	2.50	6	6	15
1-1/2"	5.00	0	0	0
2"	8.00	3	3	24
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		552	552	854
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	0	0	0
3/4"	1.50	3	3	5
1"	2.50	15	15	38
1-1/2"	5.00	6	6	30
2"	8.00	18	18	144
3"	21.75	2	2	44
4"	37.50	1	1	38
6"	80.00	1	1	80
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		46	46	379

Wholesale Customer: **City of White Settlement** % of Wastewater Demands Served by FTW (2025): **100%**

*Meter count information not received. Meter counts estimated based on previous IF study.

Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	5,282	5,282	5,282
3/4"	1.50	0	0	0
1"	2.50	0	0	0
1-1/2"	5.00	0	0	0
2"	8.00	0	0	0
3"	21.75	0	0	0
4"	37.50	0	0	0
6"	80.00	0	0	0
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		5,282	5,282	5,282
Non-Residential Meters				
Meter Size	Service Unit Equivalency Factor	Number of Meters	Number of Meters Served by Ft. Worth	SUE Meters Served by Ft. Worth
5/8" x 3-4"	1.00	500	500	500
3/4"	1.50	0	0	0
1"	2.50	86	86	215
1-1/2"	5.00	56	56	280
2"	8.00	239	239	1,912
3"	21.75	35	35	761
4"	37.50	9	9	338
6"	80.00	2	2	160
8"	140.00	0	0	0
10"	210.00	0	0	0
TOTAL		927	927	4,166

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