Water and Wastewater Facilities Land Use Assumptions Plan, Capital Improvements Plan, and Maximum Impact Fees Study

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Contents

Appendices

Tables

Figures

Abbreviations

ADD	average day demand
ADF	average daily flow
AF	acre-foot
AFY	acre-feet per year
Carollo	Carollo Engineers, Inc.
CCN	Certificate of Convenience and Necessity
CIAC	Capital Improvements Advisory Committee
CIP	Capital Improvements Program
Clouse	Steven M. Clouse Water Recycling Center (formerly Dos Rios Water Recycling Center)
COSA	City of San Antonio
CRWA	Canyon Regional Water Authority
DOR	Drought of Record
EAA	Edwards Aquifer Authority
EDU	Equivalent dwelling unit. For SAWS, one (1) Water EDU is proposed as 290 gal/day and one (1) Wastewater EDU is proposed as 200 gal/day.
EST	elevated storage tank
ETJ	extraterritorial jurisdiction
GBRA	Guadalupe – Blanco River Authority
gpd	gallons per day
gpcd	gallons per capital per day
GST	ground storage tank
Impact Fee	A charge or assessment imposed upon new development in order to generate revenue for funding and recovering the costs of capital improvements or facility expansions required to serve that development.
I/I	Inflow and infiltration. For SAWS, I/I equals 600 gallons per acre.
LUAP	Land Use Assumptions Plan
Maximum Impact Fee	Maximum amount that can be charged by a political subdivision; calculated by subtracting statutory credits from the estimated capital costs to be included in rates that will be charged to the new EDUs over the study period from the calculated impact fee per EDU.
MDD	maximum day demand
MDPF	maximum day peaking factor
MG	million gallons
mgd	million gallons per day
MHD	maximum hour demand
MHPF	maximum hour peaking factor
PWWF	Peak wet weather flow. For SAWS, the PWWF is 650 gpd per EDU.

Rate Credit	A credit for the portion of ad valorem tax and utility service revenues generated by new EDUs during the program period that is used for the payment of improvements, including the payment of debt, that are included in the CIP. As an alternative to calculating this credit a political subdivision may award a credit equal to 50 percent of the total projected cost of implementing the CIP.
SAWS	San Antonio Water System
Service Area	The area within the corporate boundaries or extraterritorial jurisdiction are determined under Chapter 42 of the Texas Local Government Code (TLGC §42). The political subdivision to be served by the capital improvements or facilities expansions specified in the capital improvements plan, except roadway facilities and storm water, drainage, and flood control facilities. (TLGC §395)
Service Unit	A standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standard and based on historical data and trend applicable to the political subdivision in which the individual unit of development is located during the previous 10 years. For this report, one service unit is equivalent to one EDU.
SSLGC	Schertz/Seguin Local Government Corporation. The SSGLC distributes water supplied from the Carrizo-Wilcox Aquifer to its customers, including SAWS.
TCEQ	Texas Commission on Environmental Quality
TLGC	Texas Local Government Code
PWIP	2022 Potable Water Infrastructure Plan
WMP	2024 Water Management Plan
WRC	Water Recycling Center
WWTP	wastewater treatment plant

SECTION 1 EXECUTIVE SUMMARY

1.1 Introduction

San Antonio Water System (SAWS) retained Carollo Engineers (Carollo), to conduct a Capital Improvements Plan and Maximum Impact Fees Study. SAWS provides water and wastewater service to large portions of Bexar County and has authority to provide service to parts of Medina, Atascosa, and Comal counties. This report details the approach to update the existing Land Use Assumptions Plan (LUAP) and review the capital improvements plan (CIP) to calculate maximum allowable impact fees for the 10-year period 2024 through 2033.

The Texas Local Government Code Chapter 395 (TLGC §395) authorizes a political subdivision, such as SAWS, to impose impact fees on new development within its corporate boundaries and extraterritorial jurisdiction (ETJ). The most recent impact fee update for SAWS was in June 2019.

Impact fees provide utilities with a mechanism for funding or recouping the cost associated with capital improvements or facility expansions of the water and/or wastewater systems necessitated and attributable to new development. For SAWS, impact fees are based on five components across the Water System and Wastewater System service areas. For Water service areas, Carollo calculated the impact fee for three components: Water Supply, Water Delivery—Flow, and Water Delivery— System Development. For Wastewater service areas, Carollo calculated the impact fee for two components: Wastewater Treatment and Wastewater Collection.

1.2 Land Use Assumptions Plan

Identification of potential changes to improve the impact fee equity requires an evaluation of existing service areas. The LUAP focuses on the existing and projected SAWS data for service area populations and equivalent dwelling units (EDU). The projections help determine where capacity will be required to serve new development and what portion of planned capital improvements will be eligible for inclusion in the subsequent impact fee calculation.

Projected land use assumptions are based on existing land use data and growth projections from the 2024 SAWS Water Management Plan (WMP), historical operations data, and hydraulic analysis of the water and wastewater systems. SAWS' service areas remain consistent; however, some land use acreage has changed. Table 1.1 summarizes the service area land use distribution.

Table 1.1 Service Area Land Use Distribution

	Water		Wastewater	
Land Use	Acres	Percentage	Acres	Percentage
Commercial	109,423	21%	106,355	21%
Residential	196,179	38%	187,444	37%
Undevelopable	53,422	11%	52,968	10%
Vacant	154,743	30%	163,216	32%
Total	513,767		509,983	

Population data is collected and converted into an EDU which is the standard measure of demand expressed as water usage and wastewater discharge for an average household unit. For SAWS, one water EDU is equivalent to 290 gallons per day (gpd) and one wastewater EDU is equivalent to 200 gpd. Table 1.2 presents population and EDU projections for water and wastewater by service area.

Table 1.2 Water and Wastewater Service Area Population and EDU Projections

Component	Service Area	Population (1)		EDUs		
		2024	2033	2024	2033	Change
Total Water Supply / Flow	All	2,080,527	2,465,402	870,481	1,031,510	161,030
System Development	Low Elevation	1,284,104	1,500,343	537,262	627,735	90,473
	Middle Elevation	723,282	863,322	302,617	361,209	58,592
	High Elevation	73,142	101,737	30,602	42,566	11,964
Total System Development		2,080,527	2,465,402	870,481	1,031,510	161,030
Treatment	Medio Creek	146,886	211,141	56,533	81,263	24,730
	Leon Creek I Clouse WRC	1,933,641	2,254,262	744,212	867,611	123,399
Total Treatment		2,080,527	2,465,402	800,745	948,874	148,129
Collection	Medio Creek	146,886	211,141	56,533	81,263	24,730
	Upper Medina	86,342	153,881	33,231	59,225	25,994
	Lower Medina	21,901	42,707	8,429	16,437	8,008
	Upper Collection	534,606	621,769	205,757	239,304	33,547
	Middle Collection	658,654	674,973	253,500	259,781	6,281
	Lower Collection	632,138	760,931	243,295	292,864	49,569
Total Collection		2,080,527	2,465,402	800,745	948,874	148,129

Note:
(1) Service area populations are as of December 31 of the year. Totals may not add due to rounding.

1.3 Capital Improvements Plan

SAWS owns and operates an infrastructure-intensive system comprised of water production facilities, pumping stations, storage facilities, water transmission and distribution pipelines, wastewater treatment facilities, lift stations and wastewater collection mains that are continuously improved and expanded. The schedule for future investment in the water and wastewater system, known as the CIP, was updated by SAWS staff with the assistance of other consultants for this study.

Projects included in the CIP can serve to rehabilitate and renew the system, enhance the system to improve efficiency and meet regulatory requirements, increase the system capacity, or achieve a combination of these objectives. However, only those projects required to provide capacity to serve new development during the 2024 through 2033 study period, as defined by the LUAP, can be included in the Maximum Impact Fee calculation. The following tables provide the value of water and wastewater facilities by infrastructure type that are eligible to be included in the calculation of the Maximum Impact Fees.

The Water Supply impact fee includes growth-related costs for existing water supplies and for new projects to be constructed. SAWS staff developed the Water Supply criteria and CIP. In Table 1.3, the total capital costs for Water Supply projects needed to serve 161,030 new water EDUs is approximately $465.4 million.

Table 1.3 2024 – 2033 Eligible Water Supply CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
All	$2,242.2	$267.5	$159.7	$101.1	$38.2	$0.0	$2,343.3	$465.4

Note:
(1) Values may not add due to rounding.

The Water Delivery—Flow impact fee includes growth-related costs associated with projects for the distribution mains that are 12 inches to 20 inches in diameter. Based on discussions with SAWS staff, the capacity of the distribution mains is increased as needed to maintain 10 percent excess capacity. Costs of the unused portion of existing excess water distribution assets are eligible to be allocated to the Flow impact fee calculation.

In Table 1.4, the total capital costs for Flow projects needed to serve 161,030 new water EDUs is approximately $238.2 million.

Table 1.4 2024 – 2033 Eligible Water Delivery Flow CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
All	$819.3	$81.9	$25.3	$364.4	$131.0	$0.0	$1,183.7	$238.2

Note:
(1) Values may not add due to rounding.

The Water Delivery—System Development impact fee includes growth-related costs for several infrastructure types which include well pumps, high service and booster pump stations, elevated and ground storage tanks, and transmission mains (24-inch and larger). With the exception of well pumps, each infrastructure type currently has three service areas for the System Development impact fee: High Elevation, Middle Elevation, and Low Elevation. To determine the eligible allocation of existing and future CIP to the System Development impact fee, the available capacities and growth-related demands must be determined for the five infrastructure types by service area. SAWS staff provided the capacities of the existing well pumps and the future well pumps in the CIP.

In Table 1.5, the total capital costs for System Development well pump projects needed to serve 161,030 new water EDUs is approximately $26.7 million.

Table 1.5 2024 – 2033 Eligible Water Delivery Well Pumps CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
All	$192.5	$16.0	$5.0	$36.5	$5.7	$0.0	$229.0	$26.7

Note:
(1) Values may not add due to rounding.

In Table 1.6, the total capital costs for System Development pump station projects needed to serve 161,030 new water EDUs across the three service areas is approximately $108.4 million.

Table 1.6 2024 – 2033 Eligible Water Delivery High Service and Booster Pump Stations CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$13.2	$1.3	$0.4	$60.2	$10.8	$0.0	$73.4	$12.5
Middle Elevation	100.5	9.4	2.9	78.3	17.1	0.0	178.8	29.4
Low Elevation	120.1	11.8	3.7	78.8	51.0	0.0	198.9	66.5
Total	$233.8	$22.5	$7.0	$217.3	$78.9	$0.0	$451.1	$108.4

Note:
(1) Values may not add due to rounding.

In Table 1.7, the total capital costs for System Development elevated storage projects needed to serve 161,030 new water EDUs across the three service areas is approximately $39.1 million.

Table 1.7 2024 – 2033 Eligible Water Delivery Elevated Storage Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$15.4	$2.1	$0.7	$0.0	$0.0	$0.0	$15.4	$2.8
Middle Elevation	53.9	3.5	1.1	58.3	10.6	0.0	112.2	15.2
Low Elevation	49.7	1.9	0.6	44.9	18.6	0.0	94.6	21.1
Total	$119.0	$7.5	$2.4	$103.2	$29.2	$0.0	$222.2	$39.1

Note:
(1) Values may not add due to rounding.

In Table 1.8, the total capital costs for System Development ground storage projects needed to serve 161,030 new water EDUs across the three service areas is approximately $2.6 million.

Table 1.8 2024 – 2033 Eligible Water Delivery Ground Storage CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$7.9	$0.0	$0.0	$12.7	$0.0	$0.0	$20.6	$0.0
Middle Elevation	59.2	0.0	0.0	20.3	0.0	0.0	79.5	0.1
Low Elevation	63.3	1.5	0.5	18.9	0.5	0.0	82.2	2.5
Total	$130.4	$1.5	$0.5	$51.9	$0.6	$0.0	$182.3	$2.6

Note:
(1) Values may not add due to rounding.

In Table 1.9, the total capital costs for System Development transmission mains projects needed to serve 161,030 new water EDUs across the three service areas is approximately $99.1 million.

Table 1.9 2024 – 2033 Eligible Water Delivery Transmission Mains CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$5.9	$0.6	$0.2	$38.5	$6.9	$0.0	$44.4	$7.7
Middle Elevation	45.4	4.2	1.3	214.4	46.8	0.0	259.8	52.3
Low Elevation	54.2	5.3	1.7	49.6	32.1	0.0	103.8	39.1
Total	$105.5	$10.1	$3.2	$302.5	$85.8	$0.0	$408.0	$99.1

Note:
(1) Values may not add due to rounding.

In Table 1.10 the total eligible Water Delivery—System Development CIP costs by service area is approximately $275.7 million.

Table 1.10 2024 – 2033 Eligible Water Delivery – System Development CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$49.1	$5.2	$1.6	$114.1	$18.1	$0.0	$163.2	$24.9
Middle Elevation	325.9	23.0	7.1	384.6	76.6	0.0	710.5	106.7
Low Elevation	406.1	29.5	9.1	212.7	105.5	0.0	618.8	144.1
Total	$781.1	$57.7	$17.8	$711.4	$200.2	$0.0	$1,492.5	$275.7

Note:
(1) Values may not add due to rounding.

SAWS staff analyzed the planned treatment and collection system projects to determine the eligible future CIP projects. The Wastewater Treatment Impact fee includes growth-related costs associated with existing treatment infrastructure and the costs for new projects. For the two service areas, the Medio Creek Water

Recycling Center (WRC) and the combined Leon Creek/Clouse WRCs, the portion of capacity that is required to serve new growth during the study period was estimated by using the average daily flows.

In Table 1.11, the total capital costs for Treatment projects needed to serve 148,129 new wastewater EDUs across the two service areas is approximately $187.3 million.

Table 1.11 2024 – 2033 Eligible Wastewater Treatment CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
Medio Creek	$70.4	$21.8	$7.7	$35.1	$10.8	$0.0	$105.5	$40.3
Leon Creek / Clouse WRC	445.5	64.3	22.8	414.8	59.9	0.0	860.3	147.0
Total	$515.9	$86.1	$30.5	$449.9	$70.7	$0.0	$965.8	$187.3

Notes:
(1) Some values may not add due to rounding.
(2) Some of these CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B.

The Wastewater Collection Impact Fee includes growth-related costs associated with the interceptors and wastewater collection mains that are 10 inches or greater in diameter. SAWS staff estimated the portion of each project that is required to serve new growth during the study period.

In Table 1.12, the total capital costs for Collection projects needed to serve 148,129 new wastewater EDUs across the six collection system service areas is approximately $336.7 million.

Table 1.12 2024 – 2033 Eligible Wastewater Collection CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
Medio Creek	$44.3	$13.1	$4.7	$65.9	$29.4	$0.0	$110.2	$47.2
Upper Medina	38.2	13.8	4.9	21.8	7.2	0.0	60.0	25.9
Lower Medina	56.8	18.1	6.4	24.2	3.7	0.0	81.0	28.2
Upper Collection	159.9	17.8	6.3	99.1	33.5	0.0	259.0	57.6
Middle Collection	296.9	21.1	7.5	152.3	40.3	0.0	449.2	68.9
Lower Collection	447.5	47.5	16.8	81.9	44.6	0.0	529.4	108.9
Total	$1,043.6	$131.4	$46.6	$445.2	$158.7	$0.0	$1,488.8	$336.7

Note:
(1) Values may not add due to rounding.

In Table 1.13 the total Water System and Wastewater System CIP costs by impact fee component is approximately $1.50 billion for the study period.

Table 1.13 Summary of 2024 – 2033 Eligible Water and Wastewater CIP Costs

Component	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
Water								
Supply	$2,242.2	$267.5	$159.7	$101.1	$38.2	$0.0	$2,343.3	$465.4
Delivery – Flow	819.3	81.9	25.3	364.4	131.0	0.0	1,183.7	238.2
Delivery — SD	781.0	57.8	17.9	711.4	200.1	0.0	1,492.4	275.8
Water Total	$3,842.5	$407.2	$202.9	$1,176.9	$369.3	$0.0	$5,019.4	$979.4
Wastewater								
Treatment	$515.9	$86.1	$30.5	$449.8	$70.7	$0.0	$965.7	$187.3
Collection	1,043.7	131.4	46.6	445.2	158.8	0.0	1,488.9	336.8
Wastewater Total	$1,559.6	$217.5	$77.1	$895.0	$229.5	$0.0	$2,454.6	$524.1
Water & Wastewater Total	$5,402.1	$624.7	$280.0	$2,071.9	$598.8	$0.0	$7,474.0	$1,503.5

Note:
(1) Values may not add due to rounding.

1.4 Impact Fees Calculation

The impact fee per service unit (EDU) by service area is calculated by first determining the eligible capital costs for growth-related CIP. Then, those eligible capital costs per service area are divided by the projected number of added EDUs to be served by each service area, respectively.

Table 1.14 presents the calculated impact fees for water and wastewater service. The EDUs used in this calculation represent the incremental EDUs, which may include EDUs from another service area that will be served by the infrastructure in the respective service area. They do not represent the incremental EDUs that will be located in the service area, which are shown in Table 1.2.

Table 1.14 Water and Wastewater Calculated Impact Fees

Impact Fee Component	Service Area	Eligible CIP Value	EDU	Calculated Impact Fee per EDU
Supply	All	$465,504,645	161,030	$2,891
Flow	All	238,263,060	161,030	1,480
System Development	High Elevation	24,905,812	11,964	2,082
	Middle Elevation	106,691,530	58,592	1,821
	Low Elevation	144,170,188	90,473	1,594
Treatment	Medio Creek	40,310,424	24,730	1,630
	Leon Creek / Clouse WRC	146,956,752	123,399	1,191
Collection	Medio Creek	47,219,999	24,730	1,909
	Upper Medina (1)	25,932,175	25,994	1,826
	Lower Medina	28,177,450	8,008	829
	Upper Collection (2)	57,663,063	33,547	4,669
	Middle Collection (3)	68,978,940	6,281	2,950
	Lower Collection	108,870,894	49,569	1,218

Notes:
(1) Maximum Impact Fee per EDU includes Lower Medina fee.
(2) Maximum Impact Fee per EDU includes Middle Collection fee.
(3) Maximum Impact Fee per EDU includes Lower Collection fee.

1.4.1 Credit Calculation

Chapter 395 of the TLGC requires utilities to calculate a credit for growth-related CIP, to be subtracted from the calculated impact fee. The credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP.[1] This credit provides an adjustment to benefit fee payers who will pay for CIP in both the impact fee and their future rates or taxes. Although SAWS is a municipally-owned utility, it is managed separately and independently from the City of San Antonio, including, the City's tax revenue and budget. SAWS relies on the revenue it generates from its customers to construct, manage, and operate its water and wastewater systems. Therefore, no tax revenue is used to fund the growth-related CIP. Utilities can calculate this credit and apply it to the calculated impact fee or, alternatively, can forgo the credit calculation by opting to use the statutory credit equal to 50 percent of the calculated impact fee. SAWS opted to calculate the credit.

Credits for the value of existing and future debt are allocated among the impact fees and service areas based on the proportion of eligible existing and future capacity value. SAWS plans to fund most of its

[1] For SAWS, the credit is based on the cost of growth-related CIP projected to be in future rates of the projected new development as they do not receive tax revenue from the City of San Antonio.

growth-related CIP with cash from impact fee revenues. However, it plans to fund approximately 60 percent of all other future CIP with debt.

1.4.2 Maximum Impact Fees per EDU

The Maximum Impact Fees per EDU include both the existing value of infrastructure with capacity available to serve new development projected for the study period, 2024 through 2033, as well as the value of new water supply, water delivery, and wastewater capacity available to serve new development during the study period. Calculated impact fees, rate credits, and Maximum Impact Fees by service area are presented in Table 1.15.

Table 1.15 Maximum Water and Wastewater Impact Fees per EDU

Impact Fee Component	Service Area	Calculated Impact Fee per EDU	Calculated Rate Credit per EDU	Maximum Impact Fee per EDU
Water Supply	All	$2,891	$299	$2,592
Flow	All	1,480	112	1,368
System Development	High Elevation	2,082	55	2,027
	Middle Elevation	1,821	77	1,744
	Low Elevation	1,594	84	1,510
Treatment	Medio Creek	1,630	103	1,527
	Leon Creek / Clouse WRC	1,191	86	1,105
Collection	Medio Creek	1,909	73	1,836
	Upper Medina	1,826	124	1,702
	Lower Medina	829	61	768
	Upper Collection	4,669	233	4,436
	Middle Collection	2,950	158	2,792
	Lower Collection	1,218	80	1,138

Table 1.16 compares the Maximum Impact Fee per EDU to the current impact fee per EDU.

Table 1.16 Comparison of Maximum Impact Fees per EDU and Existing Fees per EDU

Impact Fee Component	Service Area	Calculated Maximum Impact Fee per EDU	Current Impact Fee per EDU	Change	% Change
Water Supply	All	$2,592	$2,706	($114)	(4%)
Flow	All	1,368	1,188	180	15%
System Development	High	2,027	1,203	824	68%
	Middle	1,744	1,014	730	72%
	Low	1,510	855	655	77%
Treatment	Medio Creek	1,527	1,222	305	25%
	Leon Creek / Clouse WRC	1,105	651	454	70%
Collection	Medio Creek	1,836	861	975	113%
	Upper Medina	1,702	1,422	280	20%
	Lower Medina	768	520	248	48%
	Upper Collection	4,436	2,800	1,636	58%
	Middle Collection	2,792	2,013	779	39%
	Lower Collection	1,138	902	236	26%

1.4.3 Recommended Impact Fees per EDU

The Capital Improvements Advisory Committee (CIAC) recommends that SAWS adopts the calculated maximum impact fees for Water Supply, Water Delivery System Development, Water Delivery Flow, Wastewater Treatment, and Wastewater Collection. The CIAC's recommended impact fees by service area are presented in Table 1.17 and are the same as the maximum allowable impact fee.

Table 1.17 Comparison of Recommended and Existing Impact Fees per EDU

Impact Fee Component	Service Area	Recommended Impact Fee per EDU	Current Impact Fee per EDU	Change	% Change
Water Supply	All	$2,592	$2,706	($114)	(4%)
Flow	All	1,368	1,188	180	15%
System Development	High	2,027	1,203	824	68%
	Middle	1,744	1,014	730	72%
	Low	1,510	855	655	77%
Treatment	Medio Creek	1,527	1,222	305	25%
	Leon Creek / Clouse WRC	1,105	651	454	70%
Collection	Medio Creek	1,836	861	975	113%
	Upper Medina	1,702	1,422	280	20%
	Lower Medina	768	520	248	48%
	Upper Collection	4,436	2,800	1,636	58%
	Middle Collection	2,792	2,013	779	39%
	Lower Collection	1,138	902	236	26%

SECTION 2 LAND USE ASSUMPTIONS PLAN

2.1 Introduction

SAWS provides water and wastewater service to large portions of Bexar County and has authority to provide service to parts of three adjacent counties. SAWS retained Carollo to review and update the existing LUAP to determine what portions require updates for the 10-year period, 2024 through 2033 in order to assess its impact fees. Impact fees provide utilities with a mechanism for funding or recouping costs associated with capital improvements or facility expansions of water and wastewater systems necessitated and attributable to new development.

From Chapter 395 of the Texas Local Government Code (TLGC §395), utilities adopt a LUAP and CIP before assessing or collecting impact fees to fund capital improvements required to serve new development. The LUAP incorporates the best information available to project future land use and demand for service areas within which a municipality intends to supply utility services.

Identification of potential changes to improve the impact fee equity requires an evaluation of existing service areas. SAWS has a total of five impact fee components. For the Water System, the components evaluated are Water Supply, System Development, and Flow. For the Wastewater System, the components are Wastewater Treatment and Collection. Because land use assumptions are based on a ten-year period, these assumptions may be general and do not require detailed projections for specific tracts of land.

This section summarizes the projected growth in number of EDUs for each component by service area for the impact fee study period 2024 through 2033. An EDU is a standardized measure of demand for an average single family household unit. These projections help determine where capacity will be required to serve new development and what portion of planned CIP will be eligible for inclusion in subsequent impact fee calculations.

2.2 Methodology

The land use assumption focuses on the existing and projected SAWS data for service area populations and EDUs. Projected land use assumptions are based on existing land use and parcel data from the most recent census, historical operations data, and hydraulic analysis of the water and wastewater systems. The following sections describe the methodologies to evaluate land use, population, and EDUs.

2.2.1 Existing Land Use

The service area land use distribution is provided in Table 2.1.

Table 2.1 Existing Service Area Land Use Distribution

	Water		Wastewater	
Land Use	Acres	Percentage	Acres	Percentage
Commercial	109,423	21%	106,355	21%
Residential	196,179	38%	187,444	37%
Undevelopable	53,422	11%	52,968	10%
Vacant	154,743	30%	163,216	32%
Total	513,767		509,983	

The land use includes undevelopable land such as parks, lakes, cemeteries, roads, landfills, easements, and floodplains. Land that is identified as residential is the largest usage share. Vacant land could be developed into any of the other categories.

2.2.2 Population Projections

The SAWS process for projecting population coordinates information from state and local agencies with data from private sector master plans. The water and wastewater systems population projections for these land use assumptions are based upon the 2024 WMP and the most recent census.

Table 2.2 summarizes the existing and projected population change for the Water service areas.

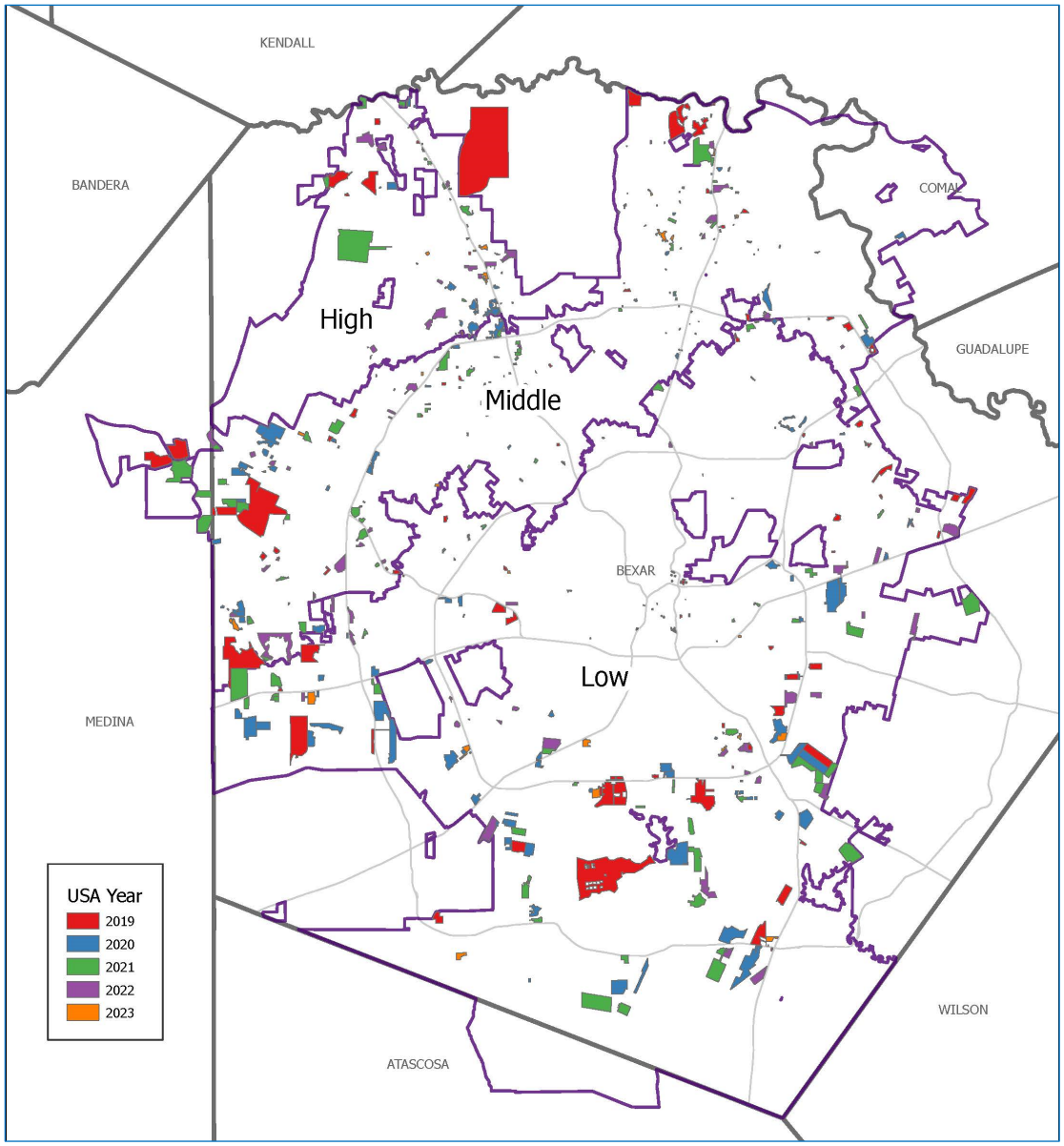


Figure 2.1 Water Utility Service Agreements 2019 through 2023

Table 2.2 Water Service Area Population Years 2024 and 2033

	Year 2024		Year 2033	
Service Area	Population (1)	Percentage	Population (1)	Percentage
Low Elevation	1,284,104	62%	1,500,343	61%
Middle Elevation	723,282	35%	863,322	35%
High Elevation	73,142	4%	101,737	4%
Total	2,080,527		2,465,402	

Notes:
(1) Service area populations are as of December 31 of the year. Totals may not add due to rounding.

Figure 2.2 and summarize the existing and projected population change for the Wastewater service areas.

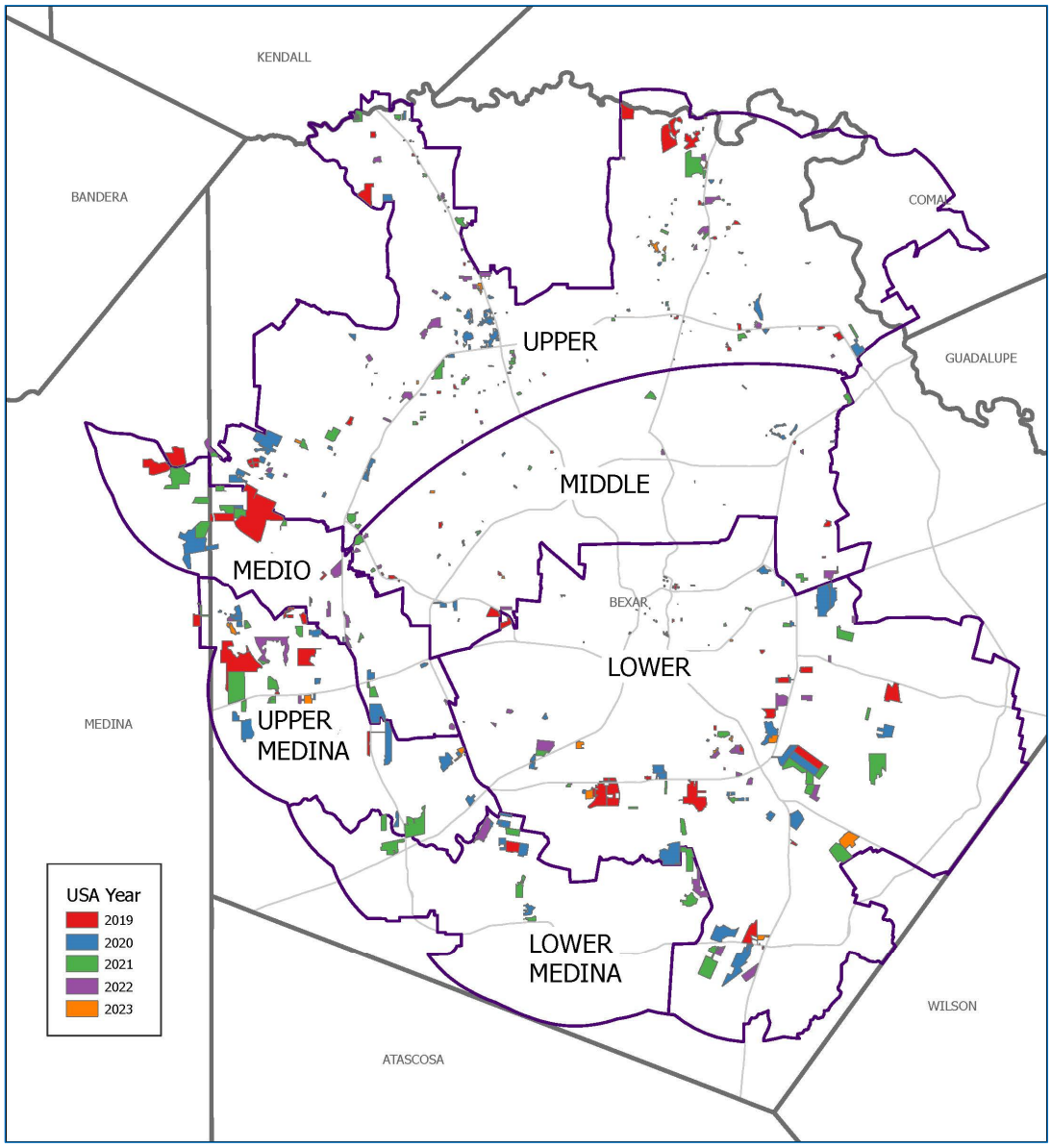


Figure 2.2 Wastewater Utility Service Agreements 2019 through 2023

Table 2.3 Wastewater Service Area Population Years 2024 and 2033

	Year 2024		Year 2033	
Service Area	Population (1)	Percentage	Population (1)	Percentage
Medio Creek	146,886	7%	211,141	9%
Leon Creek/Clouse WRC				
Upper Medina	86,342	4%	153,881	6%
Lower Medina	21,901	1%	42,707	2%
Upper Collection	534,606	26%	621,769	25%
Middle Collection	658,654	32%	674,973	27%
Lower Collection	632,138	30%	760,931	31%
Total	2,080,527		2,465,402	

Note:
(1) Service area populations are as of December 31 of the year. Totals may not add due to rounding.

2.3 EDU Definition

2.3.1 Water EDU Calculations and Factors

Demand is projected by converting population to EDUs. For the LUAP, an EDU is the common measure since it is the standardized expression of water demand for an average household unit. A single family residence using a 5/8-inch meter has one (1) EDU demand on the water system. Commercial and industrial users have larger meters, higher demand, and higher numbers of EDUs. For the water system, the calculation to determine one (1) EDU is the annual usage in million gallons (MG) divided by the product of total annual EDUs for all days in the year.

This EDU calculation is illustrated by the following formula:

$$1\ EDU = (\ Total\ Annual\ Flow\ ) \div (\ Total\ Annual\ EDUs\ x\ 365\ days\ )$$

For example, for the water system, the 2022 EDU calculation yields:

$$1\ EDU\ =\ (\ 91{,}035\ MG\ ) \div (\ 849{,}848\ EDUs\ x\ 365\ days) \ =\ 293\ gpd$$

However, for this study, one (1) water EDU is proposed to equal 290 gpd. This proposed EDU of 290 gpd is based on the average usage per EDU for the past 5-year period from 2018 through 2022. The SAWS water system experiences a variability of EDU growth per year, but the 5-year period best encompasses the decreasing demand trend that started in 2008. Within the last five years, there was a peak in usage in 2022, but the overall trend is decreasing due to conservation efforts.

Figure 2.3 illustrates the change in actual EDUs and compares it to the EDU projections from the previous LUAPs completed in 2006, 2011, 2014, and 2019.

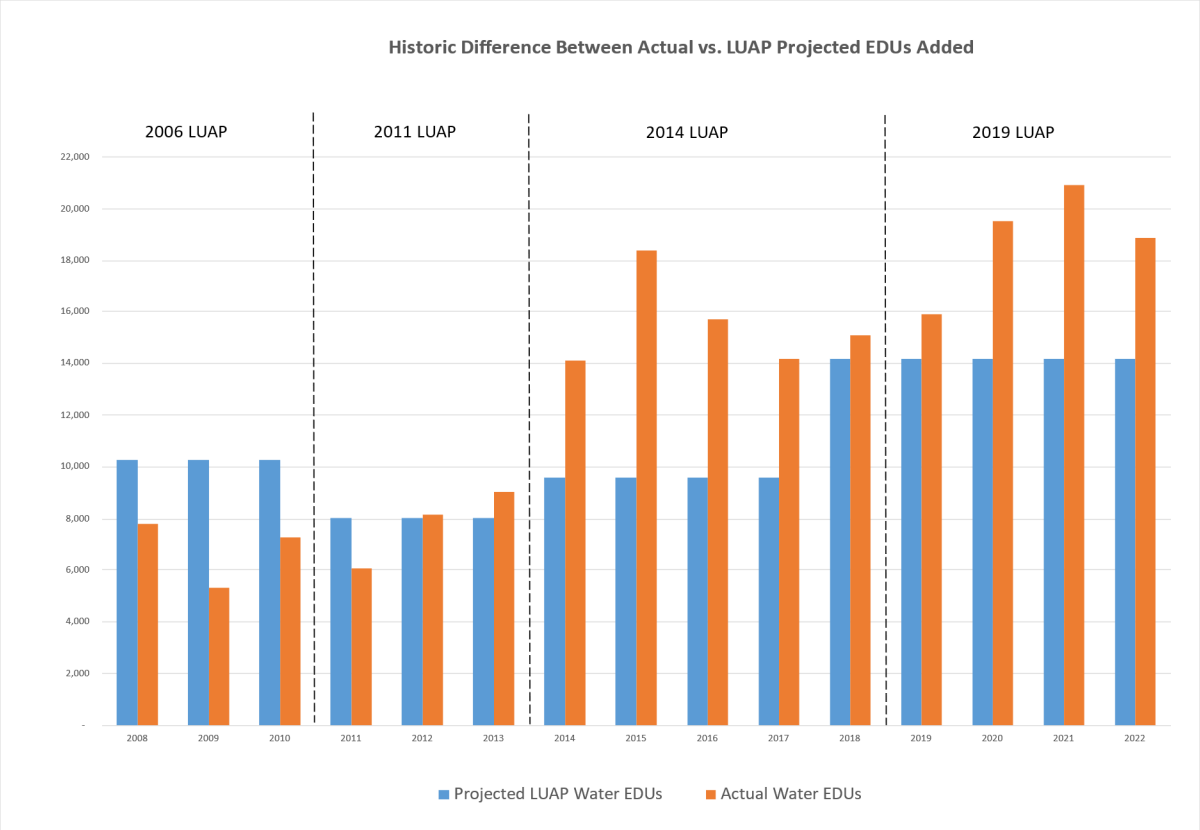


Figure 2.3 Actual vs. Projected EDUs Added from 2008 through 2022

For projections within the 2006 and 2011 LUAPs, the average EDU growth was a static increase of approximately 10,300 and 8,000 EDUs per year, respectively. However, starting with the 2014 LUAP, a more dynamic approach was implemented in the form of a population to EDU ratio. The population to EDU ratio is useful to represent population as demand, currently and in the future. The 2014 LUAP applied a 2.39 population to EDU ratio to project the number of water EDUs and 2.60 to project wastewater EDUs. EDUs were adjusted to remove customers of the San Antonio River Authority and Leon Springs utilities, as well as those customers with septic tanks.

The following formula is used to calculate the Population to EDU ratio:

$$\begin{matrix} Population\ to \\ EDU\ Ratio \end{matrix} = \left(\begin{matrix} Actual\ Service\ Area\ Population \\ Five\ Year\ Average \end{matrix} \right) \div \left(\begin{matrix} Actual\ EDUs \\ Five\ Year\ Average \end{matrix} \right)$$

Similarly for this LUAP, future EDU projections are calculated with the population to EDU ratio based on the preceding 5-year period between 2018 and 2022. However, the ratio is calculated separately for the water and wastewater systems, and the EDUs are calculated using the 2024 WMP data. For the 10-year period beyond 2024, the population to EDU ratio is projected to be 2.39 for the water system and 2.60 for the wastewater system as illustrated by the following calculations:

$$\underset{to\ EDU\ Ratio}{Water\ Population} = (\ 2{,}080{,}527\ customers\ ) \div (\ 870{,}481\ EDUs\ ) = 2.39$$

$$\underset{to\ EDU\ Ratio}{Wastewater\ Population} = (\ 2{,}080{,}527\ customers\ ) \div (\ 800{,}745\ EDUs\ ) = 2.60$$

The future EDU projection is the future population projection multiplied by the EDU to Population factor. The annual EDU calculations for the water and wastewater systems are shown in Table 2.4.

Table 2.4 Projected Water and Wastewater EDUs Added Annually

Year	Water EDUs Added at 2.39 Ratio	Cumulative Water EDUs	Wastewater EDUs Added at 2.60 Ratio	Cumulative Wastewater EDUs
2024	14,798	870,481	13,613	800,745
2025	14,901	885,382	13,708	814,453
2026	15,156	900,538	13,942	828,395
2027	15,416	915,954	14,181	842,576
2028	15,679	931,633	14,423	856,999
2029	15,948	947,581	14,670	871,669
2030	16,221	963,802	14,921	886,590
2031	16,499	980,301	15,177	901,767
2032	16,781	997,082	15,437	917,204
2033	17,068	1,014,150	15,701	932,905
2034	17,360	1,031,510	15,969	948,874

Note:
For purposes of calculating the rate credit, Carollo assumed an annual growth rate of 1.7% in water and wastewater EDUs, which may not be consistent with other planning documents. Total number of EDUs added match SAWS planning documents.

2.3.2 Wastewater EDU

A wastewater EDU equivalent of 200 gpd is proposed in this study. The wastewater EDU calculation is similar to the water calculation, however there is an additional step due to the difference in water customer usage and wastewater customer demand. To determine one EDU for the wastewater system, the wastewater treatment plant (WWTP) flow is divided into the wastewater EDUs for each day of the year.

The following formula illustrates how to calculate a wastewater EDU:

$$1\ EDU = \left(\underset{Five\ Year\ Average}{Annual\ WWTP\ Flow}\right) \div \left(\underset{Five\ Year\ Average}{Annual\ EDUs}\ x\ 365\ days\right)$$

$$1\ EDU = (\ 48,331\ MG\ ) \div (\ 679{,}740\ EDUs\ x\ 365\ days) = 195\ gpd$$

Due to the minimal reduction to 195 gpd over the past five years, SAWS will continue to recommend 200 gpd. For peak wet weather flow (PWWF), that flow is multiplied by the 2.5 peaking factor then inflow and infiltration (I/I) is added. For SAWS, the I/I is assumed to be 600 gpd per acre. At 4 EDUs per acre (150 gpd

per EDU), the total PWWF is 650 gpd per EDU. Further details of this PWWF calculation are in the Demand Criterion of the CIP Section.

A wastewater EDU can be based on flow and/or loadings of the system. Many utilities are experiencing conservation that is causing excess loadings capacity, but limited hydraulic capacity. As a result, some utilities are evaluating if an EDU based on hydraulic or loadings capacity—or a combination of both— is most equitable. However, Carollo does not recommend modifying the wastewater EDU to include loadings capacity because SAWS already requires pretreatment for high-strength customers.

2.4 Service Areas

According to the TLGC Chapter 395, service areas are the zones within the corporate boundaries or extraterritorial jurisdiction (as determined under Chapter 42) of the political subdivision to be served by the capital improvements or facilities expansions specified in the CIP, except roadway facilities and storm water, drainage, and flood control facilities. State of Texas authority is provided by Certificate of Convenience and Necessity (CCN) and some service is provided by contract outside of the CCN. SAWS service areas remain consistent for this study's land use assumptions.

2.4.1 Water Service Areas

The three impact fee components evaluated for the water system are Water Supply, System Development, and Flow. Water Supply facilities are the infrastructure associated with providing new water sources to the system. System Development facilities are the infrastructure associated with pumping, storing, and transmitting water to the distribution system. Flow facilities make up the distribution system. Supply and Flow components are distributed uniformly. However, the System Development component is broken into three service areas due to additional costs to deliver water to higher elevations. The population and EDU projections for the water impact fee service areas are summarized in Table 2.5.

Table 2.5 Water Service Areas Populations and EDU Projections

Component	Service Area	Population (1)		EDUs		
		2024	2033	2024	2033	Change
Total Water Supply / Flow	All	2,080,527	2,465,402	870,481	1,031,510	161,030
System Development	Low Elevation	1,284,104	1,500,343	537,262	627,735	90,473
	Middle Elevation	723,282	863,322	302,617	361,209	58,592
	High Elevation	73,142	101,737	30,602	42,566	11,964
Total System Development		2,080,527	2,465,402	870,481	1,031,510	161,030

Note:
(1) Service area populations are as of December 31 of the year.

The general water service area for SAWS is illustrated by Figure 2.4. The water system map shows the City of San Antonio (COSA) extraterritorial jurisdiction and the areas of Bexar County served by other purveyors.

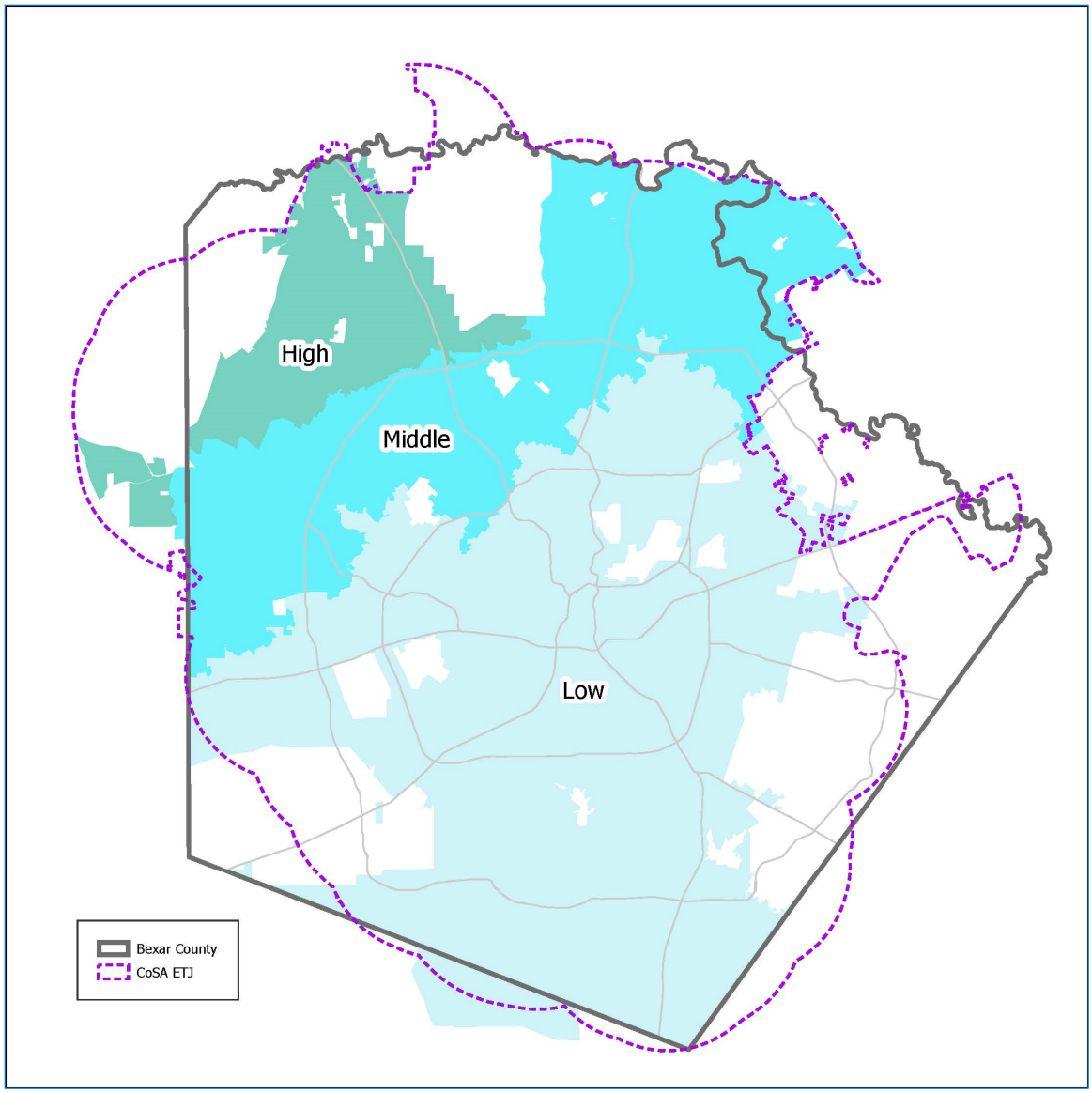


Figure 2.4 Water Service Area from 2024 through 2033

2.4.2 Wastewater Service Area

The impact fee components evaluated for the wastewater system are Treatment and Collection. The Collection Impact Fee service areas reflect the boundaries of the sewersheds served by the WRCs but also designate areas that have higher costs mainly due to distance to the WRC, which are located at the lower elevations to allow for gravity flow. The population and EDU projections for the water and wastewater impact fee service areas are summarized in Table 2.6.

Table 2.6 Wastewater Service Areas Populations and EDU Projections

Component	Service Area	Population (1)		EDUs		
		2024	2033	2024	2033	Change
Treatment	Medio Creek	146,886	211,141	56,533	81,263	24,730
	Leon Creek I Clouse WRC	1,933,641	2,254,262	744,212	867,611	123,399
Total Treatment		2,080,527	2,465,402	800,745	948,874	148,129
Collection	Medio Creek	146,886	211,141	56,533	81,263	24,730
	Upper Medina	86,342	153,881	33,231	59,225	25,994
	Lower Medina	21,901	42,707	8,429	16,437	8,008
	Upper Collection	534,606	621,769	205,757	239,304	33,547
	Middle Collection	658,654	674,973	253,500	259,781	6,281
	Lower Collection	632,138	760,931	243,295	292,864	49,569
Total Collection		2,080,527	2,465,402	800,745	948,874	148,129

Note:
(1) Service area populations are as of December 31 of the year.

The general wastewater service area is illustrated by Figure 2.5. The wastewater system map shows the COSA extraterritorial jurisdiction and the watersheds that flow into the WRCs operated by SAWS.

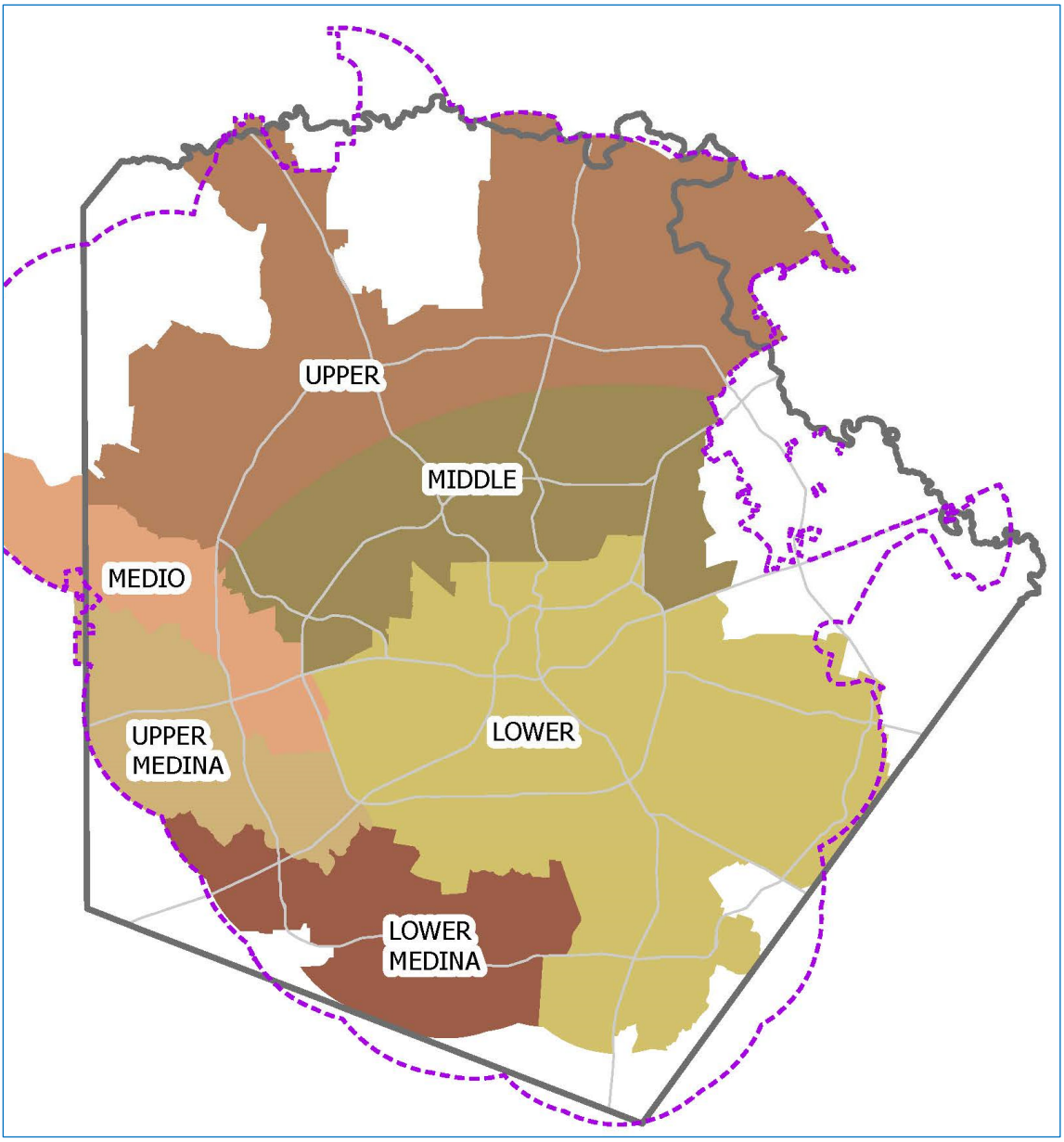


Figure 2.5 Wastewater Service Area from 2024 through 2033

SECTION 3 CAPITAL IMPROVEMENTS PLAN

3.1 Introduction

This CIP section establishes the engineering basis for the capital projects included in the water and wastewater impact fee calculations, updating the previous study completed in 2019. Regarding Water and Wastewater System infrastructure, Chapter 395 of the TLGC states that a capital improvement is any of the following facilities that have a life expectancy of three or more years and are owned and operated by or on behalf of a political subdivision: water supply, treatment, and distribution facilities; wastewater collection and treatment facilities; and storm water, drainage, and flood control facilities; whether or not they are located within the service area.

Impact fees provide SAWS with a mechanism for funding or recouping the cost associated with capital improvements or facility expansions of the municipal water and wastewater systems necessitated by and attributable to the new development, as necessary to accommodate growth in the identified service areas from the 2024 through 2033 study period. A facility expansion does not include the repair, maintenance, modernization, or expansion of an existing facility to better serve existing development.

SAWS owns and operates an infrastructure-intensive system comprised of water production facilities, pumping stations, storage facilities, water transmission and distribution pipelines, wastewater treatment facilities, lift stations and wastewater collection mains that are continuously improved and expanded. The schedule for future investment in the water and wastewater systems is known as the CIP. The CIP was updated by SAWS staff as part of this study. The eligible CIP includes capital project descriptions and cost estimates as developed by combined efforts of SAWS staff, other consultants, and Carollo.

This report includes a description of the basis for establishing which SAWS water and wastewater facilities are eligible to be included in the impact fee analysis. First, the criteria for measuring infrastructure capacity are explained for each infrastructure type. Then, the facilities required to accommodate growth during the 10-year study period, as defined in the LUAP, are identified. Finally, the impact fee per EDU is calculated using the value of the eligible capital facilities and the projected increase in EDUs from the LUAP, as prepared by SAWS and reviewed by the Capital Improvements Advisory Committee (CIAC). The final Maximum Impact Fee per EDU is then calculated by subtracting statutory credits for the estimated capital costs to be included in future rates that will be charged to the new EDUs.

3.2 Capacity Criteria

3.2.1 General

This section discusses the capacity of facilities that are eligible for inclusion in the calculation of the impact fees. The only capacities that are considered for inclusion are existing available capacities and planned increases in capacities to serve growth projected to occur during the study period. Available existing capacity is infrastructure that has been constructed but is not yet fully utilized because existing demand is less than existing capacity.

The growth-related capacities and criteria differ for the Water and Wastewater Systems. For the Water System, the capacities considered for inclusion in the calculation of the water impact fees are the water supply facilities, well pumps, high service and booster pump stations, elevated and ground storage tanks, and transmission and distribution mains. The Wastewater System growth-related capacities considered for the wastewater impact fees include the wastewater treatment and collection facilities.

3.2.1.1 Demand Criterion

The combination of plant facilities and service-related activities represents the ability of the systems to meet the quantity, quality, peak loads, and other service requirements of all customers. The values calculated within this section will be reflected throughout the report.

The water system design demand is based on actual water production for the 12 months preceding June 2023, including wet and dry weather conditions, to represent a typical year. In the following calculation, the historical average daily demand is 290 gallons per EDU as detailed in the LUAP Section. Based on this demand per EDU, the average day demand (ADD) is 121 gallons per capita per day (gpcd):

$$\begin{matrix} Design\ Average \\ Day\ Demand \end{matrix} = Average\ Demand\ per\ EDU \ \div \ Population\ per\ EDU\ ratio$$

$$Design\ ADD_{W\ System} = 290\ gpd \ \div \ 2.39 = \mathbf{121\ gpcd}$$

For the wastewater system, the historical average daily flow is 200 gallons per EDU as detailed in the LUAP Section. The product of the average daily flow and the peaking factor of 2.5 is the peak dry weather flow of 500 gpd per EDU:

$$Peak\ Dry\ Weather\ Flow = Average\ Daily\ Flow\ per\ EDU \times WW\ Peaking\ Factor$$

$$Peak\ Dry\ Weather\ Flow = 200\ gpd/EDU \times 2.5 = \mathbf{500\ gpd/EDU}$$

The design peak dry weather flow combines with an I/I of 600 gallons per acre to total the design PWWF of 650 gpd per EDU. This is based on 4 EDUs per acre as indicated by the calculation below:

$$\begin{matrix} Design\ Peak\ Wet \\ Weather\ Flow \end{matrix} = \begin{matrix} Design\ Peak \\ Dry\ Weather\ Flow \end{matrix} + \left[\begin{matrix} Inflow\ \& \\ Infiltration \end{matrix} \right]$$

$$\begin{matrix} Design \\ PWWF_{WW\ System} \end{matrix} = 500\ gpd/EDU + \left[\frac{600\ gpd\ per\ acre}{4\ EDUs\ per\ acre} \right] = \mathbf{650\ gpd/EDU}$$

These design requirements are used to determine the requirements for water supply and delivery capacities for the Water System and treatment and collection capacities for the Wastewater System.

3.2.2 Water Supply

SAWS staff developed the Water Supply criteria and CIP. The total amount of Edwards Aquifer water available is determined to be the average during a repeat of the 10-year Drought of Record (DOR), or similar conditions. Table 3.1 summarizes the total as 196,663 acre-feet (AF) for its existing and future Edwards supply.

Table 3.1 Edwards Aquifer Water Supply

Water Supply	Acre-feet (AF)	EDUs
Existing	192,663	593,099
Future	4,000	12,314
Total	196,663	605,413

The following calculation includes the conversion of gallons to AF:

$$\frac{Water\ Supply}{Projects\ EDUs} = \frac{290\ gallons}{day} \times 365\ days \times \frac{AF}{325{,}851\ gallons} = \mathbf{0.325\ AFY\ per\ EDU}$$

The majority of the SAWS water supply comes from the Edwards Aquifer. SAWS has been granted a groundwater withdrawal permit from the Edwards Aquifer Authority (EAA) that specifies the amount of groundwater that can be pumped from the aquifer. Edwards Aquifer permitted withdrawal rights issued by the EAA are subject to critical period/drought management (CPM). During periods of reduced precipitation, the EAA implements CPM on all holders of permitted withdrawal rights up to a 44 percent reduction tied to the J-17 index well and Comal and San Marcos spring flows.

To manage the use of the various water supplies, SAWS has developed the hybrid drought of record which plans for a nine-year drought of record (1950-1958) while incorporating the severity of the Edwards Aquifer critical period reductions in supply experienced during the 2011-2014 drought. For impact fee calculation purposes, the scenario models that a drought equal to the hybrid drought of record begins in 2024 and continues through 2033 utilizing the hybrid drought of record critical period reductions.

Table 3.2 the projected amount of water in AF per year available from each water supply source during the hybrid drought of record.

Table 3.2 Projected Water Supply Yields During a Drought of Record

Year	Annual Water Supply Yield (AF)								
	Edwards	Local Carrizo	Trinity	GBRA	CRWA	Brackish Desal.	RC / SSLGC(1)	ASR Recovery	Vista Ridge
2024	219,140	9,900	5,000	6,600	6,300	11,200	11,533	0	50,000
2025	210,434	9,900	5,000	6,200	6,300	11,200	12,033	0	50,000
2026	192,778	9,900	5,000	5,800	6,300	11,200	12,033	0	50,000
2027	176,288	9,900	5,000	5,400	6,300	11,200	12,033	0	50,000
2028	167,909	9,900	3,000	5,000	6,300	11,200	12,033	0	50,000
2029	141,487	9,900	3,000	4,600	6,800	11,200	12,033	14,830	50,000
2030	120,762	9,900	3,000	4,200	6,800	11,200	12,033	38,215	50,000
2031	174,984	9,900	3,000	4,000	6,800	11,200	12,033	0	50,000
2032	276,134	9,900	3,000	4,000	6,800	11,200	12,033	0	50,000
2033	276,134	9,900	3,000	4,000	6,800	11,200	12,033	0	50,000
Average	195,605	9,900	3,800	4,980	6,550	11,200	11,983	5,304	50,000

Notes:
(1) SSLGC is the Schertz-Seguin Local Government Corporation. The SSGLC treats and transports SAWS owned Buckhorn well field water. SAWS purchases an additional volume annually from SSLGC.

The worst year of the DOR scenario occurs in year six of the 10-year plan. This total amount of water supply will be the source to fulfill the LUAP projection of 161,030 new EDUs.

3.2.3 Water Delivery – Flow

The cost of Water Delivery is separated into two impact fees, Flow and System Development. The Flow impact fee includes growth-related costs for the water distribution mains which are 12 inches to 20 inches. Mains smaller than 12 inches are typically constructed by developers and "dedicated" or contributed to SAWS and, as such, are not included in the costs used to calculate the impact fee.

To determine the eligible capacities to include in costs used to calculate the Flow impact fee, the maximum hour demands of the customers who will come online during the study period must be projected using the average day demand and the maximum hour peaking factor.

The design average day demand for the system is 290 gallons per EDU and, according to the 2022 PWIP, the maximum hour peaking factor (MHPF) is 3.02. Using these values and the EDUs from the LUAP, the estimated 2024 year-end maximum hour demand (MHD) is 762.4 million gallons per day (mgd):

$$\underset{Demand}{Max\ Hour} = \underset{Day\ Demand}{Design\ Average} \times \underset{Peaking\ Factor}{Max\ Hour} \times EDU$$

$$2024\ MHD_{Flow} = (121\ gallons\ per\ EDU \times 3.02 \times 870{,}481) \div 1{,}000{,}000 = \mathbf{762.4\ mgd}$$

Similarly, the estimated 2033 year-end maximum hour demand for the system is 903.4 mgd:

$$2033\ MHD_{Flow} = (121\ gpcd \times 3.02 \times 1{,}031{,}510) \div 1{,}000{,}000 = \mathbf{903.4\ mgd}$$

The projected study period increase in maximum hour demand for the distribution system is 141.0 mgd for the system:

$$\Delta\ MHD = 2033\ MDD - 2024\ MDD$$

$$\Delta\ MHD_{Flow} = 903.4\ mgd - 762.4\ mgd = \mathbf{141.0\ mgd}$$

The calculated capacity requirements for the Flow impact fee service area are based on the Water System's distribution mains as summarized in Table 3.3.

Table 3.3 Study Period Water Distribution Mains Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Distribution Mains	All	762.4	903.4	141.0

Note:
(1) Capacity requirements are based on the end of year.

3.2.4 Water Delivery – System Development

The System Development impact fee includes growth-related costs for well pumps, high service and booster pump stations, elevated and ground storage tanks, and transmission mains (24-inch and greater). There are currently three service areas for the System Development impact fee: High Elevation, Middle Elevation, and Low Elevation. No changes are proposed for the three existing service area designations. To determine the eligible allocation of existing and future CIP to the System Development impact fee, the

available capacities and growth-related demands must be determined for the five infrastructure types by service area.

3.2.4.1 Well Pumps

Because the well pumps are directly related to the water supply and provide water to the entire system, they are not separated by service area. All customers within the SAWS system are assumed to require the same well pump capacity. The well pumps are designed to meet the maximum day demand (MDD).

The system design average day demand is 290 gallons per EDU and the maximum day peaking factor (MDPF) is 1.64 according to the 2022 PWIP. Using these values and the populations from the LUAP, the estimated 2024 year-end maximum day demand for the SAWS system is 414.0 mgd:

$$Max\ Day\ Demand = \frac{Average\ Day}{Demand} \times \frac{Max\ Day}{Peaking\ Factor} \times EDUs$$

$$2024\ MDD_{WP} = (290\ gallon\ per\ EDU \times 1.64 \times 870{,}481) \div 1{,}000{,}000 = \mathbf{414.0\ mgd}$$

Similarly, the estimated 2033 year-end maximum day demand for the system is 490.6 mgd:

$$2033\ MDD_{WP} = (290\ gallon\ per\ EDU \times 1.64 \times 1{,}031{,}510) \div 1{,}000{,}000 = \mathbf{490.6\ mgd}$$

The projected study period increase in maximum day demand for well pumps is 76.6 mgd for the system:

$$\Delta\ MDD = 2033\ MDD - 2024\ MDD$$

$$\Delta\ MDD_{WP} = 490.6\ mgd - 414.0\ mgd = \mathbf{76.6\ mgd}$$

Table 3.4 summarizes the calculated maximum day demands and increase.

Table 3.4 Study Period Well Pumps Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Well Pumps	All	414.0	490.6	76.6

Note:
(1) Capacity requirements are based on the end of year.

3.2.4.2 High Service and Booster Pump Stations

Pumping requirements are based on design maximum hour demands and vary by pressure zone. The calculated weighted average day demands and max hour peaking factors for each service area are used to determine the maximum hour demands for the three service areas.

High Elevation Service Area

The High Elevation service area has the lowest design average day demand and peaking factors. Using the design average day demand of 290 gallons per EDU, the maximum hour peaking factor of 3.02, and the study period populations from the LUAP, the estimated 2024 year-end maximum hour demand for the High Elevation service area is 26.8 mgd:

$$\frac{Max\ Hour}{Demand} = \frac{Design\ Average}{Day\ Demand} \times \frac{Max\ Hour}{Peaking\ Factor} \times EDUs$$

$$2024\ MHD_{HE} = (290\ gallons\ per\ EDU \times 3.02 \times 30{,}602) \div 1{,}000{,}000 = \mathbf{26.8\ mgd}$$

The estimated 2033 year-end maximum hour demand for the High Elevation service area is 37.3 mgd:

$$2033\ MHD_{HE} = (290\ gallons\ per\ EDU \times 3.02 \times 42{,}566) \div 1{,}000{,}000 = \mathbf{37.3\ mgd}$$

The expected increase in maximum hour demand due to growth during the study period in the High Elevation service area is 10.5 mgd:

$$\Delta\ MHD = 2033\ MHD - 2024\ MHD$$

$$\Delta\ MHD_{HE} = 37.3\ mgd - 26.8\ mgd = \mathbf{10.5\ mgd}$$

Middle Elevation Service Area

The Middle Elevation service area's design average day demand and peaking factors are lower than the Low Elevation service area and higher than the High Elevation service area. Using the design average day demand of 290 gallons per EDU, the maximum hour peaking factor of 3.02, and the study period populations from the LUAP, the estimated 2024 year-end maximum hour demand for the Middle Elevation service area is 265.0 mgd:

$$2024\ MHD_{ME} = (290\ gallons\ per\ EDU \times 3.02 \times 302{,}617) \div 1{,}000{,}000 = \mathbf{265.0\ mgd}$$

The estimated 2033 year-end maximum hour demand for the Middle Elevation service area is 316.3 mgd:

$$2033\ MHD_{ME} = (290\ gallons\ per\ EDU \times 3.02 \times 361{,}209) \div 1{,}000{,}000 = \mathbf{316.3\ mgd}$$

The expected increase in maximum hour demand due to growth during the study period in the Middle Elevation service area is 51.3 mgd:

$$\Delta\ MHD_{ME} = 316.3\ mgd - 265.0\ mgd = \mathbf{51.3\ mgd}$$

Low Elevation Service Area

The Low Elevation service area has significantly higher demands than the other two service areas. Using the design average day demand of 290 gallons per EDU, the maximum hour peaking factor of 3.31, and the study period populations, the estimated 2024 year-end maximum hour demand for the Low Elevation service area is 470.5 mgd:

$$2024\ MHD_{LE} = (290\ gallons\ per\ EDU \times 3.02 \times 537{,}262) \div 1{,}000{,}000 = \mathbf{470.5\ mgd}$$

The estimated 2033 year-end maximum hour demand for the Low Elevation service area is 549.8 mgd:

$$2033\ MHD_{LE} = (290\ gallon\ per\ EDU \times 3.31 \times 627{,}735) \div 1{,}000{,}000 = \mathbf{549.8\ mgd}$$

The expected increase in maximum hour demand due to growth during the study period in the Low Elevation service area is 79.3 mgd:

$$\Delta\ MHD_{LE} = 549.8\ mgd - 470.5\ mgd = \mathbf{79.3\ mgd}$$

The projected study period increase in pumping requirements is 141.1 mgd for the three System Development service areas, as summarized in Table 3.5.

Table 3.5 Study Period High Service and Booster Pumps Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Booster Pump Station	High Elevation	26.8	37.3	10.5
	Middle Elevation	265.0	316.3	51.3
	Low Elevation	470.5	549.8	79.3
	Total	762.3	903.4	141.1

Note:
(1) Capacity requirements are based on the end of year.

3.2.4.3 Elevated Storage Tanks

Elevated storage tank (EST) requirements are based on design criteria and Texas Commission on Environmental Quality (TCEQ) requirements. Minimum design elevated storage capacity is greater than or equal to 100 gallons per connection. Design criteria provided in the 2022 PWIP vary by pressure zone. The weighted average elevated storage capacity requirements are calculated for each System Development service area and used as the impact fee capacity criteria since they exceed the minimum TCEQ requirement of 100 gallons per connection.

High Elevation Service Area

For the High Elevation service area, the 2024 and 2033 demands for elevated storage capacity is 298 gallons per connection. Since these demands exceed the minimum TCEQ requirement of 100 gallons per connection, they are used to estimate the 2024 year-end capacity requirement.

Since one (1) connection is equivalent to 1.54 EDUs, the High Elevation service area capacity requirement is 5.9 MG:

$$2024\ EST\ Capacity\ Requirement = Minimum\ capacity\ per\ connection \times No.of\ connections$$

$$2024\ EST\ Capacity\ Requirement_{HE} = \left(\frac{298\ gallons}{connection} \times \frac{30{,}602\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{5.9\ MG}$$

The estimated 2033 year-end capacity requirement for the High Elevation service area is 8.2 MG:

$$2033\ EST\ Capacity\ Requirement_{HE} = \left(\frac{298\ gallons}{connection} \times \frac{42{,}566\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{8.2\ MG}$$

The expected increase in the elevated storage capacity requirement due to growth during the study period in the High Elevation service area is 0.6 MG:

$$\Delta\ EST\ Capacity\ Requirement_{HE} = 2033\ Capacity\ Requirement_{HE} - 2024\ Capacity\ Requirement_{HE}$$

$$\Delta\ EST\ Capacity\ Requirement_{HE} = 8.2\ MG - 5.9\ MG = \mathbf{2.3\ MG}$$

Middle Elevation Service Area

The 2024 and 2033 demands for elevated storage capacity in the Middle Elevation service area is 196 gallons per connection. Since these demands exceed the minimum TCEQ requirement of 100 gallons per

connection, this data is used to estimate the 2024 year-end capacity requirement for the Middle Elevation service area at 38.5 MG:

$$2024\ EST\ Capacity\ Requirement_{ME} = \left(\frac{196\ gallons}{connection} \times \frac{302{,}617\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{38.5\ MG}$$

The estimated 2033 year-end capacity requirement for the Middle Elevation service area is 46.0 MG:

$$2033\ EST\ Capacity\ Requirement_{ME} = \left(\frac{196\ gallons}{connection} \times \frac{361{,}209\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{46.0\ MG}$$

The expected increase in the elevated storage capacity requirement due to growth during the study period in the Middle Elevation service area is 7.5 MG:

$$\Delta\ EST\ Capacity\ Requirement_{ME} = 46.0\ MG - 38.5\ MG = \mathbf{7.5\ MG}$$

Low Elevation Service Area

The 2024 and 2033 demands for elevated storage capacity in the Low Elevation service area is 142 gallons per connection. Since these demands exceed the minimum TCEQ requirement of 100 gallons per connection, this data is used to estimate the 2024 year-end capacity requirement for the Low Elevation service area at 49.5 MG:

$$2024\ EST\ Capacity\ Requirement_{LE} = \left(\frac{142\ gallons}{connection} \times \frac{537{,}262\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{49.5\ MG}$$

The estimated 2033 year-end capacity requirement for the Low Elevation service area is 57.9 MG:

$$2033\ EST\ Capacity\ Requirement_{LE} = \left(\frac{142\ gallons}{connection} \times \frac{627{,}735\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{57.9\ MG}$$

The expected increase in the elevated storage capacity requirement due to growth during the study period in the Low Elevation service area is 8.4 MG:

$$\Delta\ EST\ Capacity\ Requirement_{LE} = 57.9\ MG - 49.5\ MG = \mathbf{8.4\ MG}$$

Table 3.6 summarizes the changes in elevated storage demands for the three service area elevations.

Table 3.6 Study Period Elevated Storage Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Elevated Storage Tanks	High Elevation	5.9	8.2	2.3
	Middle Elevation	38.5	46.0	7.5
	Low Elevation	49.5	57.9	8.4
	Total	93.9	112.1	18.2

Note:
(1) Capacity requirements are based on the end of year.

3.2.4.4 Ground Storage Tanks

Ground storage tank (GST) requirements are based on design criteria and TCEQ requirements. Minimum design total storage capacity (elevated and ground) is greater than or equal to 200 gallons per

connection. Design criteria provided in the 2022 PWIP vary by pressure zone. The weighted average ground storage capacity requirements are calculated for each System Development service area and used as the impact fee capacity criteria if they exceed the difference between the minimum TCEQ total storage requirement of 200 gallons per connection and the minimum elevated storage requirement; if they do not exceed the TCEQ minimum, the difference between the TCEQ minimum of 200 gallons per connection and the elevated storage capacity requirements from the 2022 PWIP is used.

High Elevation Service Area

The 2024 and 2033 High Elevation service area demands for ground storage capacity is 4 gallons per connection. In the High Elevation service area, the minimum TCEQ requirement of 200 gallons of total storage per connection is met by the elevated storage demand. Therefore, the minimum storage requirement from the 2022 PWIP is used to estimate the 2024 capacity requirement. Since one connection is equivalent to 1.54 EDUs, the 2024 year-end capacity requirement for the High Elevation service area is 0.08 MG:

$$2024\ GST\ Capacity\ Requirement = Minimum\ capacity\ per\ connection \times No.of\ connections$$

$$2024\ GST\ Capacity\ Requirement_{HE} = \left(\frac{4\ gallons}{connection} \times \frac{30{,}602\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{0.08\ MG}$$

The estimated 2033 year-end capacity requirement for the High Elevation service area is 0.11 MG:

$$2033\ GST\ Capacity\ Requirement_{HE} = \left(\frac{4\ gallons}{connection} \times \frac{42{,}566\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{0.11\ MG}$$

The expected increase in the ground storage capacity requirement due to growth during the study period in the High Elevation service area is 0.03 MG:

$$\Delta\ GST\ Capacity\ Requirement_{HE} = 2033\ Capacity\ Requirement_{HE} - 2024\ Capacity\ Requirement_{HE}$$

$$\Delta\ GST\ Capacity\ Requirement_{HE} = 0.11\ MG - 0.08\ MG = \mathbf{0.03\ MG}$$

Middle Elevation Service Area

The 2024 and 2033 demands for ground storage capacity in the Middle Elevation service area is also 4 gallons per connection. In the Middle Elevation service area, the minimum TCEQ requirement of 200 gallons of total storage per connection is not met by the elevated storage demand. Therefore, the TCEQ minimum storage requirement is used to estimate the 2024 year-end capacity requirement for the Middle Elevation service area at 0.79 MG:

$$2024\ GST\ Capacity\ Requirement_{ME} = \left(\frac{4\ gallons}{connection} \times \frac{302{,}617\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{0.79\ MG}$$

The estimated 2033 year-end capacity requirement for the Middle Elevation service area is 0.94 MG:

$$2033\ GST\ Capacity\ Requirement_{ME} = \left(\frac{4\ gallons}{connection} \times \frac{361{,}209\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{0.94\ MG}$$

The expected increase in the ground storage capacity requirement due to growth during the study period in the Middle Elevation service area is 0.15 MG:

$$\Delta\ GST\ Capacity\ Requirement_{ME} = 0.94\ MG - 0.79\ MG = \mathbf{0.15\ MG}$$

Low Elevation Service Area

Since the elevated storage capacity demand from the 2022 PWIP is less than 200 gallons per connection, 58 gallons of ground storage capacity per connection are needed in the Low Elevation service area for 2024 and 2033.

This meets the minimum TCEQ requirement of 200 gallons of total storage per connection, and this minimum storage requirement is used to estimate the 2024 year-end capacity requirement for the Low Elevation service area of 20.23 MG:

$$2024\ GST\ Capacity\ Requirement_{LE} = \left(\frac{58\ gallons}{connection} \times \frac{537{,}262\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{20.23\ MG}$$

The estimated 2033 year-end capacity requirement for the Low Elevation service area is 23.64 MG:

$$2033\ GST\ Capacity\ Requirement_{LE} = \left(\frac{58\ gallons}{connection} \times \frac{627{,}735\ EDUs}{1.54}\right) \div 1{,}000{,}000 = \mathbf{23.64\ MG}$$

The expected increase in the ground storage capacity requirement due to growth during the study period in the Low Elevation service area is 3.41 MG:

$$\Delta\ GST\ Capacity\ Requirement_{LE} = 23.64\ MG - 20.23\ MG = \mathbf{3.41\ MG}$$

Table 3.7 summarizes the changes in ground storage demand for the three service area elevations.

Table 3.7 Study Period Ground Storage Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Ground Storage Tanks	High Elevation	0.08	0.11	0.03
	Middle Elevation	0.79	0.94	0.15
	Low Elevation	20.23	23.64	3.41
	Total	21.10	24.69	3.59

Note:
(1) Capacity requirements are based on the end of year.

3.2.4.5 Transmission Mains

The projected maximum hour demand is used to determine the required capacity for transmission mains. Because the service areas are the same, the capacity criteria for transmission mains are the same as the High Service and Booster Pump Stations capacity criteria previously calculated.

Table 3.8 summarizes the change in demand for the transmission mains during the study period, which match the requirements summarized in Table 3.5.

Table 3.8 Study Period Transmission Mains Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Transmission Mains	High Elevation	26.8	37.3	10.5
	Middle Elevation	265.0	316.3	51.3
	Low Elevation	470.5	549.8	79.3
	Total	762.3	903.4	141.1

Note:
(1) Capacity requirements are based on the end of year.

3.2.5 Wastewater Treatment

To determine the eligible capacities to include in the Wastewater Treatment Impact Fee calculation, the system design average daily flow was used to estimate the 2024 and 2033 WRC demands. The two service areas proposed for wastewater treatment are Medio Creek and Leon Creek/Clouse WRC.

3.2.5.1 Medio Creek Service Area

Using the system design average daily flow, the estimated capacity requirements for the Medio Creek service area are 10.2 mgd in 2024 and 15.1 mgd in 2033:

$$Design\ ADF\ =\ Design\ ADF\ per\ EDU\ \times\ No.of\ EDUs$$

$$2024\ ADF_{MC}\ =\left(\frac{180\ gpd}{EDU}\times\ 56{,}533\ EDUs\right)\div 1{,}000{,}000\ =\ \mathbf{10.2\ mgd}$$

$$2033\ ADF_{MC}\ =\ 10.2\ mgd+\left(\frac{200\ gpd}{EDU}\times\ 81{,}263\ EDUs\right)\div 1{,}000{,}000\ =\ \mathbf{15.1\ mgd}$$

The estimated change in average daily flow demand in the Medio Creek service area for the study period is 4.9 mgd:

$$\Delta\ ADF\ =\ 2033\ ADF\ -\ 2024\ ADF$$

$$\Delta\ ADF_{MC}\ =\ 15.2\ mgd-10.2\ mgd=\mathbf{4.9\ mgd}$$

3.2.5.2 Leon Creek/Clouse WRC Service Area

Using the same methodology as for the Medio Creek service area, the estimated capacity requirements for the Leon Creek/Clouse service area are 133.9 mgd in 2024 and 158.6 mgd in 2033:

$$2024\ ADF_{LCDR}\ =\left(\frac{180\ gpd}{EDU}\times\ 744{,}212\ EDUs\right)\div 1{,}000{,}000\ =\ \mathbf{133.9\ mgd}$$

$$2033\ ADF_{LCDR}\ =\ 133.9\ mgd+\left(\frac{200\ gpd}{EDU}\times\ 867{,}611\ EDUs\right)\div 1{,}000{,}000\ =\ \mathbf{158.6\ mgd}$$

The estimated change in average daily flow demand in the Leon Creek/Clouse service area for the study period is 24.6 mgd:

$$\Delta\ ADF\ =\ 2033\ ADF\ -\ 2024\ ADF$$

$$\Delta\ ADF_{LCDR}\ =\ 158.5\ mgd-133.9\ mgd\ =\ \mathbf{24.6\ mgd}$$

Table 3.9 summarizes the increase in capacity requirements for each service area for the study period.

Table 3.9 Study Period Treatment Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Water Recycling Centers	Medio Creek	10.2	15.1	4.9
	Leon Creek/ Clouse	134.0	158.6	24.6
	Total	144.2	173.7	29.5

Note:
(1) Capacity requirements are based on the end of year.

3.2.6 Wastewater Collection

PWWF is used to determine the eligible capacities to include in the Wastewater Collection Impact Fee calculation. The six service areas are Medio Creek and the five collection service areas within the Leon Creek/Clouse WRC treatment service area.

3.2.6.1 Medio Creek Service Area

Using the system design PWWF, the estimated capacity requirements for the Medio Creek service area are 36.7 mgd in 2024 and 52.8 mgd in 2033:

$$PWWF = \frac{Design\ PWWF}{per\ EDU} \times No.\ of\ EDUs$$

$$2024\ PWWF_{MC} = (650\ gpd \times 56{,}533\ EDUs) \div 1{,}000{,}000 = \mathbf{36.7\ mgd}$$

$$2033\ PWWF_{MC} = (650\ gpd \times 81{,}263\ EDUs) \div 1{,}000{,}000 = \mathbf{52.8\ mgd}$$

The estimated change in PWWF in the Medio Creek service area for the study period is 16.1 mgd:

$$\Delta\ PWWF = 2033\ PWWF - 2024\ PWWF$$

$$\Delta\ PWWF_{MC} = 52.8\ mgd - 36.7\ mgd = \mathbf{16.1\ mgd}$$

3.2.6.2 Leon Creek/Clouse WRC Service Areas

Using the same methodology as for the Medio Creek service area, the Wastewater Collection capacity requirements of the five Leon Creek/Clouse WRC service areas are calculated below.

Upper Medina

The estimated capacity requirements for the Upper Medina service area are 21.6 mgd in 2024 and 38.5 mgd in 2033:

$$2024\ PWWF_{UM} = (650\ gpd \times 33{,}231\ EDUs) \div 1{,}000{,}000 = \mathbf{21.6\ mgd}$$

$$2033\ PWWF_{UM} = (650\ gpd \times 59{,}225\ EDUs) \div 1{,}000{,}000 = \mathbf{38.5\ mgd}$$

$$\Delta\ PWWF_{UM} = 21.6\ mgd - 38.5\ mgd = \mathbf{16.9\ mgd}$$

Lower Medina

The capacity requirements for the Lower Medina service area are based on the number of EDUs in the Upper Medina and Lower Medina service areas because the Upper Medina service area is upstream of the Lower Medina service area. Therefore, the Lower Medina infrastructure must have sufficient capacity to convey flows from both service areas. The total capacity requirements for the Lower Medina service area are estimated as 27.1 mgd in 2024 and 49.2 mgd in 2033:

$2024\ PWWF_{LM} = [\ 650\ gpd \times (33{,}231 + 8{,}429)\ ] \div 1{,}000{,}000 = \mathbf{27.1\ mgd}$

$2033\ PWWF_{LM} = [\ 650\ gpd \times (59{,}225 + 16{,}437\ )\ ] \div 1{,}000{,}000 = \mathbf{49.2\ mgd}$

$\Delta\ PWWF_{LM} = 49.2\ mgd - 27.1\ mgd = \mathbf{22.1\ mgd}$

Upper Collection

The estimated capacity requirements for the Upper Collection service area are 133.7 mgd in 2024 and 155.5 mgd in 2033:

$2024\ PWWF_{UC} = (650\ gpd \times\ 205{,}757\ EDUs\ ) \div 1{,}000{,}000 = \mathbf{133.7\ mgd}$

$2033\ PWWF_{UC} = (650\ gpd \times\ 239{,}304\ EDUs\ ) \div 1{,}000{,}000 = \mathbf{155.5\ mgd}$

$\Delta\ PWWF_{UC} = 155.5\ mgd - 133.7\ mgd = \mathbf{21.8\ mgd}$

Middle Collection

The capacity requirements for the Middle Collection service area are based on the number of EDUs in the Upper Collection and Middle Collection service areas because the Upper Collection service area is upstream from the Middle Collection service area. Therefore, the Middle Collection infrastructure must have sufficient capacity to convey flows from both service areas. The total capacity requirements for the Middle Collection service area are estimated as 298.5 mgd in 2024 and 324.4 mgd in 2033:

$2024\ PWWF_{MC} = (650\ gpd \times (205{,}757 + 253{,}500\ ) \div 1{,}000{,}000 = \mathbf{298.5\ mgd}$

$2033\ PWWF_{MC} = (650\ gpd \times (239{,}304 + 259{,}781\ ) \div 1{,}000{,}000 = \mathbf{324.4\ mgd}$

$\Delta\ PWWF_{MC} = 324.4\ mgd - 298.5\ mgd = \mathbf{25.9\ mgd}$

Lower Collection

The capacity requirements for the Lower Collection service area are based on the number of EDUs in the Upper Collection, Middle Collection, and the Lower Collection service areas because the Upper Collection and Middle Collection service areas are upstream from the Lower Collection service area.

Therefore, the Lower Collection infrastructure must have sufficient capacity to convey flows from all three service areas. The estimated capacity requirements for the Lower Collection service area are 456.7 mgd in 2024 and 514.8 mgd in 2033:

$2024\ PWWF_{UM} = (650\ gpd \times\ (205{,}757 + 253{,}500 + 243{,}295\ ) \div 1{,}000{,}000 = \mathbf{456.7\ mgd}$

$2033\ PWWF_{UM} = (650\ gpd \times\ (239{,}304 + 259{,}781 + 292{,}864\ ) \div 1{,}000{,}000 = \mathbf{514.8\ mgd}$

$\Delta\ PWWF_{LC} = 514.8\ mgd - 456.7\ mgd = \mathbf{58.1\ mgd}$

Table 3.10 summarizes the increase in PWWF for each service area for the study period.

Table 3.10 Study Period Collection System Capacity Requirement

Infrastructure Component	Service Area	Capacity Required (mgd)		
		2024 (1)	2033	Δ Change
Collection System	Medio Creek	36.7	52.8	16.1
	Upper Medina	21.6	38.5	16.9
	Lower Medina	27.1	49.2	22.1
	Upper Collection	133.7	155.5	21.8
	Middle Collection	298.5	324.4	25.9
	Lower Collection	456.7	514.8	58.1
	Total (2)	520.5	616.8	96.3

Notes:
(1) Capacity requirements are based on the end of year.
(2) Upper Medina capacity is included in the Lower Medina capacity. Upper Collection capacity is included in the Middle Collection and Lower Collection capacities. Middle Collection capacity is included in the Lower Collection capacity.

3.3 Eligible Facilities

3.3.1 General

This section establishes the SAWS water and wastewater facilities that are eligible for inclusion in the calculation of the impact fees. Projects included in the CIP can serve to rehabilitate and renew the system, enhance the system to improve efficiency and meet regulatory requirements, increase the system capacity, or achieve a combination of these objectives. Only those projects warranted by capacity issues derived from growth projected to occur during the 2024 to 2033 study period can be included in the impact fee calculation. Additionally, if the cost of a project cannot be sufficiently delineated or if alternate mechanisms for cost recovery are in place, the project is not included in the impact fee calculation.

Financing costs associated with existing infrastructure with available capacity to serve new development are included in the eligible impact fee CIP. It is assumed, based on discussions with SAWS staff, that 60 percent of the existing infrastructure was financed with debt, with the exception of Water Supply. The recently added Vista Ridge raw water pipeline is part of the existing Water Supply infrastructure and assumed to be 85 percent financed with debt. SAWS staff provided debt service payment schedules for Water Resources (Water Supply), Water Delivery, and Wastewater, which were used to determine the proportional interest payments associated with the existing infrastructure eligible for inclusion in the impact fee calculations.

SAWS prefers to use cash generated from impact fee revenues to fund growth-related CIP, to the extent that impact fee collections provide that cash. Although SAWS plans to fund specific future CIP projects with debt, it reserves the option to fund all CIP with cash.

Therefore, based in part on the present level of uncertainty of future funding sources, SAWS elected, for the purposes of this study, to exclude financing costs associated with the future CIP from the impact fee calculation.[2]

3.3.2 Water Supply

SAWS staff developed the Water Supply criteria and CIP. The Water Supply impact fee includes growth-related costs for existing water supplies and for new projects to be constructed. The existing water supply facilities have capacity available to serve 117,926 of the 161,030 EDUs projected to be added during the study period. This is equal to 11.9 percent of the total existing water supply capacity.

The total capital costs for water supply projects needed to serve 161,030 EDUs is approximately $465.4 million, as summarized in Table 3.11.

Table 3.11 2024 – 2033 Eligible Water Supply CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
All	$2,242.2	$267.5	$159.7	$101.1	$38.2	$0.0	$2,343.3	$465.4

Note:
(1) Values may not add due to rounding.

3.3.3 Water Delivery – Flow

The Flow impact fee includes growth-related costs associated with the distribution mains that are 12 inches to 20 inches in diameter. Because the water distribution system is looped, it is difficult to pinpoint the existing and future capacities. Therefore, it is assumed, based on discussions with SAWS staff, that the capacity of the distribution mains is increased as needed to maintain 10 percent excess capacity. The 2024 capacity is the calculated 2024 MHD of 762.4 mgd divided by 90 percent:

$$2024\ Capacity = \frac{2024\ MHD}{90\%} = \frac{762.4\ mgd}{90\%} = \mathbf{847.1\ mgd}$$

Similarly, the 2033 capacity is 903.4 mgd using the 2033 MHD estimate and the 90 percent capacity assumption:

$$2033\ Capacity = \frac{2033\ MHD}{90\%} = \frac{903.4\ mgd}{90\%} = \mathbf{1,003.8\ mgd}$$

It is assumed that growth will utilize available existing capacity first and future CIP capacity if the projected demand requires additional capacity beyond what is available in the existing distribution mains. Of the estimated 847.1 mgd capacity in 2024, 762.4 mgd is needed to meet the demand of existing customers. Therefore, 84.7 mgd is available to serve new development. However, from the Water Delivery – Flow section, 156.7 mgd is required to serve growth during the study period so all of the 84.7 mgd of available existing capacity, or 10 percent of existing capacity, is required to serve growth during the 2024 to 2033 study period:

[2] Chapter 395 allows the inclusion of financing costs in the impact fee calculation. However, SAWS staff elected to use a more conservative approach and excluded the financing costs from the calculation.

$$\begin{matrix}2024\ to\ 2033\\ Growth\ Allocation\end{matrix} = \begin{matrix}Available\ Existing\\ Flow\ Capaciy\end{matrix} \div 2024\ Flow\ Capacity$$

$$\begin{matrix}2024\ to\ 2033\\ Growth\ Allocation\end{matrix} = 84.7\ mgd \div 847.1\ mgd = \mathbf{10}\%$$

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, 35.9 percent (or 56.3 mgd of 156.7 mgd) of future CIP capacity is included in the impact fee calculation:

$$\begin{matrix}2024\ to\ 2033\\ Growth\ Allocation\end{matrix} = \begin{matrix}Remaining\ Study\\ Period\ Demand\end{matrix} \div Future\ CIP\ Capacity$$

$$\begin{matrix}2024\ to\ 2033\\ Growth\ Allocation\end{matrix} = 56.3\ mgd \div 156.7\ mgd = \mathbf{35.9}\%$$

The costs of the eligible capacities for the Flow service area are summarized in Table 3.12.

Table 3.12 2024 – 2033 Eligible Water Delivery Flow CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
All	$819.3	$81.9	$25.3	$364.4	$131.0	$0.0	$1,183.7	$238.2

Note:
(1) Values may not add due to rounding.

3.4 Water Delivery – System Development

As with the capacity criteria, the allocation of existing facilities and future CIP is determined for each type of infrastructure in the System Development impact fee calculation. For each of these infrastructure types, there are multiple facilities within each service area, and each facility is likely to have some available capacity for future growth. Planned expansion projects in the CIP are often construction of a new facility within a service area even though several other facilities within that service area may have available capacity.

Because new System Development facilities are constructed and put into service even when available capacity exists at older facilities, the assumption that growth will utilize all existing available capacity before utilizing future CIP capacity is not realistic. Therefore, existing available and future CIP capacity are considered together as total available capacity during the study period. The amount of that available capacity planned to be used by the growth that occurs within the study period is determined using the Water Delivery – System Development capacity criteria.

3.4.1.1 Well Pumps

SAWS staff provided the capacities of the existing well pumps and the future well pumps in the CIP. The existing 2024 and planned 2033 well pump capacities for the combined system are 879.4 mgd and 901.4 mgd, respectively. Of the 879.4 mgd of existing capacity in 2024, 414.0 mgd is needed to meet the maximum day demand of existing customers. Therefore, 465.3 mgd is available to serve new

development. The CIP includes 22.0 mgd of well pump capacity so the total available capacity during the study period is 487.4 mgd:

$$\begin{matrix}Total\ Available \\ Well\ Pump\ Capacity\end{matrix} = \begin{matrix}Available\ Existing \\ Capacity\end{matrix} + Future\ CIP\ Capacity$$

$$\begin{matrix}Total\ Available \\ Well\ Pump\ Capacity\end{matrix} = 465.3\ mgd\ +\ 22.0\ mgd\ =\ \mathbf{487.4\ mgd}$$

From the Well Pumps capacity criteria, approximately 76.6 mgd is required to serve growth during the study period. This represents 15.7 percent of the 487.4 mgd total available capacity:

$$\begin{matrix}2024\ to\ 2033\ Growth \\ Allocation_{WP}\end{matrix} = \begin{matrix}Study\ Period \\ Demand\end{matrix} \div \begin{matrix}Total\ Available \\ Well\ Pump\ Capacity\end{matrix}$$

$$\begin{matrix}2024\ to\ 2033\ Growth \\ Allocation_{WP}\end{matrix} = 76.6\ mgd\ \div\ 487.4\ mgd\ =\ \mathbf{15.7}\%$$

Table 3.13 summarizes the total value of available capacity and the value eligible to be included in the System Development impact fee calculation.

Table 3.13 2024 – 2033 Eligible Water Delivery Well Pumps CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
All	$192.5	$16.0	$5.0	$36.5	$5.7	$0.0	$229.0	$26.7

Note:
(1) Values may not add due to rounding.

3.4.1.2 High Service and Booster Pump Stations

SAWS staff provided the capacities of the existing and future high service and booster pump stations. The existing 2024 and planned 2033 pump station capacities for the combined system are 1,080.0 mgd and 1,178.7 mgd, respectively. The pump stations are separated into the three System Development service areas.

High Elevation Service Area

The existing 2024 and planned 2033 capacities of the high service and booster pump stations located in the High Elevation service area are 60.8 mgd and 85.4 mgd, respectively. Of the 60.8 mgd of existing capacity in 2024, 26.8 mgd is needed to meet the demand of existing customers. Therefore, 34.0 mgd is available to serve new development in the High Elevation service area. The CIP includes 24.6 mgd of pump station capacity so the total available capacity for future High Elevation service area customers during the study period is 58.6 mgd:

$$Total\ Available\ Capcity = \underset{Available\ Capacity}{Service\ Area} + \underset{Future\ CIP\ Capacity}{Service\ Area}$$

$$Total\ Available\ Capacity_{HE} = 34.0\ mgd + 24.6\ mgd = \mathbf{58.6\ mgd}$$

From the High Service and Booster Pump Stations capacity criteria, approximately 10.5 mgd is required to serve growth in the High Elevation service area during the study period. This represents 17.9 percent of the total available capacity:

$$\underset{Growth\ Allocation_{HE}}{2024\ to\ 2033} = \underset{Study\ Period\ Demand}{Service\ Area} \div \underset{Available\ Capacity}{Service\ Area\ Total}$$

$$\underset{Growth\ Allocation_{HE}}{2024\ t\ 2033} = 10.5\ mgd \div 58.6\ mgd = \mathbf{17.9\%}$$

Middle Elevation Service Area

The existing 2024 and planned 2033 capacities of the high service and booster pump stations located in the Middle Elevation service area are 464.4 mgd and 500.4 mgd, respectively. Of the 464.4 mgd of existing capacity in 2024, 265.0 mgd is needed to meet the demand of existing customers. Therefore, 199.4 mgd is available to serve new development in the Middle Elevation service area. The CIP includes 36.0 mgd of pump station capacity so the total available capacity for future Middle Elevation service area customers during the study period is 235.4 mgd:

$$Total\ Available\ Capacity_{ME} = 199.4\ mgd + 36.0\ mgd = \mathbf{235.4\ mgd}$$

From the High Service and Booster Pump Stations capacity criteria, approximately 51.3 mgd is required to serve growth in the Middle Elevation service area during the study period. This represents 21.8 percent of the total available capacity:

$$2024\ to\ 2033\ Growth\ Allocation_{ME} = 51.3\ mgd \div 199.4\ mgd = \mathbf{21.8\%}$$

Low Elevation Service Area

The existing 2024 and planned 2033 capacities of the high service and booster pump stations located in the Low Elevation service area are 554.8 mgd and 592.9 mgd, respectively. Of the 554.8 mgd of existing capacity in 2024, 470.5 mgd is needed to meet the demand of existing customers. Therefore, 84.3 mgd is available to serve new development in the Low Elevation service area. The CIP includes 38.1 mgd of pump station capacity so the total available capacity for future Low Elevation service area customers during the study period is 122.3 mgd:

$$Total\ Available\ Capacity_{LE} = 84.3\ mgd + 38.1\ mgd = \mathbf{122.3\ mgd}$$

From the High Service and Booster Pump Stations capacity criteria, approximately 79.2 mgd is required to serve growth in the Low Elevation service area during the study period. This represents 64.8 percent of the total available capacity:

$$2024\ to\ 2033\ Growth\ Allocation_{LE} = 79.2\ mgd \div 122.3\ mgd = \mathbf{64.8\%}$$

The costs of the total available and impact fee eligible pump station capacities for the three System Development service areas are summarized in Table 3.14.

Table 3.14 2024 – 2033 Eligible Water Delivery High Service and Booster Pump Stations CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$13.2	$1.3	$0.4	$60.2	$10.8	$0.0	$73.4	$12.5
Middle Elevation	100.5	9.4	2.9	78.3	17.1	0.0	178.8	29.4
Low Elevation	120.1	11.8	3.7	78.8	51.0	0.0	198.9	66.5
Total	$233.8	$22.5	$7.0	$217.3	$78.9	$0.0	$451.1	$108.4

Note:
(1) Values may not add due to rounding.

3.4.1.3 Elevated Storage Tanks

SAWS staff provided the capacities of the existing and future elevated storage tanks. The existing 2024 and planned 2033 elevated storage tank capacities for the combined system are 94.2 MG and 106.7 MG, respectively.

High Elevation Service Area

For the High Elevation service area, the existing 2024 and planned 2033 elevated storage capacities are 16.9 MG. Of the 16.9 MG of existing capacity in 2024, 5.9 MG is needed to meet the demand of existing customers. Therefore, 11.0 MG is available to serve new development in the High Elevation service area. The CIP does not include additional elevated storage capacity so the total available capacity for future High Elevation service area customers during the study period remains at 11.0 MG:

$$\begin{matrix} Total\ Avalilable \\ EST\ Capacity \end{matrix} = \begin{matrix} Service\ Area \\ Available\ Capacity \end{matrix} + \begin{matrix} Future\ CIP \\ Capacity \end{matrix}$$

$$\begin{matrix} Total\ Avalilable \\ EST\ Capacity_{HE} \end{matrix} = 11.0\ MG + 0.0\ MG = \mathbf{11.0\ MG}$$

From the Elevated Storage Tanks capacity criteria, approximately 2.3 MG is required to serve growth in the High Elevation service area during the study period. The growth during the study period results in 21.1 percent of the System Development impact fee allocable to High Elevation service area elevated storage:

$$\begin{matrix} 2024\ to\ 2033 \\ Allocation_{HE} \end{matrix} = \frac{Study\ Period\ Capacity\ Requirement}{Total\ Available\ Capacity} = \frac{2.3\ MG}{11.0\ MG} = \mathbf{21.1\%}$$

Middle Elevation Service Area

For the Middle Elevation service area, the existing 2024 and planned 2033 elevated storage capacities are 59.3 MG and 79.3 MG, respectively. Of the 59.3 MG of existing capacity in 2024, 38.5 MG is needed to meet the demand of existing customers. Therefore, 20.8 MG is available to serve new development in the Middle Elevation service area. The CIP includes 20.0 MG of elevated storage capacity so the total available capacity for future Middle Elevation service area customers during the study period is 40.8 MG:

$$\underset{EST\ Capacity_{ME}}{Total\ Available} = 20.8\ MG\ + 20.0\ MG\ =\ 40.8\ \boldsymbol{MG}$$

From the Ground Storage Tanks capacity criteria, approximately 7.5 MG is required to serve growth in the Middle Elevation service area during the study period. The growth during the study period results in 18.3 percent of the System Development impact fee allocable to Middle Elevation service area elevated storage:

$$\underset{EST\ Allocation_{ME}}{2024\ to\ 2033} = \frac{Study\ Period\ Capacity\ Requirement}{Total\ Available\ Capacity} = \frac{7.5\ MG}{40.8\ MG} = \boldsymbol{18.3\%}$$

Low Elevation Service Area

For the Low Elevation service area, the existing 2024 and planned 2033 elevated storage capacities are 54.7 MG and 69.7 MG, respectively. Of the 54.7 MG of existing capacity in 2024, 49.5 MG is needed to meet the demand of existing customers. Therefore, 5.2 MG is available to serve new development in the Low Elevation service area. The CIP includes 15.0 MG of elevated storage capacity so the total available capacity for future Low Elevation service area growth during the study period is 20.2 MG:

$$\underset{EST\ Capacity_{LE}}{Total\ Avalilable} = 5.2\ MG\ +\ 15.0\ MG = 20.2\ \boldsymbol{MG}$$

From the Ground Storage Tanks capacity criteria, approximately 8.3 MG is required to serve growth in the Low Elevation service area during the study period. The growth during the study period results in 41.4 percent of the System Development impact fee allocable to Middle Elevation service area elevated storage:

$$\underset{EST\ Allocation_{LE}}{2024\ to\ 2033} = \frac{Study\ Period\ Capacity\ Requirement}{Total\ Available\ Capacity} = \frac{8.3\ MG}{20.2\ MG} = \boldsymbol{41.4\%}$$

The costs of the total available and impact fee eligible elevated storage capacities for the three System Development service areas are summarized in Table 3.15.

Table 3.15 2024 – 2033 Eligible Water Delivery Elevated Storage CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$15.4	$2.1	$0.7	$0.0	$0.0	$0.0	$15.4	$2.8
Middle Elevation	53.9	3.5	1.1	58.3	10.6	0.0	112.2	15.2
Low Elevation	49.7	1.9	0.6	44.9	18.6	0.0	94.6	21.1
Total	$119.0	$7.5	$2.4	$103.2	$29.2	$0.0	$222.2	$39.1

Note:
(1) Values may not add due to rounding.

3.4.1.4 Ground Storage Tanks

SAWS staff provided the capacities of the existing and future ground storage tanks. The existing 2024 and planned 2033 ground storage tank capacities for the combined system are 286.7 MG and 307.2 MG, respectively.

High Elevation Service Area

For the High Elevation service area, the existing 2024 and planned 2033 ground storage capacities are 17.4 MG and 24.4 MG, respectively. Of the 17.4 MG of existing capacity in 2024, 0.08 MG is needed to meet the demand of existing customers. Therefore, the remaining 17.29 MG is available to serve new development in the High Elevation service area. There are 7.0 MG of High Elevation service area ground storage tank projects in the CIP.

$$\begin{matrix}Total\ Avalilable \\ GST\ Capacity\end{matrix} = \begin{matrix}Service\ Area \\ Available\ Capacity\end{matrix} + \begin{matrix}Future\ CIP \\ Capacity\end{matrix}$$

$$\begin{matrix}Total\ Avalilable \\ GST\ Capacity_{HE}\end{matrix} = 17.29\ MG + 7.0\ MG = \mathbf{24.29\ MG}$$

From the Ground Storage Tanks capacity criteria, approximately 0.03 MG of ground storage is required to serve growth in the High Elevation service area during the study period. The growth during the study period results in 0.01 percent of the System Development impact fee allocable to High Elevation service area ground storage:

$$\begin{matrix}2024\ to\ 2033 \\ GST\ Allocation_{HE}\end{matrix} = \frac{Study\ Period\ Capacity\ Requirement}{Total\ Available\ Capacity} = \frac{0.03\ MG}{24.29\ MG} = \mathbf{0.1\%}$$

Middle Elevation Service Area

For the Middle Elevation service area, the existing 2024 and planned 2033 ground storage capacities are 130.1 MG and 137.1 MG, respectively. Of the 130.1 MG of existing capacity in 2024, 0.8 MG is needed to meet the demand of existing customers. Therefore, 129.4 MG is available to serve new development in the Middle Elevation service area.

The CIP includes 7.0 MG of ground storage capacity so the total available capacity for future Middle Elevation service area growth during the study period is 136.4 MG:

$$\begin{matrix}Total\ Avalilable \\ GST\ Capacity_{ME}\end{matrix} = 129.4\ MG + 7.0\ MG = \mathbf{136.4\ MG}$$

From the Ground Storage Tanks capacity criteria, approximately 0.15 MG of ground storage is required to serve growth in the Middle Elevation service area during the study period. The growth during the study period results in 0.1 percent of the System Development impact fee allocable to Middle Elevation service area ground storage:

$$\begin{matrix}2024\ to\ 2033 \\ GST\ Allocation_{ME}\end{matrix} = \frac{Study\ Period\ Capacity\ Requirement}{Total\ Available\ Capacity} = \frac{0.15\ MG}{136.4\ MG} = \mathbf{0.1\%}$$

Low Elevation Service Area

For the Low Elevation service area, the existing 2024 and planned 2033 ground storage capacities are 139.2 MG and 145.7 MG, respectively. Of the 139.2 MG of existing capacity in 2024, 20.2 MG is needed to meet the demand of existing customers. Therefore, 119.0 MG is available to serve new development in the Low Elevation service area. The CIP includes 6.5 MG of ground storage capacity so the total available capacity for growth during the study period is 125.5 MG:

$$\begin{matrix}Total\ Avalilable \\ GST\ Capacity_{LE}\end{matrix} = 119.0\ MG + 6.5\ MG = \mathbf{125.5\ MG}$$

From the Ground Storage Tanks capacity criteria, approximately 3.4 MG of ground storage is required to serve growth in the Low Elevation service area during the study period. The growth during the study period results in 2.7 percent of the System Development impact fee allocable to Low Elevation service area ground storage:

$$2024\ to\ 2033\ GST\ Allocation_{LE} = \frac{Study\ Period\ Capacity\ Requirement}{Total\ Available\ Capacity} = \frac{3.4\ MG}{125.5\ MG} = \mathbf{2.7\%}$$

The costs of the total available and impact fee eligible ground storage capacities for the three System Development service areas are summarized in Table 3.16.

Table 3.16 2024 – 2033 Eligible Water Delivery Ground Storage CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$7.9	$0.0	$0.0	$12.7	$0.0	$0.0	$20.6	$0.0
Middle Elevation	59.2	0.1	0.0	20.3	0.0	0.0	79.5	0.1
Low Elevation	63.3	1.5	0.5	18.9	0.5	0.0	82.2	2.5
Total	$130.4	$1.6	$0.5	$51.9	$0.5	$0.0	$182.3	$2.6

Notes:
(1) Values may not add due to rounding.

3.4.1.5 Transmission Mains

Transmission mains typically carry treated water from a high service pump station or a booster pump station to the smaller distribution mains within a pressure zone or to another pressure zone. Similar to the distribution mains, it is difficult to estimate the total or available capacity within the transmission mains, so the demands and capacities of the high service and booster pump stations are used to estimate the demands and capacities of the transmission mains.

Therefore, the study period growth allocations for transmission mains are the same as for the high service and booster pump stations. The costs of the total available and impact fee eligible transmission main capacities for the three System Development service areas are summarized in Table 3.17.

Table 3.17 2024 – 2033 Eligible Water Delivery Transmission Mains CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$5.9	$0.6	$0.2	$38.5	$6.9	$0.0	$44.4	$7.7
Middle Elevation	45.4	4.2	1.3	214.4	46.8	0.0	259.8	52.3
Low Elevation	54.2	5.3	1.7	49.6	32.1	0.0	103.8	39.1
Total	$105.5	$10.1	$3.2	$302.5	$85.8	$0.0	$408.0	$99.1

Note:
(1) Values may not add due to rounding.

Table 3.18 summarizes the eligible Water Delivery— System Development CIP costs by service area.

Table 3.18 2024 – 2033 Eligible Water Delivery – System Development CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
High Elevation	$49.1	$5.2	$1.6	$114.1	$18.1	$0.0	$163.2	$24.9
Middle Elevation	325.9	23.0	7.1	384.6	76.6	0.0	710.5	106.7
Low Elevation	406.1	29.5	9.1	212.7	105.5	0.0	618.8	144.1
Total	$781.1	$57.7	$17.8	$711.4	$200.2	$0.0	$1,492.5	$275.7

Note:
(1) Values may not add due to rounding.

3.5 Wastewater Treatment

The Wastewater Treatment Impact Fee includes growth-related costs associated with existing treatment infrastructure and the costs for new projects. For the Medio Creek WRC and the combined Leon Creek/Clouse WRCs, the portion of capacity that is required to serve new growth during the study period was estimated by using the average daily flows.

Carollo applied this portion as a percentage of total project capacity to each project's cost to determine the amount that is eligible for inclusion in the Wastewater Treatment Impact Fee calculation. The Wastewater Treatment service areas are described in each of the following sections.

3.5.1 Medio Creek Service Area

The existing 2024 and 2033 planned wastewater treatment capacity at the Medio Creek WRC is 16.0 mgd. Because the projected 2033 Wastewater Treatment capacity criteria for the Medio Creek service area is 15.1 mgd, no additional capacity is required during the study period.

It is assumed that growth will use available existing capacity. Of the estimated 16.0 mgd capacity at the Medio Creek WRC in 2024, 10.2 mgd is needed to serve existing customers. Therefore, 5.8 mgd is available to serve new development:

$$Existing\ Available\ Capacity_{MC} = 2024\ Capacity - 2024\ ADF$$

$$Existing\ Available\ Capacity_{MC} = 16.0\ mgd - 10.2\ mgd = \mathbf{5.8\ mgd}$$

The existing available 2024 capacity for Medio Creek is greater than the study period capacity requirement of approximately 4.9 mgd. Therefore, the portion of existing capacity required for expected growth during the study period is eligible to be included in the Wastewater Treatment Impact Fee. For Medio Creek, this represents 30.9 percent of the existing capacity:

$$2024\ to\ 2033\ WW\ Treatment\ Allocation_{MC} = \frac{Study\ Period\ Capacity\ Requirement}{2024\ Capacity} = \frac{4.9\ mgd}{16.0\ mgd} = \mathbf{30.9\%}$$

3.5.2 Leon Creek/Clouse Service Area

The existing 2024 wastewater treatment capacity and 2033 planned capacity is 46.0 mgd at Leon Creek WRC and 125.0 mgd at Clouse WRC. There are no CIP projects planned that will improve the existing capacity at Clouse and Leon Creek WRCs.

It is assumed that growth will use available existing capacity Of the estimated 171.0 mgd combined capacity at Leon Creek/Clouse WRCs in 2024, 134.0 mgd is needed to serve existing customers. Therefore, 37.0 mgd is available to serve new development:

$$Existing\ Available\ Capacity_{LCDR} = 2024\ Capacity - 2024\ ADF$$

$$Existing\ Available\ Capacity_{LCDR} = 171.0\ mgd - 134.0\ mgd = \mathbf{37.0\ mgd}$$

From the Leon Creek/Clouse service area Wastewater Treatment capacity criteria, the projected 2033 average daily flow is 158.6 mgd, requiring approximately 24.7 mgd of available capacity. The existing available 2024 capacity for Leon Creek/Clouse is greater than the study period capacity requirement. Therefore, portion of existing capacity required for expected growth during the study period is allocable to the Wastewater Treatment Impact Fee. For Leon Creek/Clouse, this portion represents 14.4 percent of the existing capacity:

$$2024\ to\ 2033\ WW\ Treatment\ Allocation_{LCDR} = \frac{Study\ Period\ Capacity\ Requirement}{2024\ Capacity} = \frac{24.7\ mgd}{171.0\ mgd} = \mathbf{14.4\%}$$

This allocation will be applied to the Leon Creek/Clouse Treatment equity. However, because some CIP projects are improving existing available capacity and others are adding capacity, each CIP project was considered separately. A weighted average allocation of 14.4 percent was determined for future wastewater treatment projects.

The costs of the eligible facilities for the two Wastewater Treatment service areas are summarized in Table 3.19. Growth allocations by phase for the CIP projects are provided in Appendix B.

Table 3.19 2024 – 2033 Eligible Wastewater Treatment CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
Medio Creek	$70.4	$21.8	$7.7	$35.1	$10.8	$0.0	$105.5	$40.3
Leon Creek / Clouse	445.5	64.3	22.8	414.8	59.9	0.0	860.3	147.0
Total	$515.9	$86.1	$30.5	$449.9	$70.7	$0.0	$965.8	$187.3

Notes:
(1) Values may not add up to due rounding.
(2) Some of these CIP projected do not add capacity but increase the value of existing available capacity.

3.6 Wastewater Collection

The Wastewater Collection Impact Fee includes growth-related costs associated with the interceptors and wastewater collection mains that are 10 inches or greater in diameter; mains smaller than 10 inches are

typically constructed by developers and "dedicated" or contributed to SAWS and, as such, are not included in the costs used to calculate the impact fee.

SAWS staff used the existing wastewater collection system model to estimate the 2024 and 2033 capacity requirements, based on the design peak wet weather flow and the number of EDUs contributing flow, for each collection system project in the CIP, which are listed in Appendix B. Table 3.10 of this report summarizes the PWWF used. Using this analysis, SAWS staff estimated the portion of each project that is required to serve new growth during the study period. Carollo applied this portion as a percentage of total project capacity to each project's cost to determine the amount that is eligible for inclusion in the Wastewater Collection Impact Fee calculation. The Wastewater Collection Impact Fee service areas are described in each of the following sections.

3.6.1 Medio Creek Service Area

The Medio Creek service area remains unchanged and is the same for the Wastewater Collection Impact Fee as for the Wastewater Treatment Impact Fee. Using the collection system model with planned wastewater collection CIP projects included, SAWS staff estimated the 2024 collection system capacity in the Medio Creek service area to be capable of serving 83,487 EDUs, or 54.3 mgd.

The existing available capacity for Medio Creek is greater than the study period PWWF of 16.1 mgd. Therefore, only the portion of existing capacity required for expected growth during the study period is eligible for allocation to the Wastewater Collection impact Fee. This portion results in 29.6 percent of the equity associated with Wastewater Collection allocable to new development in the Medio Creek service area:

$$2024\ to\ 2033\ \ WW\ Collection\ Allocation_{MC} = \frac{Study\ Period\ PWWF}{Total\ 2024\ Capacity} = \frac{16.1\ mgd}{54.3\ mgd} = \mathbf{29.6}\%$$

SAWS staff analyzed the planned collection system projects to determine the eligible portion of future CIP projects, which are provided in Appendix B. The weighted average allocation of the planned projects is 44.7 percent.

3.6.2 Leon Creek/Clouse Service Areas

3.6.2.1 Upper Medina

The Upper Medina service area is unchanged from the current service area. The wastewater collected from the Upper Medina customers will flow through the Lower Medina service area to the Clouse WRC. Using the existing collection system model, SAWS staff estimated the 2024 collection system capacity in the Upper Medina service area to be capable of serving 72,000 EDUs, or 46.8 mgd. The difference between the Upper Medina service area's total 2024 capacity and 2024 PWWF demand is 25.2 mgd:

$$Existing\ Available\ Capacity_{UM} = 46.8\ mgd - 21.6\ mgd = \mathbf{25.2\ mgd}$$

The existing available capacity for Upper Medina is greater than the study period PWWF of 16.9 mgd. Therefore, only the portion of existing capacity required for the expected growth during the study period is eligible to be allocated to the Wastewater Collection Impact Fee.

This portion results in 36.1 percent of the equity associated with Wastewater Collection allocable to new development in the Upper Medina service area:

$$2024\ to\ 2033\ \ WW\ Collection\ Allocation_{UM} = \frac{Study\ Period\ PWWF\ Demand}{Total\ 2024\ Capacity} = \frac{16.9d\ mgd}{46.8\ mgd} = \mathbf{36.1\%}$$

SAWS staff analyzed the planned collection system projects to determine the eligible portion of future CIP projects. The weighted average allocation of the planned projects is 33.2 percent.

3.6.2.2 Lower Medina

The Lower Medina service area is unchanged from the current service area, where wastewater will be collected and delivered to the Clouse WRC. Wastewater flows from the Upper Medina service area through the Lower Medina service area to the Clouse WRC. Therefore, collection system infrastructure in the Lower Medina service area must be sized to carry combined flow from customers in the Upper Medina and Lower Medina service areas. Using the existing collection system model, SAWS staff estimated the 2024 collection system capacity in the Lower Medina service area to be capable of serving 106,962 EDUs, or 69.5 mgd. The difference between the Lower Medina service area's total 2024 capacity and the 2024 PWWF is 42.4 mgd:

$$Existing\ Available\ Capacity_{LM} = 69.5\ mgd - 27.1\ mgd = \mathbf{42.4\ mgd}$$

The existing available capacity for Lower Medina is greater than the study period PWWF of 22.1 mgd. Therefore, only the portion of existing capacity required for the expected growth during the study period is eligible for allocation to the Wastewater Collection Impact Fee. This portion results in 31.8 percent of the equity associated with Wastewater Collection allocable to new development in the Lower Medina service area:

$$2024\ to\ 2033\ \ WW\ Collection\ Allocation_{LM} = \frac{Study\ Period\ PWWF}{Total\ 2024\ Capacity} = \frac{22.1\ mgd}{69.5\ mgd} = \mathbf{31.8\%}$$

SAWS staff analyzed the planned collection system projects to determine the eligible portion of future CIP projects, Appendix B. The weighted average allocation of the planned projects is 15.4 percent.

3.6.2.3 Upper Collection

The proposed Upper Collection service area is the same as the current Upper Collection service area. Wastewater flows from the Upper Collection service area through the Middle Collection and Lower Collection service areas to the WRCs. Using the existing collection system model, SAWS staff estimated the 2024 collection system capacity in the Upper Collection service area to be capable of serving 232,160 EDUs, or 195.8 mgd. The difference between the Upper Collection service area's total 2024 capacity and 2024 PWWF is 62.1 mgd:

$$Existing\ Available\ Capacity_{UC} = 195.8\ mgd - 133.7\ mgd = \mathbf{62.1\ mgd}$$

The existing available capacity for Upper Collection is greater than the study period PWWF of 21.8 mgd. Therefore, only the portion of existing capacity required for the expected growth during the study period is eligible to be allocated to the Wastewater Collection Impact Fee.

This portion results in 11.1 percent of the equity associated with Wastewater Collection allocable to new development in the Upper Collection service area:

$$2024\ to\ 2033\ \ WW\ Collection\ Allocation_{UC} = \frac{Study\ Period\ PWWF}{Total\ 2024\ Capacity} = \frac{21.8\ mgd}{195.8\ mgd} = \mathbf{11.1\%}$$

SAWS staff analyzed the planned collection system projects to determine the eligible portion of future CIP projects. The weighted average allocation of the planned projects is 33.8 percent.

3.6.2.4 Middle Collection

The proposed Middle Collection service area is unchanged from the current service area. Wastewater flows from the Upper Collection service area combine with Middle Collection service area flows and flow through the Lower Collection service area to the WRCs. Therefore, collection system infrastructure in the Middle Collection service area must be sized to carry combined flow from customers in the Upper Collection and Middle Collection service areas. Using the existing collection system model, SAWS staff estimated the 2024 collection system capacity in the Middle Collection service area to be capable of serving 536,138 EDUs, or 363.5 mgd.

The difference between the Middle Collection service area's total 2024 capacity and 2024 PWWF is 65.0 mgd:

$$Existing\ Available\ Capacity_{MC} = 363.5\ mgd - 298.5\ mgd = \mathbf{65.0\ mgd}$$

The existing available capacity for Middle Collection is greater than the study period PWWF of 25.9 mgd. Therefore, only the portion of existing capacity required for the expected growth during the study period is eligible to be allocated to the Wastewater Collection Impact Fee. This portion results in 7.1 percent of the equity associated with Wastewater Collection allocable to new development in the Middle Collection service area:

$$2024\ to\ 2033\ \ WW\ Collection\ Allocation_{MC} = \frac{Study\ Period\ PWWF}{Total\ 2024\ Capacity} = \frac{25.9\ mgd}{363.5\ mgd} = \mathbf{7.1\%}$$

SAWS staff analyzed the planned collection system projects to determine the eligible portion of future CIP projects. The weighted average allocation of the planned projects is 26.5 percent.

3.6.2.5 Lower Collection

The proposed Lower Collection service area expanded to include the southeast area surrounding Calaveras Lake. Wastewater flows from the Upper Collection and Middle Collection service areas through the Lower Collection service area to the WRCs. Therefore, collection system infrastructure in the Lower Collection service area must be sized to carry combined flow from customers in the Upper Collection, Middle Collection, and Lower Collection service areas. Using the existing collection system model, SAWS staff estimated the 2024 collection system capacity in the Lower Collection service area to be capable of serving 842,789 EDUs, or 547.8 mgd. The difference between the Lower Collection service area's total 2024 capacity and 2024 PWWF is 91.2 mgd:

$$Existing\ Available\ Capacity_{LC} = 547.8\ mgd - 456.7\ mgd = \mathbf{91.2\ mgd}$$

The existing available capacity for Lower Collection is greater than the study period PWWF of 58.1 mgd. Therefore, only the portion of existing capacity required for the expected growth during the study period is eligible to be allocated to the Wastewater Collection Impact Fee. This portion results in 10.6 percent of the equity associated with Wastewater Collection allocable to new development in the Lower Collection service area:

$$2024\ to\ 2033\ WW\ Collection\ Allocation_{LC} = \frac{Study\ Period\ PWWF}{Total\ 2024\ Capacity} = \frac{58.1\ mgd}{547.8\ mgd} = \mathbf{10.6\%}$$

SAWS staff analyzed the planned collection system projects to determine the eligible portion of future CIP projects. The weighted average allocation of the planned projects is 54.5 percent.

The costs of the eligible facilities for the six Wastewater Collection service areas are summarized in Table 3.20.

Table 3.20 2024 – 2033 Eligible Wastewater Collection CIP Costs

Service Area	Existing Capacity ($ mil)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
Medio Creek	$44.3	$13.1	$4.7	$65.9	$29.4	$0.0	$110.2	$47.2
Upper Medina	38.2	13.8	4.9	21.8	7.2	0.0	60.0	25.9
Lower Medina	56.8	18.1	6.4	24.2	3.7	0.0	81.0	28.2
Upper Collection	159.9	17.8	6.3	99.1	33.5	0.0	259.0	57.6
Middle Collection	296.9	21.1	7.5	152.3	40.3	0.0	449.2	68.9
Lower Collection	447.5	47.5	16.8	81.9	44.6	0.0	529.4	108.9
Total	$1,043.6	$131.4	$46.6	$445.2	$158.7	$0.0	$1,488.8	$336.7

Note:
(1) Values may not add due to rounding.

3.7 CIP Summary by System Component

Table 3.21 summarizes the total eligible CIP costs by impact fee component.

Table 3.21 Summary of 2024 – 2033 Eligible CIP Costs

Component	Existing Capacity ($ mil) (1)			New Capacity ($ mil)			Total Capacity ($ mil)	
	Capacity Value	Eligible Capacity Value	Eligible Financing Costs	Capacity Value	Eligible Capacity	Eligible Financing Costs	Total Value	Total Eligible Capacity
Water								
Supply	$2,242.2	$267.5	$159.7	$101.1	$38.2	$0.0	$2,343.3	$465.4
Delivery – Flow	819.3	81.9	25.3	364.4	131.0	0.0	1,183.7	238.2
Delivery — SD	781.0	57.8	17.9	711.4	200.1	0.0	1,492.4	275.8
Water Total	$3,842.5	$407.2	$202.9	$1,176.9	$369.3	$0.0	$5,019.4	$979.4
Wastewater								
Treatment	$515.9	$86.1	$30.5	$449.8	$70.7	$0.0	$965.7	$187.3
Collection	1,043.7	131.4	46.6	445.2	158.8	0.0	1,488.9	336.8
Wastewater Total	$1,559.6	$217.5	$77.1	$895.0	$229.5	$0.0	$2,454.6	$524.1
Water & Wastewater Total	$5,402.1	$624.7	$280.0	$2,071.9	$598.8	$0.0	$7,474.0	$1,503.5

Note:
(1) Values may not add due to rounding.

SECTION 4 MAXIMUM IMPACT FEE

4.1 Introduction

This section uses the findings in the LUAP and CIP to calculate the impact fee per EDU and then calculates the appropriate rate credit to deduct to determine the maximum allowable impact fee. Regarding water and wastewater system infrastructure, Chapter 395 of the TLGC states that an impact fee is a charge or assessment imposed upon new development in order to generate revenue for funding and recovering the costs of capital improvements or facility expansions required to serve that development. Maximum Impact Fees are defined as a charge that is calculated by subtracting statutory credits from the estimated capital costs to be included in rates that will be charged to the new EDUs over the study period from the calculated impact fee per EDU.

4.2 Calculated Impact Fee per EDU

The impact fee per EDU by service area is calculated by first determining the eligible capital costs for growth-related CIP, as presented in the CIP Section. Those eligible capital costs per service area are then divided by the projected number of added EDUs for that service area, as presented in the LUAP Section, to determine the calculated impact fee per EDU.

Table 4.1 summarizes the impact fees per EDU, which are calculated by dividing the eligible CIP value by the EDUs. The EDUs used in this calculation represent the incremental EDUs that will be served by the infrastructure in the respective service area, which may include EDUs from another service area that will be served by the infrastructure in the respective service area. They do not necessarily represent the incremental EDUs that will be located in the service area.

Table 4.1 Calculated Impact Fees per EDU

Impact Fee Component	Service Area	Eligible CIP Value	EDU	Calculated Impact Fee per EDU
Water Supply	All	$465,504,645	161,030	$2,891
Water Delivery - Flow	All	238,263,060	161,030	1,480
Water Delivery - System Development	High Elevation	24,905,812	11,964	2,082
	Middle Elevation	106,691,530	58,592	1,821
	Low Elevation	144,170,188	90,473	1,594
Wastewater Treatment	Medio Creek	40,310,424	24,730	1,630
	Leon Creek/Clouse WRC	146,956,752	123,399	1,191
Wastewater Collection	Medio Creek	47,219,999	24,730	1,909
	Upper Medina (1)	25,932,175	25,994	1,826
	Lower Medina	28,177,450	8,008	829
	Upper Collection (2)	57,663,063	33,547	4,669
	Middle Collection (3)	68,978,940	6,281	2,950
	Lower Collection	108,870,894	49,569	1,218

Notes:
(1) Maximum Impact Fee per EDU includes Lower Medina fee.
(2) Maximum Impact Fee per EDU includes Middle Collection fee.
(3) Maximum Impact Fee per EDU includes Lower Collection fee.

4.3 Credit Calculation

Chapter 395 of the TLGC requires utilities to calculate a credit for growth-related CIP, to be subtracted from the impact fee. The credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP. This credit provides an adjustment to benefit fee payers who will pay for CIP in both the impact fee and their future rates and taxes. Utilities can calculate this credit and apply it to the calculated impact fee or, alternatively, can avoid having to calculate the credit by opting to use the statutory credit equal to 50 percent of the calculated impact fee. SAWS has opted to calculate the credit.

SAWS does not receive tax revenue from the City of San Antonio. Therefore, the impact fee credit is based on the cost of growth-related CIP that is projected to be in future rates of the projected new development. Those costs include debt service payments on outstanding debt for the existing available capacity that has been included in the eligible study period capacity and projected future principal payments for future debt on eligible growth-related CIP. Interest payments on future debt are not included in the credit because they are not included in the impact fee calculation.

4.3.1 Credit for Existing Debt

4.3.1.1 Water Supply Credit

For the existing available capacity, it is assumed that 85 percent of the asset value was financed with debt. From discussions with SAWS staff, although SAWS has historically financed approximately 60 percent of its CIP with debt and 40 percent with cash, the financing for the Vista Ridge pipeline increased the water supply outstanding debt at a higher ratio. The proportion of the annual debt service payments for the study period that is related to the existing available capacity for water supply was determined using the water supply outstanding debt provided by SAWS staff. The total debt service payment attributed to the eligible equity is divided by the year-end EDUs to determine the portion of the debt service payment contributed by each EDU. This payment per EDU is multiplied by the number of EDUs projected to be added in that year to determine the rate credit for that year that should be subtracted from the calculated impact fee.
These calculations are completed for each year in the study period, as shown in Table 4.2 for 2024, and then the eligible existing debt service to be recovered from new development is summed to determine the total credit for existing debt, as shown in Line 11 of Table 4.2. The Appendices detail these calculations for each year in the study period.

Table 4.2 Eligible Existing Water Supply Debt Service from New Development

Line No.	Description	Eligible CIP Value
1	2024 Existing Water Supply Debt Service	$90,552,786
2	Eligible Existing Water Supply Capacity (Equity)	$267,508,794
3	Debt-funded CIP ÷ Total CIP	85%
4	Total Outstanding Water Supply Debt	$1,323,213,658
5	2024 Existing Water Supply Debt Service (1 × 2 × 3) ÷ 4	$15,560,689
6	2024 Beginning Water Supply EDUs	870,481
7	2024 Projected New EDUs	14,901
8	2024 Year-end Water Supply EDUs (6 + 7)	885,382
9	2024 Eligible Existing Water Supply Debt per EDU (5 ÷ 8)	$17.58
10	2024 Eligible Existing Water Supply Debt from EDUs (7 × 9)	$261,887
11	Sum of Study Period Eligible Existing Water Supply Debt from EDUs	$45,265,329

4.3.1.2 Water Delivery Credit

The calculation of the total credit for existing debt for Water Delivery is similar to the Water Supply calculation. Table 4.3 provides the calculation for 2024, as well as the total credit for existing debt, as shown in Line 11 of Table 4.3. The Appendices detail these calculations for each year of the study period.

Table 4.3 Eligible Existing Water Delivery Debt Service from New Development

Line No.	Description	Eligible CIP Value
1	2024 Existing Total Debt Service	$68,164,211
2	Eligible Existing Water Delivery Capacity (Equity)	$139,678,966
3	Debt-funded CIP ÷ Total CIP	60%
4	Outstanding Water Delivery Debt	$847,842,576
5	2024 Existing Water Delivery Debt Service (1 × 2 × 3) ÷ 4	$6,737,883
6	2024 Beginning Water Delivery EDUs	870,481
7	2024 Projected New EDUs	14,901
8	2024 Year-end Water Delivery EDUs (6 + 7)	885,382
9	2024 Eligible Existing Water Delivery Debt per EDU (5 ÷ 8)	$7.61
10	2024 Eligible Existing Water Delivery Debt from EDUs (7 × 9)	$113,399
11	Sum of Study Period Eligible Existing Water Delivery Debt from EDUs	$14,261,890

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing water delivery capacity value. Table 4.4 provides the water delivery credit for existing debt by impact fee and service area.

Table 4.4 Existing Water Delivery Debt Service Credit by Impact Fee Service Area

Impact Fee Component	Water Service Area	Water Infrastructure Type	Credit for Existing Debt
Flow	All	Distribution Mains	$8,364,976
System Development	High Elevation	Well Pumps	$121,447
		High Service and Booster PS	134,226
		Elevated Storage Tanks	214,586
		Ground Storage Tanks	1,027
		Transmission Mains	60,622
		HE Subtotal	$531,908
	Middle Elevation	Well Pumps	$594,770
		High Service and Booster PS	960,423
		Elevated Storage Tanks	352,626
		Ground Storage Tanks	6,702
		Transmission Mains	433,767
		ME Subtotal	$2,348,288
	Low Elevation	Well Pumps	$918,395
		High Service and Booster PS	1,205,818
		Elevated Storage Tanks	197,921
		Ground Storage Tanks	149,987
		Transmission Mains	544,598
		LE Subtotal	$3,016,718
Total			$14,261,891

4.3.2 Wastewater System Debt

The calculation of the total credit for existing debt for Wastewater is similar to the Water Supply calculation. Table 4.5 provides the calculation for 2024, as well as the total credit for existing debt, as shown in Line 11 of Table 4.5. The Appendices detail these calculations for each year of the study period.

Table 4.5 Eligible Existing Wastewater Debt Service from New Development

Line No.	Description	Eligible CIP Value
1	2024 Existing Wastewater Debt Service	$97,469,259
2	Eligible Wastewater Capacity (Equity)	$217,473,669
3	Debt-funded CIP + Total CIP	60%
4	Outstanding Wastewater Debt	$1,570,969,360
5	2024 Existing Wastewater Debt Service (1 × 2 × 3) ÷ 4	$8,095,765
6	2024 Beginning Wastewater EDUs	800,745
7	2024 Projected New EDUs	13,708
8	2024 Year-end Wastewater EDUs (6 + 7)	814,453

Line No.	Description	Eligible CIP Value
9	2024 Eligible Existing Wastewater Debt per EDU (5 ÷ 8)	$9.94
10	2024 Eligible Existing Wastewater Debt from EDUs (7 × 9)	$136,259
11	Sum of Study Period Eligible Existing Wastewater Debt from EDUs	$24,307,200

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing wastewater capacity value. Table 4.6 summarizes the wastewater credit for existing debt by impact fee and service area.

Table 4.6 Existing Wastewater Debt Service Credit by Impact Fee Service Area

Impact Fee Component	Wastewater Service Area	Credit for Existing Debt
Treatment	Medio Creek	$2,431,749
	Leon Creek/Clouse WRC	7,187,055
	Treatment Subtotal	$9,618,804
Collection	Medio Creek	$1,467,664
	Upper Medina	1,542,680
	Lower Medina	2,017,935
	Upper Collection	1,990,932
	Middle Collection	2,363,694
	Lower Collection	5,305,491
	Collection Subtotal	$14,688,396
Total		$24,307,200

4.3.3 Credit for Future CIP

4.3.3.1 Water Supply Principal

Based on discussions with SAWS staff, it is assumed that 60 percent of the Water Supply CIP may be funded with debt and paid with rate revenues. Therefore, projected annual principal payments on 60 percent of the future Water Supply CIP are included in the credit calculation.

For purposes of calculating the credit, equal annual funding of the Water Supply CIP over the 10-year study period is assumed, i.e., 10 percent of the total eligible Water Supply CIP is funded each year. Annual principal payments for the eligible Water Supply CIP for each year of the study period are projected using a term of 30 years and an annual interest rate of 5.0 percent. Based on these assumptions, the principal payment per EDU and the total principal to be recovered from new development are calculated.

These calculations are completed for each year in the study period, as shown in Table 4.7 for 2024, and then the water supply principal to be recovered from new development is summed to determine the credit for future CIP, as shown in Line 14 of Table 4.7.

Table 4.7 Eligible Future Water Supply Debt Service from New Development

Line No.	Description	Eligible CIP Value
1	Total Eligible Future Water Supply CIP	$38,246,240
2	Percentage of Future Water Supply CIP to be Funded with Debt	60%
3	Annual Allocation of Future Water Supply CIP	10%
4	Eligible Debt-funded Future Water Supply CIP (1 × 2 x 3)	$2,294,774
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2024 Water Supply Principal Payment	$35,070
9	2024 Beginning Water Supply EDUs	870,481
10	Projected New EDUs through 2024	14,901
11	2024 Year-end Water Supply EDUs (9 + 10)	885,382
12	2024 Eligible Future Water Supply Principal per EDU (8 ÷ 11)	$0.04
13	2024 Eligible Future Water Supply Principal from EDUs (10 × 12)	$590
14	Sum of Study Period Eligible Future Water Supply Principal from EDUs	$2,809,909

4.3.3.2 Water Delivery Principal

Based on discussions with SAWS staff, it is assumed that 60 percent of the Water Delivery CIP may be funded with debt and paid with rate revenues. Therefore, projected annual principal payments on 60 percent of the future Water Delivery CIP are included in the credit calculation.

For purposes of calculating the credit, equal annual funding of the Water Delivery CIP over the 10-year study period is assumed, i.e., 10 percent of the total eligible Water Delivery CIP is funded each year. Annual principal payments for the eligible Water Delivery CIP for each year of the study period are projected using a term of 30 years and an annual interest rate of 5.0 percent. Based on these assumptions, the principal payment per EDU and the total principal to be recovered from new development are calculated.

These calculations are completed for each year in the study period, as shown in Table 4.7 for 2024, and then the water delivery principal to be recovered from new development is summed to determine the credit for future Water Delivery CIP, as shown in Line 14 of Table 4.8. The Appendices provide these calculations for each year of the study period by infrastructure type and service area.

Table 4.8 Eligible Future Water Delivery Debt Service from New Development

Line No.	Description	Eligible CIP Value
1	Total Eligible Future Water Delivery CIP	$331,137,612
2	Percentage of Future Water Delivery CIP to be Funded with Debt	60%
3	Annual Allocation of Future Water Delivery CIP	10%
4	Annual Eligible Debt-funded Future Water Delivery CIP (1 × 2 × 3)	$19,868,257

Line No.	Description	Eligible CIP Value
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2024 Water Delivery Principal Payment	$303,587
9	2024 Beginning Water Delivery EDUs	870,481
10	Projected New EDUs through 2024	14,901
11	2024 Year-end Water Delivery EDUs (9 + 10)	885,382
12	2024 Eligible Future Water Delivery Principal per EDU (8 ÷ 11)	$0.34
13	2024 Eligible Future Water Delivery Principal from EDUs (10 × 12)	$5,109
14	Sum of Study Period Eligible Future Water Principal from EDUs	$16,364,867

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing water delivery capacity value. Table 4.9 summarizes the water delivery credit for existing debt by impact fee and service area.

Table 4.9 Future Water Delivery CIP Credit by Impact Fee Service Area

Impact Fee Component	Water Service Area	Water Infrastructure Type	Credit for Future Debt
Flow	All	Distribution Mains	$9,623,637
System Development	High Elevation	Well Pumps	$31,360
		High Service and Booster PS	59,136
		Elevated Storage Tanks	-
		Ground Storage Tanks	-
		Transmission Mains	37,632
		HE Subtotal	$128,128
	Middle Elevation	Well Pumps	$153,581
		High Service and Booster PS	456,356
		Elevated Storage Tanks	285,223
		Ground Storage Tanks	2,194
		Transmission Mains	1,250,591
		ME Subtotal	$2,147,945
	Low Elevation	Well Pumps	$237,148
		High Service and Booster PS	2,107,229
		Elevated Storage Tanks	769,037
		Ground Storage Tanks	23,715
		Transmission Mains	1,328,028
		LE Subtotal	$4,465,157
Total			$16,364,867

4.3.3.3 Wastewater Principal

Based on discussions with SAWS staff, it is also assumed that 60 percent of the Wastewater CIP may be funded with debt and paid with rate revenues. Therefore, projected annual principal payments on 60 percent of the future Wastewater CIP are included in the credit calculation.

For the purposes of calculating the credit, equal annual funding of the Wastewater CIP over the 10-year study period is assumed, i.e., 10 percent of the total eligible CIP is funded each year. Annual principal payments for the eligible Wastewater CIP for each year of the study period are projected using a term of 30 years and interest rate of 5.0 percent. Based on these assumptions, the principal payment per EDU and the total principal to be recovered from new development are calculated.

These calculations are performed for each year in the study period, as shown in Table 4.10 for 2024, and then the wastewater principal to be recovered from new development is summed to determine the credit for future CIP, as shown in Line 14 of Table 4.10. The Appendices provide these calculations for each year of the study period by infrastructure type and service area.

Table 4.10 Eligible Future Wastewater Debt Service from New Development

Line No.	Description	Eligible CIP Value
1	Total Eligible Future Wastewater CIP	$229,549,183
2	Percentage of Future Wastewater CIP to be Funded with Debt	60%
3	Annual Allocation of Future Wastewater CIP	10%
4	Annual Eligible Debt-funded Future Wastewater CIP (1 × 2 x 3)	$13,772,951
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2024 Wastewater Principal Payment	$210,419
9	2024 Beginning Wastewater EDUs	800,745
10	Projected New EDUs through 2024	13,708
11	2024 Year-end Wastewater EDUs (9 + 10)	814,453
12	2024 Eligible Future Wastewater Principal per EDU (8 ÷ 11)	$0.26
13	2024 Eligible Future Wastewater Principal from EDUs (10 × 12)	$3,542
14	Sum of Study Period Eligible Future Wastewater Principal from EDUs	$7,097,822

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing wastewater capacity value. Table 4.11 summarizes the wastewater credit for future CIP by impact fee and service area.

Table 4.11 Future Wastewater CIP Credit by Impact Fee Service Area

Impact Fee Component	Wastewater Service Area	Credit for Future Debt
Treatment	Medio Creek	$124,188
	Leon Creek/Clouse WRC	3,401,239
	Treatment Subtotal	$3,525,426
Collection	Medio Creek	$335,214
	Upper Medina	87,351
	Lower Medina	59,056
	Upper Collection	518,060
	Middle Collection	739,871
	Lower Collection	1,832,844
	Collection Subtotal	$3,572,395
Total		$7,097,822

4.4 Maximum Impact Fees Summary

4.4.1 Maximum Impact Fees per EDU

The Maximum Impact Fees per EDU include both the value of existing infrastructure with capacity available to serve projected new development from 2024 to 2033 and the value of new water supply, water delivery, and wastewater capacity available to serve new development from the 2024 to 2033.

Table 4.12 summarizes the calculated impact fees, rate credits, and Maximum Impact Fees by service area, and Table 4.13 provides a comparison between the existing and proposed Maximum Impact Fees.

Table 4.12 Water and Wastewater Calculated Impact Fees

Impact Fee Component	Service Area	Calculated Impact Fee per EDU	Calculated Rate Credit per EDU	Maximum Impact Fee per EDU
Water Supply	All	$2,891	$299	$2,592
Flow	All	1,480	112	1,368
System Development	High Elevation	2,082	55	2,027
	Middle Elevation	1,821	77	1,744
	Low Elevation	1,594	84	1,510
Treatment	Medio Creek	1,630	103	1,527
	Leon Creek / Clouse WRC	1,191	86	1,105
Collection	Medio Creek	1,909	73	1,836
	Upper Medina	1,826	124	1,702
	Lower Medina	829	61	768
	Upper Collection	4,669	233	4,436
	Middle Collection	2,950	158	2,792
	Lower Collection	1,218	80	1,138

Table 4.13 Comparison of Maximum and Existing Impact Fees

Impact Fee Component	Water Service Area	Maximum Impact Fee per EDU	Existing Impact Fee per EDU	Change ($)	Change (%)
Water Supply	All	$2,592	$2,706	($114)	(4%)
Flow	All	1,368	1,188	180	15%
System Development	High Elevation	2,027	1,203	824	68%
	Middle Elevation	1,744	1,014	730	72%
	Low Elevation	1,510	855	655	77%
Treatment	Medio Creek	1,527	1,222	305	25%
	Leon Creek/Clouse WRC	1,105	651	454	70%
Collection	Medio Creek	1,836	861	975	113%
	Upper Medina	1,702	1,422	280	20%
	Lower Medina	768	520	248	48%
	Upper Collection	4,436	2,800	1,636	58%
	Middle Collection	2,792	2,013	779	39%
	Lower Collection	1,138	902	236	26%

4.4.1.1 Equivalent Dwelling Units (EDUs)

The differentiated costs between meter sizes are allocated through the application of the equivalent meter ratios. Since the 5/8-inch water meter is the most frequently used meter by the residential customer, it is equivalent to 1.0 EDU which represents 290 gpd of water usage and 200 gpd of wastewater discharge. The Maximum Impact Fee for meter sizes larger than 5/8-inch can be obtained by multiplying the Maximum Impact Fee per EDU from Table 4.12 by the corresponding equivalent meter ratio. Table 4.14 summarizes the Maximum Water Impact Fees for all meter sizes using the equivalent meter ratios.

Table 4.14 Maximum Water Impact Fees by Meter Size

Meter Size	Service Line Size	EDU Factor	Maximum Water Impact Fee		
			High Elevation	Middle Elevation	Low Elevation
5/8”	3/4"	1.0	$5,987	$5,704	$5,470
3/4"	3/4"	1.5	8,980	8,555	8,204
1”	1”	2.0	11,973	11,407	10,939
1 1/2"	1 1/2"	5.0	29,933	28,518	27,348
2”	2”	14.0	83,813	79,851	76,575
3”	4”	30.0	179,599	171,109	164,089
4”	4”	50.0	299,331	285,181	273,481
6”	6”	105.0	628,596	598,881	574,311
8”	8”	135.0	808,195	769,990	738,400
10”	10”	190.0	1,137,459	1,083,689	1,039,229
12”	12”	360.0	2,155,186	2,053,306	1,969,066

Table 4.15 summarizes the Maximum Wastewater Impact Fee for 1.0 EDU by service area.

Table 4.15 Maximum Wastewater Impact Fee by Service Area

Service Area	Maximum Wastewater Impact Fee
Medio Creek	$3,363
Upper Medina	2,807
Lower Medina	1,873
Upper Collection	5,541
Middle Collection	3,897
Lower Collection	2,243

4.4.1.2 Conclusion

The Maximum Impact Fees per EDU calculated in this report provide SAWS with the means to collect and/or recoup sufficient funds to pay for the infrastructure required to serve new growth. Credits are deducted from the calculated impact fees so new customers do not pay for this infrastructure in both the impact fees and the rates they pay once they are connected to the water and wastewater systems.

The Capital Improvements Advisory Committee (CIAC) recommends adopting the maximum calculated impact fees for Water Supply, Water Delivery System Development, Water Delivery Flow, Wastewater Treatment, and Wastewater Collection. If SAWS adopts impact fees less than the Maximum Impact Fees calculated in this report, existing ratepayers will be required to pay a portion of the growth-related costs.

SAWS and the CIAC are in agreement and will recommend to the SAWS Board of Trustees and to the San Antonio City Council to adopt the maximum calculated impact fee for Water Supply, Water Delivery System Development, Water Delivery Flow, Wastewater Treatment, and Wastewater Collection.

APPENDIX A

EXISTING INFRASTRUCTURE

Table A-1: Existing Infrastructure, Water System in High Elevation Service Area

Asset Type	Total Existing Volume (MG)	Total Existing Capacity (MGD)
Booster Pump Stations	59.78	-
Ground Storage Tank	-	17.37
Elevated Storage Tank	-	16.91
Primary Pump Station	1.00	-
Water Treatment Plant	-	-
Well Pumps	-	-
Outside Source	-	-
Total	**60.78**	**34.28**

Note:
Firm capacities are used for the impact fee calculation.

Table A-2: Existing Infrastructure, Water System in Middle Elevation Service Area

Asset Type	Total Existing Volume (MG)	Total Existing Capacity (MGD)
Booster Pump Stations	211.54	-
Ground Storage Tank	-	130.14
Elevated Storage Tank	-	59.35
Primary Pump Station	252.86	-
Water Treatment Plant	-	-
Well Pumps	248.60	-
Outside Source	52.00	-
Total	**765.00**	**189.49**

Note:
Firm capacities are used for the impact fee calculation.

Table A-3: Existing Infrastructure, Water System in Low Elevation Service Area

Asset Type	Total Existing Volume (MG)	Total Existing Capacity (MGD)
Booster Pump Stations	37.54	12.30
Ground Storage Tank	-	139.22
Elevated Storage Tank	-	54.70
Primary Pump Station	517.25	-
Water Treatment Plant	30.00	-
Well Pumps	630.75	-
Outside Source	-	-
Total	**1,215.54**	**206.22**

Note:
Firm capacities are used for the impact fee calculation.

APPENDIX B

FUTURE CAPITAL IMPROVEMENT PROJECTS

LIST OF 2024 WATER SUPPLY PROJECTS

2024 CIP PROJ ID	2024 CIP PROJECT NAME	MILESTONE	2024 CIP COST	FUTURE GROWTH ALLOCATION	IMPACT FEE ALLOCATION COST
1	ASR Treatment Plant Expansion (30 MGD)	Pending	$35,000,000	37.8%	$13,244,763
2	New Edwards Purchase	Pending	$24,000,000	37.8%	$9,082,123
3	Expanded Local Carrizo Ph 1 and Ph 2	Pending	$42,067,751	37.8%	$15,919,354
			$101,067,751		***$38,246,240***

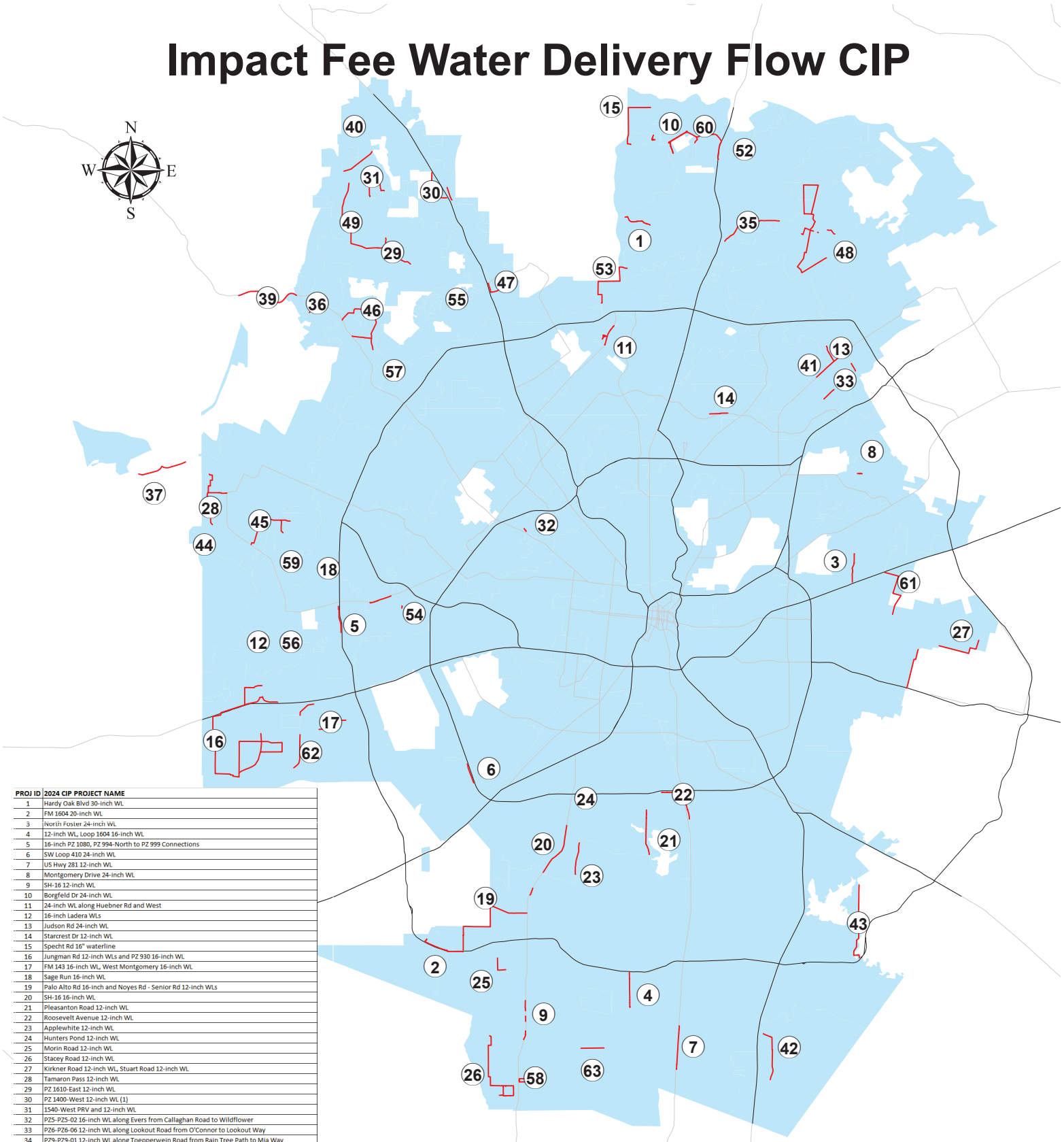
LIST OF 2024 WATER DELIVERY FLOW PROJECTS

2024 CIP PROJ ID	2024 CIP PROJECT NAME	MILESTONE	2024 CIP COST	FUTURE GROWTH ALLOCATION	IMPACT FEE ALLOCATION COST
1	Hardy Oak Blvd 30-inch WL	Pending	$7,968,000	35.9%	$2,863,906
2	FM 1604 20-inch WL	Pending	$7,788,000	35.9%	$2,799,209
3	North Foster 24-inch WL	Pending	$5,050,000	35.9%	$1,815,101
4	12-inch WL, Loop 1604 16-inch WL	Partially Complete	$2,326,000	35.9%	$836,025
5	16-inch PZ 1080, PZ 994-North to PZ 999 Connections	Partially Complete	$7,009,000	35.9%	$2,519,216
6	SW Loop 410 24-inch WL	Pending	$3,480,000	35.9%	$1,250,802
7	US Hwy 281 12-inch WL	Partially Complete	$4,550,000	35.9%	$1,635,388
8	Montgomery Drive 24-inch WL	Pending	$928,000	35.9%	$333,547
9	SH-16 12-inch WL	Design	$2,625,000	35.9%	$943,493
10	Borgfeld Dr 24-inch WL	Partially Complete	$3,182,000	35.9%	$1,143,693
11	24-inch WL along Huebner Rd and West	Pending	$6,119,000	35.9%	$2,199,327
12	16-inch Ladera WLs	Scheduled	$22,515,000	35.9%	$8,092,475
13	Judson Rd 24-inch WL	Pending	$3,274,000	35.9%	$1,176,761
14	Starcrest Dr 12-inch WL	Pending	$1,907,000	35.9%	$685,425
15	Specht Rd 16" waterline	Construction	$10,586,000	35.9%	$3,804,883
16	Jungman Rd 12-inch WLs and PZ 930 16-inch WL	Partially Complete	$28,111,000	35.9%	$10,103,823
17	FM 143 16-inch WL, West Montgomery 16-inch WL	Partially Complete	$4,533,000	35.9%	$1,629,278
18	Sage Run 16-inch WL	Pending	$3,687,000	35.9%	$1,325,203
19	Palo Alto Rd 16-inch and Noyes Rd - Senior Rd 12-inch WLs	Partially Complete	$7,783,000	35.9%	$2,797,412
20	SH-16 16-inch WL	Pending	$7,515,000	35.9%	$2,701,086
21	Pleasanton Road 12-inch WL	Pending	$2,962,000	35.9%	$1,064,620
22	Roosevelt Avenue 12-inch WL	Pending	$5,078,000	35.9%	$1,825,165
23	Applewhite 12-inch WL	Pending	$3,328,000	35.9%	$1,196,170
24	Hunters Pond 12-inch WL	Pending	$1,142,000	35.9%	$410,464
25	Morin Road 12-inch WL	Pending	$1,305,000	35.9%	$469,051
26	Stacey Road 12-inch WL	Pending	$5,130,000	35.9%	$1,843,855
27	Kirkner Road 12-inch WL, Stuart Road 12-inch WL	Pending	$9,641,000	35.9%	$3,465,226
28	Tamaron Pass 12-inch WL	Pending	$8,271,000	35.9%	$2,972,812
29	PZ 1610-East 12-inch WL	Pending	$4,630,000	35.9%	$1,664,142
30	PZ 1400-West 12-inch WL (1)	Pending	$4,204,000	35.9%	$1,511,027
31	1540-West PRV and 12-inch WL	Pending	$6,620,000	35.9%	$2,379,400
32	PZ5-PZ5-02 16-inch WL along Evers from Callaghan Road to Wildflower	Pending	$668,000	35.9%	$240,097
33	PZ6-PZ6-06 12-inch WL along Lookout Road from O'Connor to Lookout Way	Pending	$1,425,000	35.9%	$512,182

LIST OF 2024 WATER DELIVERY FLOW PROJECTS

2024 CIP PROJ ID	2024 CIP PROJECT NAME	MILESTONE	2024 CIP COST	FUTURE GROWTH ALLOCATION	IMPACT FEE ALLOCATION COST
34	PZ9-PZ9-01 12-inch WL along Toepperwein Road from Rain Tree Path to Mia Way	Pending	$900,000	35.9%	$323,483
35	PZ10-PZ10-01 12-inch Along Stone Oak Parkway from Ruby Run to Cibolo Canyon	Pending	$6,647,000	35.9%	$2,389,104
36	PZ11-PZ11-03 16-inch Along PLs and W Apache Blf from State Hwy 16 to Ranch Town Tank	Pending	$3,020,000	35.9%	$1,085,466
37	PZ10B-PZ10B-02 16-inch WL along CR 371 from Hwy 1283 to CR 278	Pending	$3,016,205	35.9%	$1,084,102
39	PZ12West-PZ12A-03 16-inch WL along SH 16 N from Shadow Canyon Road to Private Road	Pending	$9,097,000	35.9%	$3,269,698
40	PZ14-PZ14-02 16-inch WL along Bridlewood Trail from Boerne Stage Road to Bridle Path	Pending	$2,290,000	35.9%	$823,085
41	Along Nacogdoches from O'Conner to Judson to 20-inch WL near Kings Mountain	Pending	$8,107,000	35.9%	$2,913,866
42	Mathis Road: Hardy Road to Waterwood Pass	Pending	$10,903,000	35.9%	$3,918,821
43	Shady Falls Road 12-inch WL	Pending	$8,295,000	35.9%	$2,981,438
44	PZ 1170S 12-inch and 16-inch Water Lines	Pending	$16,161,000	35.9%	$5,808,683
45	PZ 1170 12-inch and 16-inch Water Lines	Pending	$9,803,000	35.9%	$3,523,453
46	Western PZ 1400-West 12-inch WL	Pending	$10,692,000	35.9%	$3,842,982
47	Old Camp Bullis Road 12/16-inch Water Line	Pending	$4,984,000	35.9%	$1,791,379
48	12-inch and 16-inch Looping in Eastern PZ 1258-East	Pending	$19,757,000	35.9%	$7,101,178
49	PZ-1610E 12-inch Water Line	Pending	$10,855,000	35.9%	$3,901,569
50	16-inch WL along Old Fredericksburg Road from Lost Creek Gap to Fahrenthold	Pending	$1,911,000	35.9%	$686,863
51	Beauregard - Boerne 12-inch Water Line	Pending	$3,611,000	35.9%	$1,297,887
52	PZ11A-PZ11A-01 16-inch WL along existing pipe near Borgfeld Tank	Pending	$4,151,000	35.9%	$1,491,977
53	Salado PZ-1400E Water Line	Pending	$12,038,000	35.9%	$4,326,769
54	Mountain Laurel PRV	Closed	$435,000	35.9%	$156,350
55	Walden Heights PRV	Construction	$725,000	35.9%	$260,584
56	Groesenbacher 16-inch Water Lines	Pending	$2,509,000	35.9%	$901,800
57	Helotes Park No. 2 BPS and EST	Closed	$725,000	35.9%	$260,584
58	Post Oak to Oaks Dr loop, Autumn Ln Loop	Design	$4,185,000	35.9%	$1,504,198
59	Talley Rd 16-inch WL and 12-inch PZ 1044 PRV (need PRV)	Closed	$725,000	35.9%	$260,584
60	Blanco Road Phase II (West oaks Estates to Borgfeld Road	Pending	$3,182,000	35.9%	$1,143,693
61	PZ 828 PRV & 16" Water line	Closed	$2,838,000	35.9%	$1,020,051
62	Montgomery Rd 16-inch Water Line	Closed	$2,923,200	35.9%	$1,050,674
63	Hunters Forest, 12-inch and 16-inch Transmission Improvements near Silver Mtn.	Construction	$4,621,000	35.9%	$1,660,907
			$364,446,405		***$130,991,492***

Impact Fee Water Delivery Flow CIP

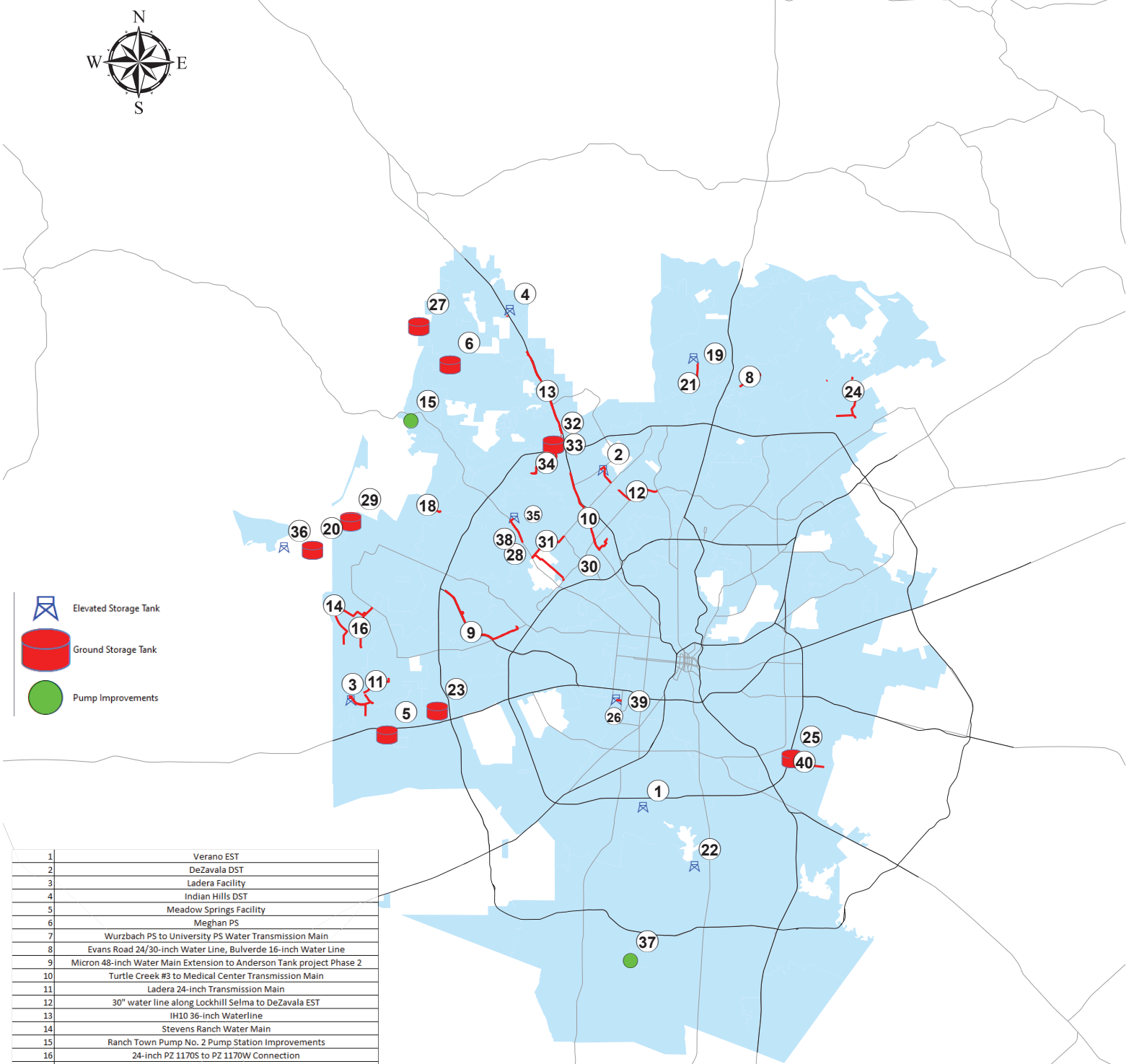


PROJ ID	2024 CIP PROJECT NAME
1	Hardy Oak Blvd 30-inch WL
2	FM 1604 20-inch WL
3	North Foster 24-inch WL
4	12-inch WL, Loop 1604 16-inch WL
5	16-inch PZ 1080, PZ 994-North to PZ 999 Connections
6	SW Loop 410 24-inch WL
7	US Hwy 281 12-inch WL
8	Montgomery Drive 24-inch WL
9	SH-16 12-inch WL
10	Borgfeld Dr 24-inch WL
11	24-inch WL along Huebner Rd and West
12	16-inch Ladera WLs
13	Judson Rd 24-inch WL
14	Starcrest Dr 12-inch WL
15	Specht Rd 16" waterline
16	Jungman Rd 12-inch WLs and PZ 930 16-inch WL
17	FM 143 16-inch WL, West Montgomery 16-inch WL
18	Sage Run 16-inch WL
19	Palo Alto Rd 16-inch and Noyes Rd - Senior Rd 12-inch WLs
20	SH-16 16-inch WL
21	Pleasanton Road 12-inch WL
22	Roosevelt Avenue 12-inch WL
23	Applewhite 12-inch WL
24	Hunters Pond 12-inch WL
25	Morin Road 12-inch WL
26	Stacey Road 12-inch WL
27	Kirkner Road 12-inch WL, Stuart Road 12-inch WL
28	Tamaron Pass 12-inch WL
29	PZ 1610-East 12-inch WL
30	PZ 1400-West 12-inch WL (1)
31	1540-West PRV and 12-inch WL
32	PZ5-PZ5-02 16-inch WL along Evers from Callaghan Road to Wildflower
33	PZ6-PZ6-06 12-inch WL along Lookout Road from O'Connor to Lookout Way
34	PZ9-PZ9-01 12-inch WL along Toepperwein Road from Rain Tree Path to Mia Way
35	PZ10-PZ10-01 12-inch Along Stone Oak Parkway from Ruby Run to Cibolo Canyon
36	PZ11-PZ11-03 16-inch Along PLs and W Apache Blf from State Hwy 16 to Ranch Town Tank
37	PZ10B-PZ10B-02 16-inch WL along CR 371 from Hwy 1283 to CR 278
39	PZ12West-PZ12A-03 16-inch WL along SH 16 N from Shadow Canyon Road to Private Road
40	PZ14-PZ14-02 16-inch WL along Bridlewood Trail from Boerne Stage Road to Bridle Path
41	Along Nacogdoches from O'Conner to Judson to 20-inch WL near Kings Mountain
42	Mathis Road: Hardy Road to Waterwood Pass
43	Shady Falls Road 12-inch WL
44	PZ 1170S 12-inch and 16-inch Water Lines
45	PZ 1170 12-inch and 16-inch Water Lines
46	Western PZ 1400-West 12-inch WL
47	Old Camp Bullis Road 12/16-inch Water Line
48	12-inch and 16-inch Looping in Eastern PZ 1258-East
49	PZ-1610E 12-inch Water Line
50	16-inch WL along Old Fredericksburg Road from Lost Creek Gap to Fahrenthold
51	Beauregard - Boerne 12-inch Water Line
52	PZ11A-PZ11A-01 16-inch WL along existing pipe near Borgfeld Tank
53	Salado PZ-1400E Water Line
54	Mountain Laurel PRV
55	Walden Heights PRV
56	Groesenbacher 16-inch Water Lines
57	Helotes Park No. 2 BPS and EST
58	Post Oak to Oaks Dr loop, Autumn Ln Loop
59	Talley Rd 16-inch WL and 12-inch PZ 1044 PRV (need PRV)
60	Blanco Road Phase II (West oaks Estates to Borgfeld Road
61	PZ 828 PRV & 16" Water line
62	Montgomery Rd 16-inch Water Line
63	Hunters Forest, 12-inch and 16-inch Transmission Improvements near Silver Mtn.

LIST OF 2024 WATER DELIVERY SYSTEM DEVELOPMENT PROJECTS

2024 CIP PROJ ID	2024 CIP PROJECT NAME	SERVICE AREA	MILESTON	2024 CIP COST
1	Verano EST	Low	Pending	$18,496,000
2	DeZavala DST	Middle	Pending	$14,500,000
3	Ladera Facility	Low	Pending	$42,920,000
4	Indian Hills DST	Middle	Pending	$14,774,000
5	Meadow Springs Facility	Low	Pending	$20,082,500
6	Meghan PS	High	Pending	$13,195,000
7	Wurzbach PS to University PS Water Transmission Main	Middle	Pending	$26,158,000
8	Evans Road 24/30-inch Water Line, Bulverde 16-inch Water Line	Middle	Pending	$7,841,000
9	Micron 48-inch Water Main Extension to Anderson Tank project Phase 2	Middle	Pending	$6,960,000
10	Turtle Creek #3 to Medical Center Transmission Main	Middle	Pending	$64,961,000
11	Ladera 24-inch Transmission Main	Low	Pending	$22,515,000
12	30" water line along Lockhill Selma to DeZavala EST	Middle	Pending	$31,614,000
13	IH10 36-inch Waterline	High	Pending	$38,465,000
14	Stevens Ranch Water Main	Middle	Pending	$16,161,000
15	Ranch Town Pump No. 2 Pump Station Improvements	High	Pending	$9,405,000
16	24-inch PZ 1170S to PZ 1170W Connection	Middle	Pending	$7,649,000
17	Convert east portion of 1400W to 1295.	Middle	Pending	$1,528,000
18	Galm Road 24-inch Water Line	Middle	Pending	$7,743,000
19	Canyon Golf Facility	Middle	Pending	$52,334,000
20	Schuchart Facility Phase I	Middle	Pending	$66,700,000
21	30" Canyon Golf Rd Transmission Line	Middle	Pending	$5,588,000
22	Mission Del Lago EST	Low	Pending	$14,806,000
23	Far West Rehab	Low	Pending	$5,607,637
24	Dierks PZ 1125 PRV and 24-inch Water Line	Low	Pending	$18,020,000
25	828/750 ASR Facility	Low	Pending	$38,425,000
26	Patton EST	Low	Pending	$11,600,000
27	Pecan Springs Facility	High	Pending	$8,518,750
28	Bandera Road 24-inch Water Line	Middle	Pending	$5,301,000
29	Waterwheel Facility (Geronimo PRV)	High	Pending	$10,179,000
30	Wurzach PRV	Middle	Pending	$1,099,000
31	Huebner Road 30-inch Water Line	Middle	Pending	$14,406,000
32	IH-10 GST	High	Pending	$9,817,000
33	IH-10 BPS Pump Expansion 10.0 MGD	High	Pending	$21,816,000
34	University Park - Leon Creek 30/36/48-inch Water Line	Middle	Pending	$16,449,000
35	Bandera EST	Middle	Pending	$17,400,000
36	Schuchart EST	Middle	New	$11,600,000
37	Silver Mountain Expansion	Low	New	$6,995,290
38	Bandera EST Transmission Main	Middle	New	$844,213
39	Patton EST Transmission Main	Low	New	$1,325,184
40	PZ 750/828 ASR Facility Transmission Main	Low	New	$7,602,060
				$711,400,634

Impact Fee System Development CIP



1	Verano EST
2	DeZavala DST
3	Ladera Facility
4	Indian Hills DST
5	Meadow Springs Facility
6	Meghan PS
7	Wurzbach PS to University PS Water Transmission Main
8	Evans Road 24/30-inch Water Line, Bulverde 16-inch Water Line
9	Micron 48-inch Water Main Extension to Anderson Tank project Phase 2
10	Turtle Creek #3 to Medical Center Transmission Main
11	Ladera 24-inch Transmission Main
12	30" water line along Lockhill Selma to DeZavala EST
13	IH10 36-inch Waterline
14	Stevens Ranch Water Main
15	Ranch Town Pump No. 2 Pump Station Improvements
16	24-inch PZ 1170S to PZ 1170W Connection
17	Convert east portion of 1400W to 1295.
18	Galm Road 24-inch Water Line
19	Canyon Golf Facility
20	Schuchart Facility Phase I
21	30" Canyon Golf Rd Transmission Line
22	Mission Del Lago EST
23	Far West Rehab
24	Dierks PZ 1125 PRV and 24-inch Water Line
25	828/750 ASR Facility
26	Patton EST
27	Pecan Springs Facility
28	Bandera Road 24-inch Water Line
29	Waterwheel Facility (Geronimo PRV)
30	Wurzach PRV
31	Huebner Road 30-inch Water Line
32	IH-10 GST
33	IH-10 BPS Pump Expansion 10.0 MGD
34	University Park - Leon Creek 30/36/48-inch Water Line
35	Bandera EST
36	Schuchart EST
37	Silver Mountain Expansion
38	Bandera EST Transmission Main
39	Patton EST Transmission Main
40	PZ 750/828 ASR Facility Transmission Main

Table B-1: Water CIP: High Impact Fee Zone

Project Type	Project Cost Estimate ($ 2023)	Added Total Capacity (MG)	Added Total Capacity (MGD)
Ground Storage Tank	$12,717,000	7.0	
Pump Station	$60,213,750		24.6
Elevated Storage Tank	$0	0.0	
Well Capacity	$0		0.0
Transmission Main	$38,465,000		
Total	**$111,395,750**	**7.0**	**24.6**

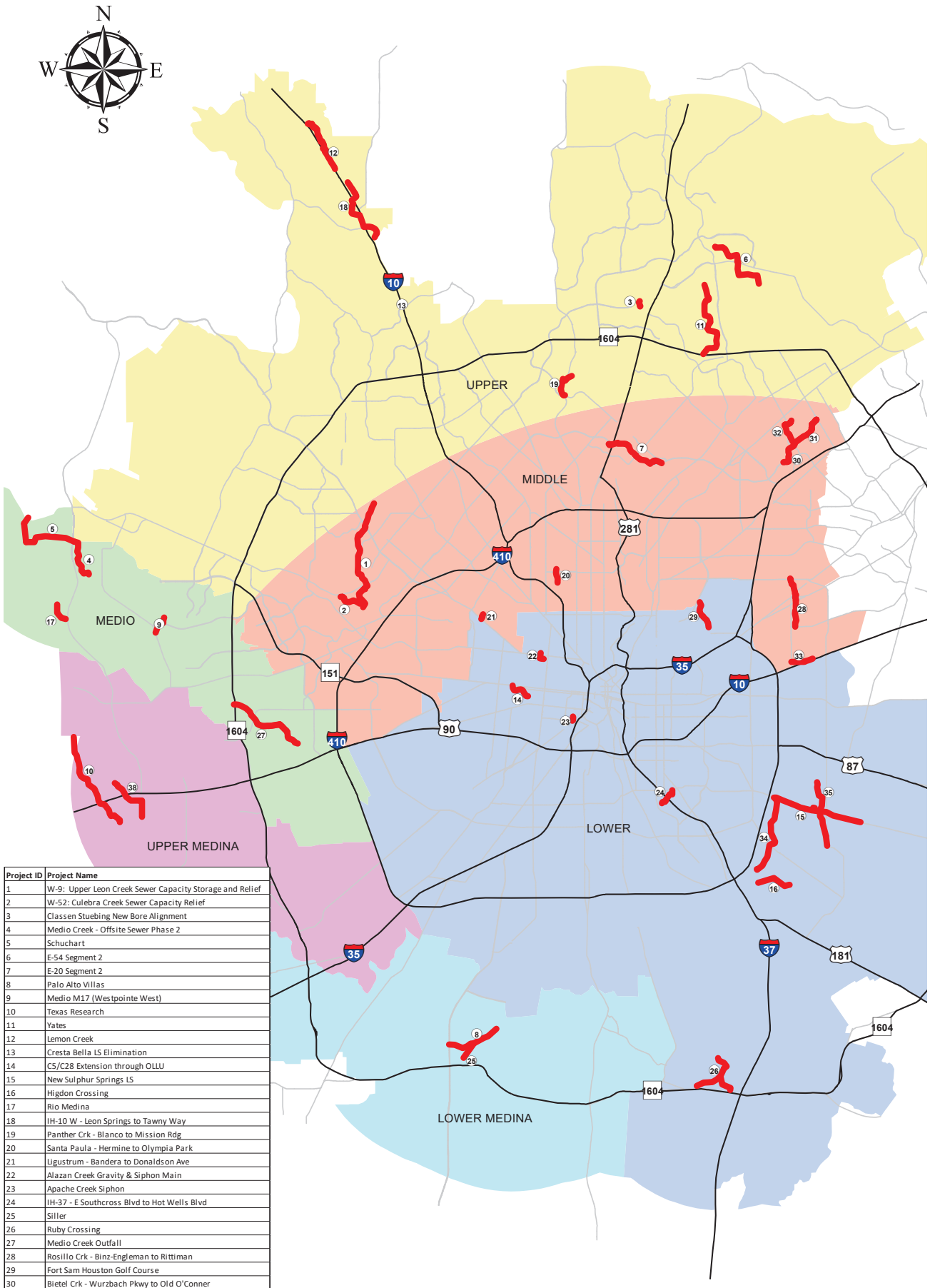
Table B-2: Water CIP: Middle Impact Fee Zone

Project Type	Project Cost Estimate ($ 2023)	Added Total Capacity (MG)	Added Total Capacity (MGD)
Ground Storage Tank	$20,300,000	7.0	
Pump Station	$78,300,000		36.0
Elevated Storage Tank	$58,274,000	20.0	
Well Capacity	$20,300,000		10.0
Transmission Main	$214,436,100		
Total	**$391,610,100**	**27.0**	**46.0**

Table B-3: Water CIP: Low Impact Fee Zone

Project Type	Project Cost Estimate ($ 2023)	Added Total Capacity (MG)	Added Total Capacity (MGD)
Ground Storage Tank	$18,850,000	6.5	
Pump Station	$78,800,250		38.1
Elevated Storage Tank	$44,902,000	15.0	
Well Capacity	$16,240,000		12.0
Transmission Main	$49,602,421		
Total	**$208,394,671**	**21.5**	**50.1**

Impact Fee Collection CIP



Project ID	Project Name
1	W-9: Upper Leon Creek Sewer Capacity Storage and Relief
2	W-52: Culebra Creek Sewer Capacity Relief
3	Classen Stuebing New Bore Alignment
4	Medio Creek - Offsite Sewer Phase 2
5	Schuchart
6	E-54 Segment 2
7	E-20 Segment 2
8	Palo Alto Villas
9	Medio M17 (Westpointe West)
10	Texas Research
11	Yates
12	Lemon Creek
13	Cresta Bella LS Elimination
14	C5/C28 Extension through OLLU
15	New Sulphur Springs LS
16	Higdon Crossing
17	Rio Medina
18	IH-10 W - Leon Springs to Tawny Way
19	Panther Crk - Blanco to Mission Rdg
20	Santa Paula - Hermine to Olympia Park
21	Ligustrum - Bandera to Donaldson Ave
22	Alazan Creek Gravity & Siphon Main
23	Apache Creek Siphon
24	IH-37 - E Southcross Blvd to Hot Wells Blvd
25	Siller
26	Ruby Crossing
27	Medio Creek Outfall
28	Rosillo Crk - Binz-Engleman to Rittiman
29	Fort Sam Houston Golf Course
30	Bietel Crk - Wurzbach Pkwy to Old O'Conner
31	Lookout Rd - Old O'Conner to Judson
32	O'Connor - Lookout to Primwood
33	Dietrich - Ackerman to Rosillo Crk
34	Rosillo Creek - S WW White to New Sulphur Springs
35	Southeast Bexar - Calaveras Lake Segment 1
38	Stonehill USA

Table B-4: Wastewater Treatment

Project No.	Project Title	Project Cost Estimate ($ 2023)
1	SMCWRC Biosolids System Upgrades	$84,514,769
2	SMCWRC Secondary Treatment Expansion and Blower Improvements (Package A)	$88,810,642
3	LCWRC FEB Flow Diversion Structure Project	$20,422,740
4	SMCWRC FEB Flow Diversion Structure Project	$6,202,230
5	SMCWRC Primary Treatment Process Expansion and Hydraulic Improvements (Package B)	$36,057,133
6	LCWRC Secondary and Tertiary Process Capacity and Hydraulic Improvements (Package A)	$30,031,935
7	LCWRC Strain Presses and Solids Transfer Pipelines Project	$7,202,755
8	MCWRC Lift Station Improvements	$9,695,490
9	SMCWRC Anaerobic Digestion Facility Expansion (Package A)	$48,465,714
12	SMCWRC Tertiary Process Capacity and Hydraulic Improvements (Package C)	$23,219,751
13	MCWRC Hydraulic Capacity and Space Management Improvements	$14,810,169
14	MCWRC Process Capacity Improvements (Package A)	$10,566,608
16	LCWRC Aeration Process Expansion and Improvements (Package B)	$43,934,369
17	LCWRC Primary Process Capacity and Hydraulic Improvements (Package C)	$25,912,676
	Total	**$449,846,981**

Table B-5: Wastewater Collection - Medio Creek Service Area

Project No.	Project Title	Project Cost Estimate ($ 2023)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)
1	Medio Creek - Offsite Sewer Phase 2	$4,720,000	0.0%	$0	24.7%	$1,167,156	75.3%	$3,552,844	9.5
2	Schuchart	$21,207,697	0.0%	$0	45.1%	$9,574,448	54.9%	$11,633,249	4.0
3	Medio M17 (Westpointe West)	$4,475,779	0.0%	$0	82.6%	$3,698,698	17.4%	$777,081	1.1
4	Rio Medina	$1,809,899	0.0%	$0	47.7%	$863,005	52.3%	$946,894	3.4
5	Medio Creek Outfall	$33,708,406	39.8%	$13,411,581	41.9%	$14,131,063	18.3%	$6,165,762	44.2
	Total	**$65,921,781**	**20.3%**	**$13,411,581**	**44.7%**	**$29,434,371**	**35.0%**	**$23,075,829**	**62.19**

Table B-6: Wastewater Collection - Upper Medina Service Area

Project No.	Project Title	Project Cost Estimate ($ 2023)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)
1	Texas Research	$13,472,222	0.0%	$0	17.4%	$2,345,455	82.6%	$11,126,767	6.6
2	Stonehill USA	$8,355,056	0.0%	$0	58.6%	$4,892,033	41.4%	$3,463,023	2.5
	Total	**$21,827,278**	**0.0%**	**$0**	**33.2%**	**$7,237,488**	**66.8%**	**$14,589,790**	**9.10**

Table B-7: Wastewater Collection - Lower Medina Service Area

Project No.	Project Title	Project Cost Estimate ($ 2023)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)
1	Palo Alto	$20,824,029	0.0%	$0	16.2%	$3,378,427	83.8%	$17,445,602	5.7
2	Siller USA	$3,364,940	0.0%	$0	10.3%	$345,044	89.7%	$3,019,896	1.1
	Total	**$24,188,969**	**0.0%**	**$0**	**15.4%**	**$3,723,471**	**84.6%**	**$20,465,498**	**6.81**

Table B-8: Wastewater Collection - Upper Collection Service Area

Project No.	Project Title	Project Cost Estimate ($ 2023)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)
1	Classen Stuebing New Bore Alignment	$11,297,371	0.0%	$0	31.9%	$3,600,233	68.1%	$7,697,138	18.9
2	E-54 Segment 2	$26,045,860	0.0%	$0	31.0%	$8,074,562	69.0%	$17,971,298	15.6
3	Yates	$15,515,589	0.0%	$0	45.2%	$7,010,662	54.8%	$8,504,927	4.4
4	Lemon Creek	$11,754,515	9.9%	$1,166,864	21.4%	$2,510,609	68.7%	$8,077,041	15.2
5	Cresta Bella LS Elimination	$1,581,725	0.0%	$0	87.0%	$1,376,544	13.0%	$205,181	2.9
6	IH-10 W - Leon Springs to Tawny Way	$27,603,597	28.8%	$7,959,305	39.2%	$10,831,954	31.9%	$8,812,338	12.2
7	Panther Crk - Blanco to Mission Rdg	$5,308,266	79.6%	$4,223,834	2.5%	$131,752	17.9%	$952,680	11.5
	Total	**$99,106,923**	**13.5%**	**$13,350,003**	**33.8%**	**$33,536,316**	**52.7%**	**$52,220,604**	**80.66**

Table B-9: Wastewater Collection - Middle Collection Service Area

Project No.	Project Title	Project Cost Estimate ($ 2023)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)
1	W-9: Upper Leon Creek Sewer Capacity Storage and Relief	$63,600,000	43.7%	$27,772,858	17.9%	$11,411,276	38.4%	$24,415,866	51.6
2	W-52: Culebra Creek Sewer Capacity Relief	$34,629,586	41.3%	$14,298,324	46.3%	$16,040,678	12.4%	$4,290,584	46.5
3	E-20 Segment 2	$13,118,402	60.5%	$7,931,552	13.2%	$1,730,700	26.3%	$3,456,150	20.8
4	Santa Paula - Hermine to Olympia Park	$3,071,416	32.3%	$990,903	44.7%	$1,373,004	23.0%	$707,509	1.8
5	Ligustrum - Bandera to Donaldson Ave	$614,360	27.9%	$171,260	6.6%	$40,776	65.5%	$402,324	1.1
6	Rosillo Crk - Binz-Engleman to Rittiman	$9,349,294	35.4%	$3,306,173	37.2%	$3,475,332	27.5%	$2,567,789	15.6
7	Fort Sam Houston Golf Course	$5,827,707	36.5%	$2,125,499	13.9%	$809,256	49.6%	$2,892,952	12.2
8	Bietel Crk - Wurzbach Pkwy to Old O'Conner	$7,304,773	44.2%	$3,230,176	30.6%	$2,235,162	25.2%	$1,839,435	22.0
9	Lookout Rd - Old O'Conner to Judson	$7,496,471	39.4%	$2,954,752	32.3%	$2,421,465	28.3%	$2,120,254	11.5
10	O'Connor - Lookout to Primwood	$3,849,389	58.1%	$2,237,018	12.1%	$464,959	29.8%	$1,147,412	7.2
11	Dietrich - Ackerman to Rosillo Crk	$3,447,780	39.7%	$1,368,940	9.6%	$332,336	50.7%	$1,746,504	1.5
	Total	**$152,309,178**	**43.6%**	**$66,387,453**	**26.5%**	**$40,334,946**	**29.9%**	**$45,586,779**	**191.96**

Table B-10: Wastewater Collection - Lower Collection Service Area

Project No.	Project Title	Project Cost Estimate ($ 2023)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)
1	C5/C28 Extension through OLLU	$6,251,321	3.4%	$209,965	73.2%	$4,577,621	23.4%	$1,463,735	9.3
2	New Sulphur Springs LS	$19,188,139	0.0%	$0	74.0%	$14,192,832	26.0%	$4,995,307	5.2
3	Higdon Crossing	$3,847,404	0.0%	$0	86.4%	$3,325,041	13.6%	$522,363	2.6
4	Alazan Creek Gravity & Siphon Main	$1,669,360	42.3%	$705,857	34.7%	$579,978	23.0%	$383,525	3.9
5	Apache Creek Siphon	$2,386,567	68.7%	$1,640,675	16.8%	$400,278	14.5%	$345,614	43.0
6	IH-37 - E Southcross Blvd to Hot Wells Blvd	$2,405,857	56.0%	$1,347,562	17.5%	$421,197	26.5%	$637,099	5.0
7	Ruby Crossing	$19,746,799	0.0%	$0	66.7%	$13,164,533	33.3%	$6,582,266	3.9
8	Rosillo Creek - S WW White to New Sulphur Springs	$13,295,035	0.0%	$0	26.7%	$3,545,137	73.3%	$9,749,898	18.7
9	Southeast Bexar - Calaveras Lake Segmer	$13,071,415	0.0%	$0	33.4%	$4,371,356	66.6%	$8,700,059	2.8
	Total	**$81,861,897**	**4.8%**	**$3,904,058**	**54.5%**	**$44,577,971**	**40.8%**	**$33,379,868**	**94.31**

APPENDIX C

FINANCING COSTS FOR AVAILABLE EXISTING CAPACITY

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	Current 2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Total Outstanding Debt	$3,846,466,297										
2	Water Supply Outstanding Debt (incl. Vista Ridge)	$1,323,213,658										
3	Water Delivery Outstanding Debt	$847,842,576										
4	Total Water Delivery Interest Payment - Revenue Bonds		$35,867,097	$34,444,865	$32,977,714	$31,561,734	$30,275,207	$28,830,820	$27,196,885	$25,530,537	$23,772,524	$21,892,993
5	Total Water Delivery Interest Payment - Commercial		$6,229,346	$6,229,346	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$5,339,439
6	Eligible Water Delivery Interest Payment		$3,545,384	$3,404,799	$3,259,775	$3,119,808	$2,992,638	$2,849,863	$2,688,352	$2,523,638	$2,349,862	$2,164,074
7	Water Delivery Financing Charge	$43,214,012										
8	Wastewater Outstanding Debt	$1,570,969,360										
9	Total Sewer Delivery Interest Payment - Revenue Bonds		$64,272,867	$63,163,374	$61,568,900	$60,876,359	$59,038,583	$56,892,760	$54,537,503	$52,129,470	$49,603,582	$46,937,781
10	Total Sewer Delivery Interest Payment - Commercial		$6,834,923	$6,834,923	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$5,858,505
11	Eligible Sewer Service Interest Payment		$5,338,483	$5,246,329	$5,113,893	$5,056,370	$4,903,725	$4,725,494	$4,529,867	$4,329,857	$4,120,057	$3,898,637
12	Sewer Service Financing Charge	$77,088,757										

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Total Outstanding Debt										
2	Water Supply Outstanding Debt (incl. Vista Ridge)										
3	Water Delivery Outstanding Debt										
4	Total Water Delivery Interest Payment - Revenue Bonds	$19,716,155	$17,645,107	$15,921,745	$14,235,991	$12,615,453	$10,960,679	$9,443,689	$8,332,441	$7,391,923	$6,459,988
5	Total Water Delivery Interest Payment - Commercial	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$5,339,439	$0	$0	$0
6	Eligible Water Delivery Interest Payment	$1,948,899	$1,744,180	$1,573,830	$1,407,196	$1,247,010	$1,083,439	$933,488	$823,644	$730,675	$638,556
7	Water Delivery Financing Charge										
8	Wastewater Outstanding Debt										
9	Total Sewer Delivery Interest Payment - Revenue Bonds	$44,120,617	$41,080,480	$37,835,229	$34,547,918	$31,306,142	$27,974,279	$24,835,817	$22,179,364	$19,741,979	$17,284,158
10	Total Sewer Delivery Interest Payment - Commercial	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$5,858,505	$0	$0	$0
11	Eligible Sewer Service Interest Payment	$3,664,644	$3,412,131	$3,142,582	$2,869,539	$2,600,278	$2,323,534	$2,062,855	$1,842,211	$1,639,762	$1,435,617
12	Sewer Service Financing Charge										

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Total Outstanding Debt										
2	Water Supply Outstanding Debt (incl. Vista Ridge)										
3	Water Delivery Outstanding Debt										
4	Total Water Delivery Interest Payment - Revenue Bonds	$5,536,420	$4,620,859	$3,724,783	$2,924,512	$2,186,553	$1,550,683	$1,026,228	$533,660	$0	$0
5	Total Water Delivery Interest Payment - Commercial	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Eligible Water Delivery Interest Payment	$547,263	$456,762	$368,187	$289,082	$216,136	$153,282	$101,440	$52,751	$0	$0
7	Water Delivery Financing Charge										
8	Wastewater Outstanding Debt										
9	Total Sewer Delivery Interest Payment - Revenue Bonds	$14,844,658	$12,494,684	$10,127,069	$7,937,054	$5,889,413	$3,899,737	$2,128,911	$864,245	$0	$0
10	Total Sewer Delivery Interest Payment - Commercial	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
11	Eligible Sewer Service Interest Payment	$1,232,992	$1,037,804	$841,151	$659,249	$489,173	$323,911	$176,827	$71,784	$0	$0
12	Sewer Service Financing Charge										

APPENDIX D

CREDIT FOR OUTSTANDING DEBT ON AVAILABLE EXISTING CAPACITY

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	Current 2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Total Water Supply Debt Service Payment - Revenue Bonds		$28,925,405	$30,313,495	$30,790,227	$30,966,908	$30,671,544	$36,868,631	$37,345,520	$39,047,043	$39,052,440	$35,720,993
2	Water Supply Service Unit Equivalents (Year-end)	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
3	Water Supply Debt Service for Fee Eligible Projects per Service Unit Equivalent		$17.58	$17.51	$17.31	$17.05	$16.74	$17.53	$17.32	$17.32	$17.06	$16.19
4	Water Supply Cumulative Growth in Service Unit Equivalents		14,901	30,057	45,473	61,152	77,100	93,321	109,820	126,601	143,669	161,029
5	Water Supply Debt Service for Fee-Eligible Projects to be Recovered from New Connections		$261,887	$526,360	$786,991	$1,042,525	$1,290,511	$1,636,041	$1,902,067	$2,192,933	$2,450,927	$2,606,961
6	Water Supply Credit Amount	$45,265,329										
7	Water Supply Growth Rate	1.71%										
8	Total Water Delivery Debt Service Payment - Revenue Bonds		$15,560,689	$15,770,285	$15,852,208	$15,882,569	$15,860,748	$16,896,727	$16,978,676	$17,271,068	$17,300,930	$16,699,516
9	Water Delivery Service Unit Equivalents (Year-end)	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
10	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent		$7.61	$7.58	$7.26	$6.55	$6.30	$6.89	$6.67	$6.39	$6.28	$6.30
11	Water Delivery Cumulative Growth in Service Unit Equivalents		14,901	30,057	45,473	61,152	77,100	93,321	109,820	126,601	143,669	161,029
12	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections		$113,399	$227,934	$330,322	$400,758	$485,430	$642,562	$732,536	$808,588	$901,744	$1,015,143
13	Water Delivery Credit Amount	$14,261,890										
14	Water Delivery Growth Rate	1.71%										
15	Total Sewer Delivery Debt Service Payment - Revenue Bonds		$97,469,259	$98,177,717	$102,008,553	$99,349,174	$104,040,570	$109,852,215	$109,109,923	$109,820,123	$109,824,678	$110,764,433
16	Sewer Service Unit Equivalents	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
17	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent		$9.94	$9.84	$10.06	$9.63	$9.91	$10.29	$10.05	$9.95	$9.78	$9.70
18	Sewer Cumulative Growth in Service Unit Equivalents		13,708	27,650	41,831	56,254	70,924	85,845	101,022	116,459	132,160	148,129
19	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections		$136,259	$272,183	$420,645	$541,661	$703,128	$883,469	$1,015,257	$1,158,189	$1,292,269	$1,436,224
20	Sewer Credit Amount	$24,307,200										
21	Sewer Growth Rate	1.71%										

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Total Water Supply Debt Service Payment - Revenue Bonds	$34,326,032	$35,330,923	$35,324,374	$35,319,184	$34,302,826	$34,291,331	$29,845,575	$12,751,615	$12,742,786	$12,014,239
2	Water Supply Service Unit Equivalents (Year-end)	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
3	Water Supply Debt Service for Fee Eligible Projects per Service Unit Equivalent	$15.69	$15.59	$15.35	$15.06	$14.66	$14.41	$13.53	$10.79	$10.61	$10.33
4	Water Supply Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
5	Water Supply Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$2,526,294	$2,509,834	$2,471,719	$2,425,769	$2,359,897	$2,319,901	$2,178,966	$1,738,010	$1,708,556	$1,663,308
6	Water Supply Credit Amount										
7	Water Supply Growth Rate										
8	Total Water Delivery Debt Service Payment - Revenue Bonds	$16,459,804	$16,632,486	$16,660,295	$16,630,468	$16,455,816	$16,453,841	$15,718,812	$12,752,433	$12,750,916	$12,625,721
9	Water Delivery Service Unit Equivalents (Year-end)	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
10	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent	$6.91	$5.48	$5.06	$4.97	$4.42	$4.34	$3.55	$2.54	$2.50	$2.23
11	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
12	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$1,113,375	$882,248	$815,099	$801,107	$711,302	$699,119	$571,342	$409,236	$402,167	$358,664
13	Water Delivery Credit Amount										
14	Water Delivery Growth Rate										
15	Total Sewer Delivery Debt Service Payment - Revenue Bonds	$112,393,133	$114,968,229	$114,973,177	$114,964,390	$111,537,290	$109,021,763	$101,185,975	$83,003,390	$82,199,342	$77,263,889
16	Sewer Service Unit Equivalents	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
17	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent	$9.67	$9.73	$9.56	$9.40	$8.97	$8.62	$7.87	$6.34	$6.18	$5.71
18	Sewer Cumulative Growth in Service Unit Equivalents	148,129	148,129	148,129	148,129	148,129	148,129	148,129	148,129	148,129	148,129
19	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$1,432,815	$1,440,976	$1,416,785	$1,392,834	$1,328,571	$1,276,751	$1,165,043	$939,607	$914,844	$845,442
20	Sewer Credit Amount										
21	Sewer Growth Rate										

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Total Water Supply Debt Service Payment - Revenue Bonds	$7,817,414	$5,227,190	$2,010,885	$2,010,773	$2,011,158	$429,842	$429,959	$0	$0	$0
2	Water Supply Service Unit Equivalents (Year-end)	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
3	Water Supply Debt Service for Fee Eligible Projects per Service Unit Equivalent	$9.60	$9.06	$8.48	$8.34	$8.22	$7.86	$2.26	$0.00	$0.00	$0.00
4	Water Supply Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
5	Water Supply Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$1,545,652	$1,459,273	$1,365,517	$1,342,533	$1,323,447	$1,265,399	$364,050	$0	$0	$0
6	Water Supply Credit Amount										
7	Water Supply Growth Rate										
8	Total Water Delivery Debt Service Payment - Revenue Bonds	$11,933,469	$11,459,428	$10,906,734	$10,906,715	$10,935,716	$10,635,046	$3,112,033	$0	$0	$0
9	Water Delivery Service Unit Equivalents (Year-end)	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
10	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent	$2.19	$1.95	$1.77	$1.46	$1.44	$1.00	$0.90	$0.71	$0.00	$0.00
11	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
12	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$352,418	$313,836	$285,173	$235,609	$231,746	$160,858	$145,357	$114,818	$0	$0
13	Water Delivery Credit Amount										
14	Water Delivery Growth Rate										
15	Total Sewer Delivery Debt Service Payment - Revenue Bonds	$69,175,690	$64,867,344	$62,530,392	$56,032,954	$56,033,045	$50,202,659	$39,863,103	$20,317,765	$0	$0
16	Sewer Service Unit Equivalents	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
17	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent	$5.02	$4.63	$4.39	$3.87	$3.80	$3.35	$2.61	$1.31	$0.00	$0.00
18	Sewer Cumulative Growth in Service Unit Equivalents	148,129	148,129	148,129	148,129	148,129	148,129	148,129	148,129	148,129	148,129
19	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$744,200	$686,105	$650,256	$572,882	$563,241	$496,142	$387,328	$194,094	$0	$0
20	Sewer Credit Amount										
21	Sewer Growth Rate										

APPENDIX E

CREDIT FOR PROJECTED PRINCIPAL PAYMENTS ON ELIGIBLE FUTURE CIP

All Service Areas

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Principal Payment	$35,070	$71,893	$110,558	$151,155	$193,783	$238,542	$285,539	$334,886	$386,700	$441,105
5	Principal Payment per EDU	$0.04	$0.08	$0.12	$0.16	$0.20	$0.25	$0.29	$0.34	$0.38	$0.43
6	Water Supply Cumulative Growth in Service Unit Equivalents	14,901	30,057	45,473	61,152	77,100	93,321	109,820	126,601	143,669	161,029
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$590	$2,400	$5,489	$9,922	$15,767	$23,097	$31,988	$42,521	$54,782	$68,861
8	**Water Supply Credit Amount**	**$2,809,909**									
9	Study Period Incremental EDUs	161,029									
10	**Water Supply Credit for Future Principal per EDU**	**$17**									

All Service Areas

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Principal Payment	$463,160	$486,318	$510,634	$536,166	$562,974	$591,123	$620,679	$651,713	$684,298	$718,513
5	Principal Payment per EDU	$0.44	$0.46	$0.47	$0.49	$0.50	$0.52	$0.53	$0.55	$0.57	$0.59
6	Water Supply Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$71,087	$73,385	$75,758	$78,207	$80,735	$83,345	$86,039	$88,821	$91,692	$94,657
8	**Water Supply Credit Amount**										
9	Study Period Incremental EDUs										
10	**Water Supply Credit for Future Principal per EDU**										

All Service Areas

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Principal Payment	$754,439	$792,161	$831,769	$873,357	$917,025	$962,876	$1,011,020	$1,061,571	$1,114,650	$1,170,382
5	Principal Payment per EDU	$0.61	$0.63	$0.65	$0.67	$0.69	$0.71	$0.73	$0.76	$0.78	$0.81
6	Water Supply Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$97,717	$100,876	$104,137	$107,504	$110,979	$114,567	$118,270	$122,094	$126,041	$130,116
8	**Water Supply Credit Amount**										
9	Study Period Incremental EDUs										
10	**Water Supply Credit for Future Principal per EDU**										

All Service Areas

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Principal Payment	$1,077,331	$979,628	$877,040	$769,322	$656,218	$537,459	$412,762	$281,831	$144,352	$0
5	Principal Payment per EDU	$0.73	$0.65	$0.58	$0.50	$0.42	$0.34	$0.25	$0.17	$0.09	$0.00
6	Water Supply Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$117,755	$105,274	$92,663	$79,914	$67,018	$53,966	$40,748	$27,354	$13,775	$0
8	**Water Supply Credit Amount**										
9	Study Period Incremental EDUs										
10	**Water Supply Credit for Future Principal per EDU**										

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$120,110	$246,226	$378,648	$517,691	$663,686	$816,981	$977,940	$1,146,948	$1,324,406	$1,510,736
5	Debt Service Payment per EDU	$0.1357	$0.2734	$0.4134	$0.5557	$0.7004	$0.8477	$0.9976	$1.1503	$1.3059	$1.4646
6	Water Delivery Cumulative Growth in Service Unit Equivalents	14,901	30,057	45,473	61,152	77,100	93,321	109,820	126,601	143,669	161,029
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$2,021	$8,218	$18,798	$33,981	$54,001	$79,105	$109,556	$145,630	$187,621	$235,841
8	**Water Delivery - Flow Credit Amount for Distribution Mains**	**$9,623,637**									
9	Study Period Incremental EDUs	161,029									
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**	**$60**									

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$1,586,273	$1,665,587	$1,748,866	$1,836,309	$1,928,125	$2,024,531	$2,125,758	$2,232,046	$2,343,648	$2,460,830
5	Debt Service Payment per EDU	$1.5119	$1.5608	$1.6113	$1.6634	$1.7171	$1.7726	$1.8300	$1.8891	$1.9502	$2.0132
6	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$243,465	$251,336	$259,462	$267,850	$276,509	$285,448	$294,676	$304,202	$314,037	$324,189
8	**Water Delivery - Flow Credit Amount for Distribution Mains**										
9	Study Period Incremental EDUs										
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**										

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$2,583,872	$2,713,065	$2,848,719	$2,991,155	$3,140,712	$3,297,748	$3,462,635	$3,635,767	$3,817,556	$4,008,433
5	Debt Service Payment per EDU	$2.0783	$2.1455	$2.2149	$2.2865	$2.3604	$2.4367	$2.5155	$2.5968	$2.6807	$2.7674
6	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$334,669	$345,489	$356,658	$368,188	$380,091	$392,379	$405,064	$418,159	$431,677	$445,633
8	**Water Delivery - Flow Credit Amount for Distribution Mains**										
9	Study Period Incremental EDUs										
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**										

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$3,689,745	$3,355,121	$3,003,767	$2,634,845	$2,247,477	$1,840,740	$1,413,667	$965,239	$494,391	$0
5	Debt Service Payment per EDU	$2.5045	$2.2390	$1.9708	$1.6997	$1.4254	$1.1478	$0.8667	$0.5818	$0.2930	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$403,299	$360,552	$317,362	$273,698	$229,531	$184,827	$139,556	$93,684	$47,177	$0
8	**Water Delivery - Flow Credit Amount for Distribution Mains**										
9	Study Period Incremental EDUs										
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**										

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$5,268	$10,799	$16,607	$22,706	$29,109	$35,832	$42,892	$50,305	$58,088	$66,260
5	Debt Service Payment per EDU	$0.0059	$0.0120	$0.0181	$0.0244	$0.0307	$0.0372	$0.0438	$0.0505	$0.0573	$0.0642
6	Water Delivery Cumulative Growth in Service Unit Equivalents	14,901	30,057	45,473	61,152	77,100	93,321	109,820	126,601	143,669	161,029
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$89	$360	$824	$1,490	$2,368	$3,470	$4,805	$6,387	$8,229	$10,344
8	**Water Delivery - System Development Credit Amount for Well Pumps**	**$422,089**									
9	Study Period Incremental EDUs	161,029									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**	**$3**									

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$69,573	$73,052	$76,705	$80,540	$84,567	$88,795	$93,235	$97,897	$102,792	$107,931
5	Debt Service Payment per EDU	$0.0663	$0.0685	$0.0707	$0.0730	$0.0753	$0.0777	$0.0803	$0.0829	$0.0855	$0.0883
6	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$10,678	$11,024	$11,380	$11,748	$12,128	$12,520	$12,924	$13,342	$13,774	$14,219
8	**Water Delivery - System Development Credit Amount for Well Pumps**										
9	Study Period Incremental EDUs										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**										

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$113,328	$118,994	$124,944	$131,191	$137,751	$144,638	$151,870	$159,463	$167,437	$175,808
5	Debt Service Payment per EDU	$0.0912	$0.0941	$0.0971	$0.1003	$0.1035	$0.1069	$0.1103	$0.1139	$0.1176	$0.1214
6	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$14,678	$15,153	$15,643	$16,149	$16,671	$17,210	$17,766	$18,340	$18,933	$19,545
8	**Water Delivery - System Development Credit Amount for Well Pumps**										
9	Study Period Incremental EDUs										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**										

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$161,831	$147,154	$131,744	$115,563	$98,574	$80,734	$62,003	$42,335	$21,684	$0
5	Debt Service Payment per EDU	$0.1098	$0.0982	$0.0864	$0.0745	$0.0625	$0.0503	$0.0380	$0.0255	$0.0128	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029	161,029
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$17,689	$15,814	$13,919	$12,004	$10,067	$8,106	$6,121	$4,109	$2,069	$0
8	**Water Delivery - System Development Credit Amount for Well Pumps**										
9	Study Period Incremental EDUs										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**										

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

	High Elevation Service Area		High Elevation	Total System
		EDUs	11,964	161,029
		Growth	3.35%	1.71%

Line No.	**Description**	**1** **2024**	**2** **2025**	**3** **2026**	**4** **2027**	**5** **2028**	**6** **2029**	**7** **2030**	**8** **2031**	**9** **2032**	**10** **2033**
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$9,934	$20,365	$31,317	$42,817	$54,891	$67,570	$80,882	$94,860	$109,537	$124,948
5	Debt Service Payment per EDU	$0.0112	$0.0226	$0.0342	$0.0460	$0.0579	$0.0701	$0.0825	$0.0951	$0.1080	$0.1211
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	1,107	2,233	3,379	4,543	5,728	6,933	8,159	9,406	10,674	11,964
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$12	$50	$116	$209	$332	$486	$673	$895	$1,153	$1,449
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**	**$59,136**									
9	Study Period Incremental EDUs in High Elevation Service Area	11,964									
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**	**$5**									

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

High Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$131,196	$137,755	$144,643	$151,875	$159,469	$167,442	$175,815	$184,605	$193,836	$203,527
5	Debt Service Payment per EDU	$0.1250	$0.1291	$0.1333	$0.1376	$0.1420	$0.1466	$0.1513	$0.1562	$0.1613	$0.1665
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$1,496	$1,544	$1,594	$1,646	$1,699	$1,754	$1,811	$1,869	$1,930	$1,992
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**										

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

High Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$213,704	$224,389	$235,608	$247,389	$259,758	$272,746	$286,383	$300,703	$315,738	$331,525
5	Debt Service Payment per EDU	$0.1719	$0.1774	$0.1832	$0.1891	$0.1952	$0.2015	$0.2080	$0.2148	$0.2217	$0.2289
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$2,057	$2,123	$2,192	$2,262	$2,336	$2,411	$2,489	$2,570	$2,653	$2,738
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**										

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

High Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$305,167	$277,491	$248,432	$217,919	$185,882	$152,242	$116,920	$79,832	$40,889	$0
5	Debt Service Payment per EDU	$0.2071	$0.1852	$0.1630	$0.1406	$0.1179	$0.0949	$0.0717	$0.0481	$0.0242	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$2,478	$2,216	$1,950	$1,682	$1,410	$1,136	$858	$576	$290	$0
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**										

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

	Middle Elevation Service Area		Middle Elevation	Total System							
		EDUs	58,592	161,029							
		Growth	1.79%	1.71%							
Line		1	2	3	4	5	6	7	8	9	10
No.	Description	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$15,653	$32,090	$49,348	$67,469	$86,495	$106,474	$127,451	$149,477	$172,604	$196,888
5	Debt Service Payment per EDU	$0.0177	$0.0356	$0.0539	$0.0724	$0.0913	$0.1105	$0.1300	$0.1499	$0.1702	$0.1909
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	5,422	10,937	16,546	22,251	28,054	33,956	39,959	46,065	52,275	58,592
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$96	$390	$891	$1,611	$2,561	$3,751	$5,195	$6,906	$8,897	$11,184
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**	**$456,356**									
9	Study Period Incremental EDUs in Middle Elevation Service Area	58,592									
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**	**$8**									

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Middle Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$206,732	$217,069	$227,922	$239,319	$251,284	$263,849	$277,041	$290,893	$305,438	$320,710
5	Debt Service Payment per EDU	$0.1970	$0.2034	$0.2100	$0.2168	$0.2238	$0.2310	$0.2385	$0.2462	$0.2542	$0.2624
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$11,545	$11,918	$12,304	$12,702	$13,112	$13,536	$13,974	$14,425	$14,892	$15,373
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**										

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Middle Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$336,745	$353,582	$371,262	$389,825	$409,316	$429,782	$451,271	$473,834	$497,526	$522,402
5	Debt Service Payment per EDU	$0.2709	$0.2796	$0.2887	$0.2980	$0.3076	$0.3176	$0.3278	$0.3384	$0.3494	$0.3607
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$15,870	$16,383	$16,913	$17,460	$18,024	$18,607	$19,208	$19,829	$20,470	$21,132
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**										

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Middle Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$480,869	$437,259	$391,468	$343,388	$292,904	$239,896	$184,237	$125,796	$64,432	$0
5	Debt Service Payment per EDU	$0.3264	$0.2918	$0.2569	$0.2215	$0.1858	$0.1496	$0.1129	$0.0758	$0.0382	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$19,125	$17,097	$15,049	$12,979	$10,884	$8,765	$6,618	$4,443	$2,237	$0
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**										

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$46,810	$95,960	$147,568	$201,757	$258,655	$318,397	$381,127	$446,993	$516,153	$588,771
5	Debt Service Payment per EDU	$0.0529	$0.1066	$0.1611	$0.2166	$0.2730	$0.3304	$0.3888	$0.4483	$0.5090	$0.5708
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	8,372	16,887	25,549	34,358	43,318	52,432	61,702	71,130	80,719	90,473
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$443	$1,799	$4,116	$7,441	$11,824	$17,321	$23,989	$31,888	$41,082	$51,641
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**	**$2,107,229**									
9	Study Period Incremental EDUs in Low Elevation Service Area	90,473									
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**	**$23**									

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$618,209	$649,120	$681,576	$715,654	$751,437	$789,009	$828,459	$869,882	$913,377	$959,045
5	Debt Service Payment per EDU	$0.5892	$0.6083	$0.6280	$0.6483	$0.6692	$0.6908	$0.7132	$0.7362	$0.7600	$0.7846
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$53,310	$55,034	$56,813	$58,649	$60,545	$62,503	$64,523	$66,609	$68,763	$70,986
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**										

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$1,006,998	$1,057,348	$1,110,215	$1,165,726	$1,224,012	$1,285,213	$1,349,473	$1,416,947	$1,487,794	$1,562,184
5	Debt Service Payment per EDU	$0.8100	$0.8362	$0.8632	$0.8911	$0.9199	$0.9496	$0.9803	$1.0120	$1.0448	$1.0785
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$73,281	$75,650	$78,095	$80,620	$83,226	$85,917	$88,694	$91,562	$94,522	$97,577
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**										

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$1,437,983	$1,307,572	$1,170,641	$1,026,863	$875,896	$717,381	$550,940	$376,177	$192,676	$0
5	Debt Service Payment per EDU	$0.9761	$0.8726	$0.7681	$0.6624	$0.5555	$0.4473	$0.3378	$0.2267	$0.1142	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$88,308	$78,948	$69,491	$59,930	$50,259	$40,471	$30,558	$20,513	$10,330	$0
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**										

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Debt Service Payment per EDU	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	1,107	2,233	3,379	4,543	5,728	6,933	8,159	9,406	10,674	11,964
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**	**$0**									
9	Study Period Incremental EDUs in High Elevation Service Area	11,964									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**	**$0**									

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Debt Service Payment per EDU	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**										

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Debt Service Payment per EDU	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**										

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Debt Service Payment per EDU	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**										

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$9,783	$20,056	$30,842	$42,168	$54,060	$66,546	$79,657	$93,423	$107,878	$123,055
5	Debt Service Payment per EDU	$0.0110	$0.0223	$0.0337	$0.0453	$0.0571	$0.0690	$0.0813	$0.0937	$0.1064	$0.1193
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	5,422	10,937	16,546	22,251	28,054	33,956	39,959	46,065	52,275	58,592
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$60	$244	$557	$1,007	$1,600	$2,345	$3,247	$4,316	$5,561	$6,990
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**	**$285,223**									
9	Study Period Incremental EDUs in Middle Elevation Service Area	58,592									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**	**$5**									

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$129,208	$135,668	$142,452	$149,574	$157,053	$164,905	$173,151	$181,808	$190,899	$200,444
5	Debt Service Payment per EDU	$0.1232	$0.1271	$0.1312	$0.1355	$0.1399	$0.1444	$0.1491	$0.1539	$0.1588	$0.1640
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$7,216	$7,449	$7,690	$7,938	$8,195	$8,460	$8,734	$9,016	$9,307	$9,608
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**										

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$210,466	$220,989	$232,038	$243,640	$255,822	$268,614	$282,044	$296,146	$310,954	$326,501
5	Debt Service Payment per EDU	$0.1693	$0.1748	$0.1804	$0.1862	$0.1923	$0.1985	$0.2049	$0.2115	$0.2184	$0.2254
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$9,919	$10,239	$10,571	$10,912	$11,265	$11,629	$12,005	$12,393	$12,794	$13,208
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**										

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$300,543	$273,287	$244,668	$214,618	$183,065	$149,935	$115,148	$78,622	$40,270	$0
5	Debt Service Payment per EDU	$0.2040	$0.1824	$0.1605	$0.1384	$0.1161	$0.0935	$0.0706	$0.0474	$0.0239	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$11,953	$10,686	$9,406	$8,112	$6,803	$5,478	$4,136	$2,777	$1,398	$0
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**										

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$17,083	$35,021	$53,855	$73,631	$94,396	$116,200	$139,093	$163,131	$188,371	$214,873
5	Debt Service Payment per EDU	$0.0193	$0.0389	$0.0588	$0.0790	$0.0996	$0.1206	$0.1419	$0.1636	$0.1857	$0.2083
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	8,372	16,887	25,549	34,358	43,318	52,432	61,702	71,130	80,719	90,473
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$162	$657	$1,502	$2,715	$4,315	$6,321	$8,755	$11,637	$14,993	$18,846
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**	**$769,037**									
9	Study Period Incremental EDUs in Low Elevation Service Area	90,473									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**	**$9**									

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$225,617	$236,897	$248,742	$261,179	$274,238	$287,950	$302,348	$317,465	$333,338	$350,005
5	Debt Service Payment per EDU	$0.2150	$0.2220	$0.2292	$0.2366	$0.2442	$0.2521	$0.2603	$0.2687	$0.2774	$0.2863
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$19,456	$20,085	$20,734	$21,404	$22,096	$22,810	$23,548	$24,309	$25,095	$25,906
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**										

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$367,506	$385,881	$405,175	$425,434	$446,705	$469,041	$492,493	$517,117	$542,973	$570,122
5	Debt Service Payment per EDU	$0.2956	$0.3052	$0.3150	$0.3252	$0.3357	$0.3466	$0.3578	$0.3693	$0.3813	$0.3936
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$26,744	$27,608	$28,501	$29,422	$30,374	$31,355	$32,369	$33,416	$34,496	$35,611
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**										

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$524,794	$477,201	$427,227	$374,755	$319,660	$261,810	$201,067	$137,287	$70,318	$0
5	Debt Service Payment per EDU	$0.3562	$0.3185	$0.2803	$0.2417	$0.2027	$0.1633	$0.1233	$0.0827	$0.0417	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$32,228	$28,812	$25,361	$21,872	$18,342	$14,770	$11,152	$7,486	$3,770	$0
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$75	$154	$237	$324	$416	$512	$613	$719	$830	$947
5	Debt Service Payment per EDU	$0.0001	$0.0002	$0.0003	$0.0003	$0.0004	$0.0005	$0.0006	$0.0007	$0.0008	$0.0009
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	5,422	10,937	16,546	22,251	28,054	33,956	39,959	46,065	52,275	58,592
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$0	$2	$4	$8	$12	$18	$25	$33	$43	$54
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**	**$2,194**									
9	Study Period Incremental EDUs in Middle Elevation Service Area	58,592									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**	**$0**									

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$994	$1,044	$1,096	$1,151	$1,208	$1,269	$1,332	$1,399	$1,468	$1,542
5	Debt Service Payment per EDU	$0.0009	$0.0010	$0.0010	$0.0010	$0.0011	$0.0011	$0.0011	$0.0012	$0.0012	$0.0013
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$56	$57	$59	$61	$63	$65	$67	$69	$72	$74
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$1,619	$1,700	$1,785	$1,874	$1,968	$2,066	$2,170	$2,278	$2,392	$2,512
5	Debt Service Payment per EDU	$0.0013	$0.0013	$0.0014	$0.0014	$0.0015	$0.0015	$0.0016	$0.0016	$0.0017	$0.0017
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$76	$79	$81	$84	$87	$89	$92	$95	$98	$102
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$2,312	$2,102	$1,882	$1,651	$1,408	$1,153	$886	$605	$310	$0
5	Debt Service Payment per EDU	$0.0016	$0.0014	$0.0012	$0.0011	$0.0009	$0.0007	$0.0005	$0.0004	$0.0002	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$92	$82	$72	$62	$52	$42	$32	$21	$11	$0
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Low Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$527	$1,080	$1,661	$2,271	$2,911	$3,583	$4,289	$5,030	$5,809	$6,626
5	Debt Service Payment per EDU	$0.0006	$0.0012	$0.0018	$0.0024	$0.0031	$0.0037	$0.0044	$0.0050	$0.0057	$0.0064
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	8,372	16,887	25,549	34,358	43,318	52,432	61,702	71,130	80,719	90,473
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$5	$20	$46	$84	$133	$195	$270	$359	$462	$581
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**	**$23,715**									
9	Study Period Incremental EDUs in Low Elevation Service Area	90,473									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**	**$0**									

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$6,957	$7,305	$7,670	$8,054	$8,457	$8,880	$9,323	$9,790	$10,279	$10,793
5	Debt Service Payment per EDU	$0.0066	$0.0068	$0.0071	$0.0073	$0.0075	$0.0078	$0.0080	$0.0083	$0.0086	$0.0088
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$600	$619	$639	$660	$681	$703	$726	$750	$774	$799
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$11,333	$11,899	$12,494	$13,119	$13,775	$14,464	$15,187	$15,946	$16,744	$17,581
5	Debt Service Payment per EDU	$0.0091	$0.0094	$0.0097	$0.0100	$0.0104	$0.0107	$0.0110	$0.0114	$0.0118	$0.0121
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$825	$851	$879	$907	$937	$967	$998	$1,030	$1,064	$1,098
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$16,183	$14,715	$13,174	$11,556	$9,857	$8,073	$6,200	$4,234	$2,168	$0
5	Debt Service Payment per EDU	$0.0110	$0.0098	$0.0086	$0.0075	$0.0063	$0.0050	$0.0038	$0.0026	$0.0013	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$994	$888	$782	$674	$566	$455	$344	$231	$116	$0
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**										

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$6,322	$12,959	$19,929	$27,247	$34,931	$42,999	$51,471	$60,366	$69,706	$79,512
5	Debt Service Payment per EDU	$0.0071	$0.0144	$0.0218	$0.0292	$0.0369	$0.0446	$0.0525	$0.0605	$0.0687	$0.0771
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	1,107	2,233	3,379	4,543	5,728	6,933	8,159	9,406	10,674	11,964
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$8	$32	$74	$133	$211	$309	$428	$569	$734	$922
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**	**$37,632**									
9	Study Period Incremental EDUs in High Elevation Service Area	11,964									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**	**$3**									

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$83,488	$87,662	$92,046	$96,648	$101,480	$106,554	$111,882	$117,476	$123,350	$129,517
5	Debt Service Payment per EDU	$0.0796	$0.0821	$0.0848	$0.0875	$0.0904	$0.0933	$0.0963	$0.0994	$0.1026	$0.1060
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$952	$983	$1,015	$1,047	$1,081	$1,116	$1,152	$1,190	$1,228	$1,268
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**										

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$135,993	$142,793	$149,933	$157,429	$165,301	$173,566	$182,244	$191,356	$200,924	$210,970
5	Debt Service Payment per EDU	$0.1094	$0.1129	$0.1166	$0.1203	$0.1242	$0.1282	$0.1324	$0.1367	$0.1411	$0.1457
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$1,309	$1,351	$1,395	$1,440	$1,486	$1,534	$1,584	$1,635	$1,688	$1,743
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**										

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$194,197	$176,585	$158,093	$138,676	$118,288	$96,881	$74,404	$50,802	$26,021	$0
5	Debt Service Payment per EDU	$0.1318	$0.1178	$0.1037	$0.0895	$0.0750	$0.0604	$0.0456	$0.0306	$0.0154	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964	11,964
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$1,577	$1,410	$1,241	$1,070	$898	$723	$546	$366	$184	$0
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**										
9	Study Period Incremental EDUs in High Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**										

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$42,897	$87,938	$135,231	$184,890	$237,031	$291,779	$349,264	$409,624	$473,002	$539,549
5	Debt Service Payment per EDU	$0.0484	$0.0977	$0.1476	$0.1985	$0.2501	$0.3027	$0.3563	$0.4108	$0.4664	$0.5231
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	5,422	10,937	16,546	22,251	28,054	33,956	39,959	46,065	52,275	58,592
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$263	$1,068	$2,443	$4,416	$7,018	$10,280	$14,237	$18,925	$24,381	$30,648
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**	**$1,250,591**									
9	Study Period Incremental EDUs in Middle Elevation Service Area	58,592									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**	**$21**									

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$566,526	$594,852	$624,595	$655,825	$688,616	$723,047	$759,199	$797,159	$837,017	$878,868
5	Debt Service Payment per EDU	$0.5400	$0.5574	$0.5755	$0.5941	$0.6133	$0.6331	$0.6536	$0.6747	$0.6965	$0.7190
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$31,638	$32,661	$33,717	$34,807	$35,932	$37,094	$38,293	$39,531	$40,809	$42,128
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**										

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$922,811	$968,952	$1,017,400	$1,068,270	$1,121,683	$1,177,767	$1,236,656	$1,298,488	$1,363,413	$1,431,583
5	Debt Service Payment per EDU	$0.7423	$0.7663	$0.7910	$0.8166	$0.8430	$0.8702	$0.8984	$0.9274	$0.9574	$0.9884
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$43,490	$44,896	$46,348	$47,846	$49,393	$50,990	$52,638	$54,340	$56,096	$57,910
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**										

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$1,317,766	$1,198,258	$1,072,774	$941,016	$802,670	$657,407	$504,881	$344,728	$176,568	$0
5	Debt Service Payment per EDU	$0.8945	$0.7997	$0.7039	$0.6070	$0.5091	$0.4099	$0.3095	$0.2078	$0.1046	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592	58,592
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$52,409	$46,854	$41,241	$35,567	$29,827	$24,018	$18,135	$12,174	$6,131	$0
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**										
9	Study Period Incremental EDUs in Middle Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**										

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	870,481	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150
2	Incremental EDUs	14,901	15,156	15,416	15,679	15,948	16,221	16,499	16,781	17,068	17,360
3	Total EDUs	885,382	900,538	915,954	931,633	947,581	963,802	980,301	997,082	1,014,150	1,031,510
4	Annual Debt Service Payment	$29,501	$60,477	$93,001	$127,152	$163,011	$200,662	$240,196	$281,706	$325,293	$371,058
5	Debt Service Payment per EDU	$0.0333	$0.0672	$0.1015	$0.1365	$0.1720	$0.2082	$0.2450	$0.2825	$0.3208	$0.3597
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	8,372	16,887	25,549	34,358	43,318	52,432	61,702	71,130	80,719	90,473
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$279	$1,134	$2,594	$4,689	$7,452	$10,916	$15,118	$20,096	$25,891	$32,545
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**	**$1,328,028**									
9	Study Period Incremental EDUs in Low Elevation Service Area	90,473									
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**	**$15**									

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	1,031,510	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756
2	Incremental EDUs	17,658	17,960	18,267	18,580	18,898	19,222	19,551	19,885	20,226	20,572
3	Total EDUs	1,049,168	1,067,127	1,085,395	1,103,975	1,122,873	1,142,094	1,161,645	1,181,530	1,201,756	1,222,328
4	Annual Debt Service Payment	$389,611	$409,092	$429,546	$451,023	$473,575	$497,253	$522,116	$548,222	$575,633	$604,414
5	Debt Service Payment per EDU	$0.3714	$0.3834	$0.3958	$0.4085	$0.4218	$0.4354	$0.4495	$0.4640	$0.4790	$0.4945
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$33,597	$34,684	$35,805	$36,962	$38,157	$39,391	$40,664	$41,979	$43,336	$44,737
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**										

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,222,328	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067
2	Incremental EDUs	20,924	21,282	21,647	22,017	22,394	22,777	23,167	23,564	23,967	24,377
3	Total EDUs	1,243,252	1,264,534	1,286,180	1,308,197	1,330,591	1,353,369	1,376,536	1,400,100	1,424,067	1,448,444
4	Annual Debt Service Payment	$634,635	$666,367	$699,685	$734,670	$771,403	$809,973	$850,472	$892,995	$937,645	$984,527
5	Debt Service Payment per EDU	$0.5105	$0.5270	$0.5440	$0.5616	$0.5797	$0.5985	$0.6178	$0.6378	$0.6584	$0.6797
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$46,183	$47,676	$49,218	$50,809	$52,451	$54,147	$55,897	$57,704	$59,570	$61,496
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**										

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,448,444	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503
2	Incremental EDUs	24,795	25,219	25,651	26,090	26,537	26,991	27,453	27,923	28,401	28,887
3	Total EDUs	1,473,239	1,498,458	1,524,109	1,550,199	1,576,735	1,603,726	1,631,179	1,659,102	1,687,503	1,716,390
4	Annual Debt Service Payment	$906,253	$824,065	$737,767	$647,155	$552,012	$452,112	$347,216	$237,076	$121,429	$0
5	Debt Service Payment per EDU	$0.6151	$0.5499	$0.4841	$0.4175	$0.3501	$0.2819	$0.2129	$0.1429	$0.0720	$0.0000
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473	90,473
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$55,654	$49,755	$43,795	$37,769	$31,674	$25,506	$19,258	$12,928	$6,510	$0
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**										
9	Study Period Incremental EDUs in Low Elevation Service Area										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**										

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Medio Creek Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$10,009	$20,519	$31,554	$43,141	$55,307	$71,130	$86,181	$100,499	$115,533	$131,319
5	Debt Service Payment per EDU	$0.0123	$0.02	$0.04	$0.05	$0.06	$0.08	$0.10	$0.11	$0.12	$0.14
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	2,289	4,616	6,984	9,392	11,841	14,332	16,866	19,443	22,064	24,730
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$28	$114	$262	$473	$751	$1,150	$1,612	$2,130	$2,732	$3,422
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**	**$124,188**									
9	Study Period Incremental EDUs in Medio Creek Service Area	24,730									
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**	**$5**									

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Clouse Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$135,216	$139,378	$143,822	$148,565	$153,626	$155,979	$160,104	$166,015	$172,324	$179,054
5	Debt Service Payment per EDU	$0.14	$0.14	$0.14	$0.15	$0.15	$0.15	$0.15	$0.15	$0.16	$0.16
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$3,465	$3,511	$3,562	$3,618	$3,678	$3,672	$3,705	$3,777	$3,855	$3,938
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**										
9	Study Period Incremental EDUs in Medio Creek Service Area										
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**										

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Clouse Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$188,902	$199,292	$210,253	$221,817	$234,017	$246,888	$260,466	$274,792	$289,906	$305,850
5	Debt Service Payment per EDU	$0.17	$0.17	$0.18	$0.18	$0.19	$0.20	$0.21	$0.21	$0.22	$0.23
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$4,085	$4,237	$4,395	$4,558	$4,728	$4,904	$5,087	$5,276	$5,473	$5,677
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**										
9	Study Period Incremental EDUs in Medio Creek Service Area										
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**										

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Clouse Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$282,096	$257,034	$230,595	$202,701	$173,273	$142,227	$109,473	$74,917	$38,461	$0
5	Debt Service Payment per EDU	$0.21	$0.19	$0.16	$0.14	$0.12	$0.10	$0.07	$0.05	$0.02	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$5,148	$4,611	$4,067	$3,515	$2,954	$2,384	$1,804	$1,214	$613	$0
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**										
9	Study Period Incremental EDUs in Medio Creek Service Area										
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**										

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Clouse Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$54,938	$112,622	$173,191	$236,789	$303,566	$390,414	$473,021	$551,610	$634,128	$720,772
5	Debt Service Payment per EDU	$0.0675	$0.14	$0.21	$0.28	$0.35	$0.44	$0.52	$0.60	$0.68	$0.76
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Clouse	11,419	23,034	34,847	46,862	59,083	71,513	84,156	97,016	110,096	123,399
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$770	$3,132	$7,163	$12,948	$20,576	$31,491	$44,144	$58,346	$74,836	$93,735
8	**Wastewater Treatment Credit Amount for Leon Creek / Clouse Service Area**	**$3,401,239**									
9	Study Period Incremental EDUs in Leon Creek / Clouse Service Area	123,399									
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Clouse Service Area**	**$28**									

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Clouse Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$742,165	$765,009	$789,397	$815,430	$843,213	$856,125	$878,765	$911,212	$945,837	$982,779
5	Debt Service Payment per EDU	$0.77	$0.78	$0.79	$0.80	$0.82	$0.81	$0.82	$0.84	$0.86	$0.87
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Clouse	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$94,893	$96,167	$97,563	$99,084	$100,736	$100,557	$101,479	$103,455	$105,579	$107,856
8	**Wastewater Treatment Credit Amount for Leon Creek / Clouse Service Area**										
9	Study Period Incremental EDUs in Leon Creek / Clouse Service Area										
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Clouse Service Area**										

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Clouse Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$1,036,831	$1,093,857	$1,154,019	$1,217,490	$1,284,452	$1,355,097	$1,429,628	$1,508,257	$1,591,211	$1,678,728
5	Debt Service Payment per EDU	$0.91	$0.94	$0.98	$1.01	$1.05	$1.09	$1.13	$1.17	$1.21	$1.26
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Clouse	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$111,873	$116,040	$120,361	$124,844	$129,494	$134,317	$139,319	$144,508	$149,890	$155,473
8	**Wastewater Treatment Credit Amount for Leon Creek / Clouse Service Area**										
9	Study Period Incremental EDUs in Leon Creek / Clouse Service Area										
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Clouse Service Area**										

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Clouse Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$1,548,345	$1,410,791	$1,265,671	$1,112,570	$951,048	$780,643	$600,865	$411,200	$211,102	$0
5	Debt Service Payment per EDU	$1.14	$1.02	$0.90	$0.78	$0.66	$0.53	$0.40	$0.27	$0.14	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Clouse	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399	123,399
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$140,984	$126,297	$111,399	$96,276	$80,913	$65,298	$49,414	$33,247	$16,781	$0
8	**Wastewater Treatment Credit Amount for Leon Creek / Clouse Service Area**										
9	Study Period Incremental EDUs in Leon Creek / Clouse Service Area										
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Clouse Service Area**										

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$27,017	$55,386	$85,172	$116,448	$149,288	$191,998	$232,623	$271,271	$311,852	$354,462
5	Debt Service Payment per EDU	$0.0332	$0.07	$0.10	$0.14	$0.17	$0.22	$0.26	$0.30	$0.33	$0.37
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	2,289	4,616	6,984	9,392	11,841	14,332	16,866	19,443	22,064	24,730
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$76	$309	$706	$1,276	$2,028	$3,104	$4,351	$5,750	$7,376	$9,238
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**	**$335,214**									
9	Study Period Incremental EDUs in Medio Creek Service Area	24,730									
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**	**$14**									

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$364,982	$376,217	$388,210	$401,013	$414,676	$421,026	$432,160	$448,117	$465,144	$483,312
5	Debt Service Payment per EDU	$0.38	$0.38	$0.39	$0.39	$0.40	$0.40	$0.40	$0.41	$0.42	$0.43
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$9,352	$9,478	$9,615	$9,765	$9,928	$9,911	$10,001	$10,196	$10,405	$10,630
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**										
9	Study Period Incremental EDUs in Medio Creek Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**										

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$509,894	$537,938	$567,525	$598,738	$631,669	$666,411	$703,063	$741,732	$782,527	$825,566
5	Debt Service Payment per EDU	$0.45	$0.46	$0.48	$0.50	$0.52	$0.54	$0.56	$0.58	$0.60	$0.62
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$11,026	$11,436	$11,862	$12,304	$12,762	$13,238	$13,731	$14,242	$14,773	$15,323
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**										
9	Study Period Incremental EDUs in Medio Creek Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**										

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$761,446	$693,800	$622,433	$547,141	$467,707	$383,905	$295,494	$202,220	$103,816	$0
5	Debt Service Payment per EDU	$0.56	$0.50	$0.44	$0.38	$0.32	$0.26	$0.20	$0.13	$0.07	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730	24,730
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$13,895	$12,447	$10,979	$9,489	$7,975	$6,436	$4,870	$3,277	$1,654	$0
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**										
9	Study Period Incremental EDUs in Medio Creek Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**										

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$6,698	$13,731	$21,115	$28,869	$37,010	$47,598	$57,670	$67,251	$77,312	$87,875
5	Debt Service Payment per EDU	$0.0082	$0.02	$0.03	$0.03	$0.04	$0.05	$0.06	$0.07	$0.08	$0.09
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	2,406	4,852	7,341	9,872	12,446	15,064	17,728	20,436	23,192	25,994
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$20	$80	$184	$333	$528	$809	$1,134	$1,498	$1,922	$2,407
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**	**$87,351**									
9	Study Period Incremental EDUs in Upper Medina Service Area	25,994									
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**	**$3**									

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$90,483	$93,268	$96,242	$99,415	$102,803	$104,377	$107,137	$111,093	$115,314	$119,818
5	Debt Service Payment per EDU	$0.09	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10	$0.11
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$2,437	$2,470	$2,506	$2,545	$2,587	$2,583	$2,606	$2,657	$2,711	$2,770
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**										
9	Study Period Incremental EDUs in Upper Medina Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**										

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$126,408	$133,361	$140,696	$148,434	$156,598	$165,210	$174,297	$183,883	$193,997	$204,667
5	Debt Service Payment per EDU	$0.11	$0.11	$0.12	$0.12	$0.13	$0.13	$0.14	$0.14	$0.15	$0.15
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$2,873	$2,980	$3,091	$3,206	$3,326	$3,450	$3,578	$3,711	$3,849	$3,993
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**										
9	Study Period Incremental EDUs in Upper Medina Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**										

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$188,771	$172,001	$154,308	$135,642	$115,950	$95,174	$73,256	$50,133	$25,737	$0
5	Debt Service Payment per EDU	$0.14	$0.12	$0.11	$0.10	$0.08	$0.06	$0.05	$0.03	$0.02	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994	25,994
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$3,621	$3,244	$2,861	$2,473	$2,078	$1,677	$1,269	$854	$431	$0
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**										
9	Study Period Incremental EDUs in Upper Medina Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**										

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$3,462	$7,097	$10,913	$14,921	$19,129	$24,601	$29,807	$34,759	$39,959	$45,419
5	Debt Service Payment per EDU	$0.0043	$0.01	$0.01	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04	$0.05
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	3,147	6,347	9,602	12,913	16,280	19,705	23,189	26,732	30,336	34,002
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$13	$54	$124	$225	$357	$547	$766	$1,013	$1,299	$1,628
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**	**$59,056**									
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area	34,002									
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**	**$2**									

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$46,767	$48,206	$49,743	$51,383	$53,134	$53,948	$55,374	$57,419	$59,601	$61,929
5	Debt Service Payment per EDU	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.06
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$1,648	$1,670	$1,694	$1,720	$1,749	$1,746	$1,762	$1,796	$1,833	$1,873
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**										
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**										

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$65,335	$68,928	$72,719	$76,719	$80,938	$85,390	$90,086	$95,041	$100,268	$105,783
5	Debt Service Payment per EDU	$0.06	$0.06	$0.06	$0.06	$0.07	$0.07	$0.07	$0.07	$0.08	$0.08
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$1,942	$2,015	$2,090	$2,168	$2,248	$2,332	$2,419	$2,509	$2,603	$2,699
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**										
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**										

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$97,567	$88,899	$79,755	$70,107	$59,929	$49,191	$37,863	$25,911	$13,302	$0
5	Debt Service Payment per EDU	$0.07	$0.06	$0.06	$0.05	$0.04	$0.03	$0.03	$0.02	$0.01	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002	34,002
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$2,448	$2,193	$1,934	$1,672	$1,405	$1,134	$858	$577	$291	$0
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**										
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**										

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$30,780	$63,099	$97,035	$132,666	$170,080	$218,739	$265,022	$309,053	$355,286	$403,830
5	Debt Service Payment per EDU	$0.0378	$0.08	$0.12	$0.15	$0.20	$0.25	$0.29	$0.34	$0.38	$0.43
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	3,104	6,262	9,474	12,740	16,062	19,441	22,879	26,375	29,930	33,547
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$117	$477	$1,091	$1,972	$3,134	$4,796	$6,724	$8,887	$11,398	$14,277
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**	**$518,060**									
9	Study Period Incremental EDUs in Upper Collection Service Area	33,547									
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**	**$15**									

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$415,816	$428,614	$442,279	$456,864	$472,430	$479,665	$492,349	$510,529	$529,928	$550,625
5	Debt Service Payment per EDU	$0.43	$0.44	$0.44	$0.45	$0.46	$0.46	$0.46	$0.47	$0.48	$0.49
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$14,454	$14,648	$14,860	$15,092	$15,344	$15,316	$15,457	$15,758	$16,081	$16,428
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**										
9	Study Period Incremental EDUs in Upper Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**										

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$580,910	$612,860	$646,567	$682,128	$719,645	$759,226	$800,983	$845,037	$891,514	$940,548
5	Debt Service Payment per EDU	$0.51	$0.53	$0.55	$0.57	$0.59	$0.61	$0.63	$0.66	$0.68	$0.71
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$17,040	$17,675	$18,333	$19,016	$19,724	$20,458	$21,220	$22,011	$22,831	$23,681
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**										
9	Study Period Incremental EDUs in Upper Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**										

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$867,497	$790,429	$709,123	$623,344	$532,848	$437,374	$336,649	$230,384	$118,275	$0
5	Debt Service Payment per EDU	$0.64	$0.57	$0.51	$0.44	$0.37	$0.30	$0.22	$0.15	$0.08	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547	33,547
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$21,474	$19,237	$16,968	$14,664	$12,324	$9,946	$7,527	$5,064	$2,556	$0
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**										
9	Study Period Incremental EDUs in Upper Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**										

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$37,027	$75,904	$116,726	$159,589	$204,595	$263,128	$318,803	$371,770	$427,385	$485,781
5	Debt Service Payment per EDU	$0.0455	$0.09	$0.14	$0.19	$0.23	$0.30	$0.35	$0.41	$0.46	$0.51
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	3,686	7,434	11,247	15,125	19,070	23,081	27,162	31,313	35,534	39,828
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$168	$681	$1,558	$2,817	$4,476	$6,850	$9,603	$12,692	$16,279	$20,390
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**	**$739,871**									
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area	39,828									
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**	**$19**									

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$500,199	$515,595	$532,032	$549,578	$568,302	$577,005	$592,264	$614,132	$637,468	$662,366
5	Debt Service Payment per EDU	$0.52	$0.53	$0.53	$0.54	$0.55	$0.55	$0.55	$0.57	$0.58	$0.59
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$20,642	$20,919	$21,223	$21,554	$21,913	$21,874	$22,075	$22,505	$22,967	$23,462
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**										
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**										

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$698,796	$737,230	$777,777	$820,555	$865,686	$913,298	$963,530	$1,016,524	$1,072,433	$1,131,417
5	Debt Service Payment per EDU	$0.61	$0.63	$0.66	$0.68	$0.71	$0.73	$0.76	$0.79	$0.82	$0.85
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$24,336	$25,242	$26,182	$27,157	$28,169	$29,218	$30,306	$31,435	$32,606	$33,820
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**										
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**										

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$1,043,542	$950,834	$853,028	$749,842	$640,980	$526,132	$404,967	$277,137	$142,277	$0
5	Debt Service Payment per EDU	$0.77	$0.69	$0.61	$0.53	$0.44	$0.36	$0.27	$0.18	$0.09	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828	39,828
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$30,668	$27,473	$24,233	$20,943	$17,601	$14,204	$10,749	$7,232	$3,650	$0
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**										
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**										

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033
1	Beginning of Year EDUs	800,745	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905
2	Incremental EDUs	13,708	13,942	14,181	14,423	14,670	14,921	15,177	15,437	15,701	15,969
3	Total EDUs	814,453	828,395	842,576	856,999	871,669	886,590	901,767	917,204	932,905	948,874
4	Annual Debt Service Payment	$40,865	$83,773	$128,826	$176,132	$225,803	$290,404	$351,850	$410,307	$471,687	$536,136
5	Debt Service Payment per EDU	$0.0502	$0.10	$0.15	$0.21	$0.26	$0.33	$0.39	$0.45	$0.51	$0.57
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	8,273	16,687	25,245	33,950	42,803	51,808	60,968	70,284	79,760	89,397
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$415	$1,687	$3,860	$6,977	$11,088	$16,970	$23,788	$31,441	$40,328	$50,511
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**	**$1,832,844**									
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area	89,397									
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**	**$21**									

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
1	Beginning of Year EDUs	948,874	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481
2	Incremental EDUs	16,243	16,521	16,804	17,092	17,384	17,682	17,984	18,292	18,605	18,924
3	Total EDUs	965,117	981,638	998,442	1,015,534	1,032,918	1,050,599	1,068,584	1,086,876	1,105,481	1,124,405
4	Annual Debt Service Payment	$552,049	$569,041	$587,182	$606,546	$627,212	$636,816	$653,657	$677,792	$703,547	$731,026
5	Debt Service Payment per EDU	$0.57	$0.58	$0.59	$0.60	$0.61	$0.61	$0.61	$0.62	$0.64	$0.65
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$51,135	$51,822	$52,574	$53,394	$54,284	$54,188	$54,684	$55,749	$56,894	$58,121
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**										
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**										

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
1	Beginning of Year EDUs	1,124,405	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983
2	Incremental EDUs	19,248	19,577	19,912	20,253	20,600	20,953	21,311	21,676	22,047	22,425
3	Total EDUs	1,143,653	1,163,230	1,183,143	1,203,396	1,223,996	1,244,949	1,266,260	1,287,936	1,309,983	1,332,408
4	Annual Debt Service Payment	$771,232	$813,650	$858,401	$905,613	$955,421	$1,007,970	$1,063,408	$1,121,895	$1,183,600	$1,248,698
5	Debt Service Payment per EDU	$0.67	$0.70	$0.73	$0.75	$0.78	$0.81	$0.84	$0.87	$0.90	$0.94
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$60,286	$62,531	$64,860	$67,275	$69,781	$72,380	$75,076	$77,872	$80,772	$83,781
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**										
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**										

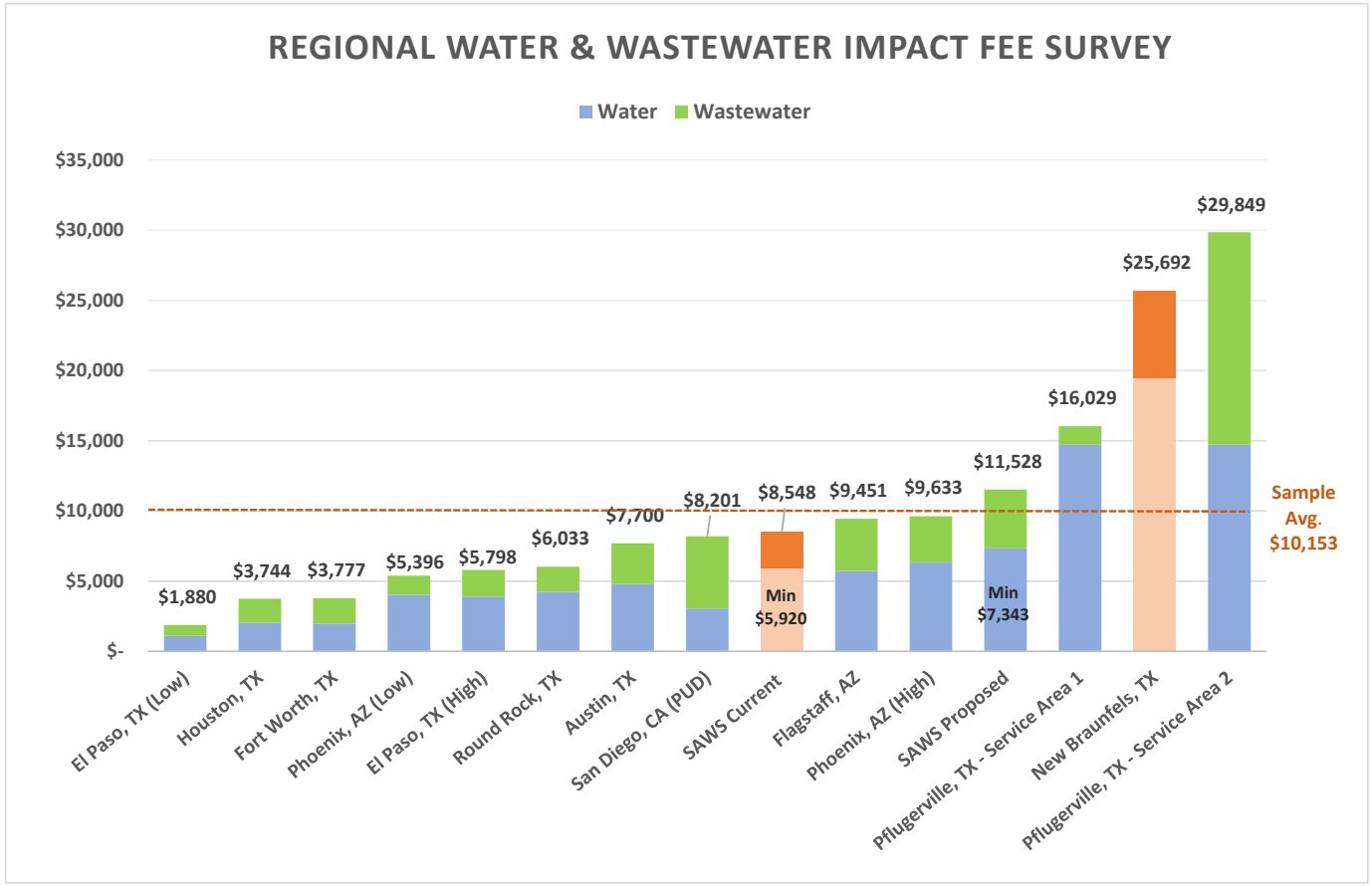
Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	31 2054	32 2055	33 2056	34 2057	35 2058	36 2059	37 2060	38 2061	39 2062	40 2063
1	Beginning of Year EDUs	1,332,408	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316
2	Incremental EDUs	22,808	23,199	23,596	24,000	24,411	24,829	25,254	25,686	26,126	26,573
3	Total EDUs	1,355,216	1,378,415	1,402,011	1,426,011	1,450,422	1,475,250	1,500,504	1,526,190	1,552,316	1,578,889
4	Annual Debt Service Payment	$1,151,714	$1,049,396	$941,451	$827,569	$707,424	$580,670	$446,945	$305,865	$157,026	$0
5	Debt Service Payment per EDU	$0.85	$0.76	$0.67	$0.58	$0.49	$0.39	$0.30	$0.20	$0.10	$0.00
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397	89,397
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$75,973	$68,059	$60,030	$51,881	$43,602	$35,187	$26,628	$17,916	$9,043	$0
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**										
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**										

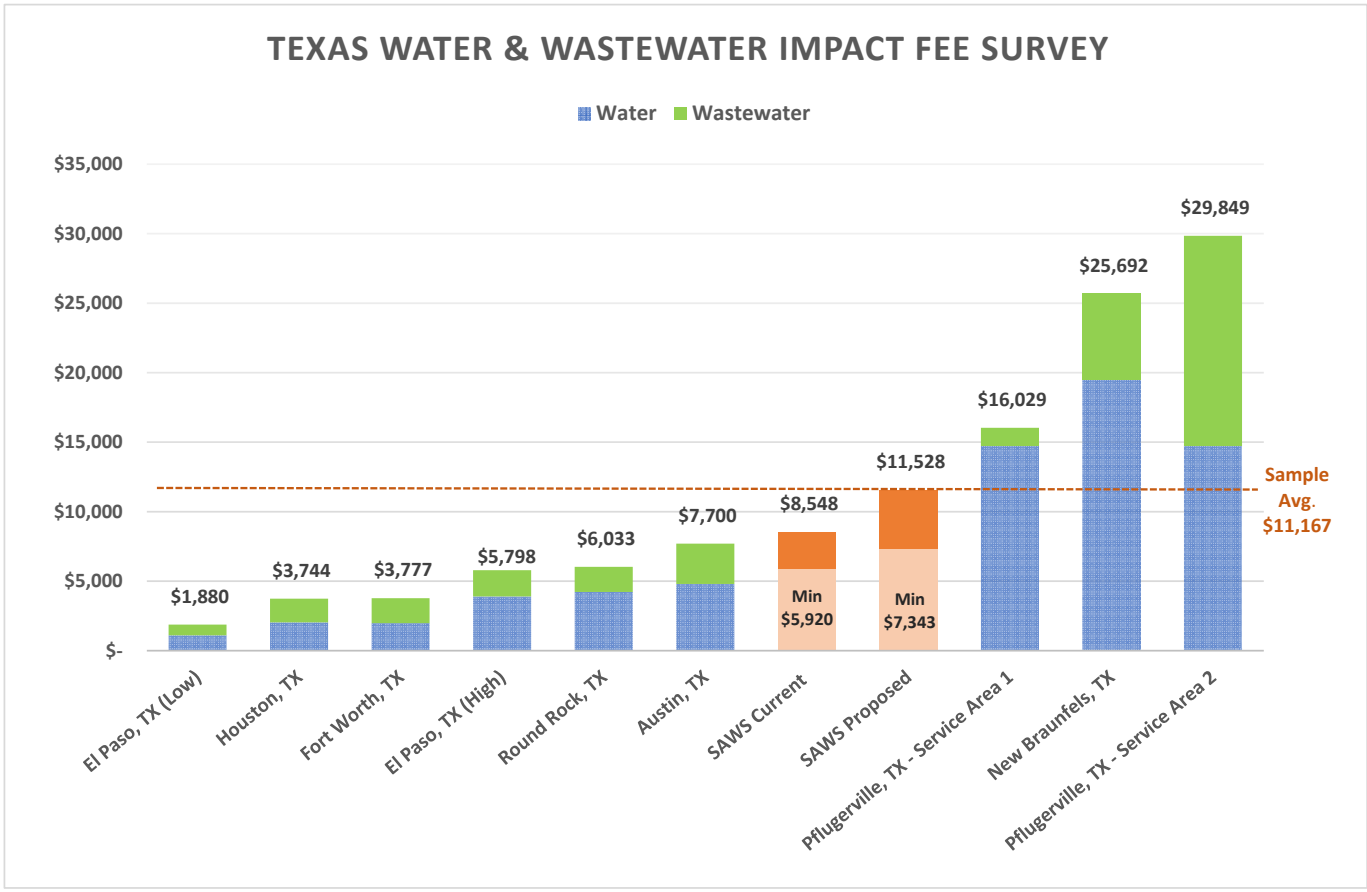
APPENDIX F

LOCAL AND NATIONAL WATER AND WASTEWATER IMPACT FEES COMPARISON

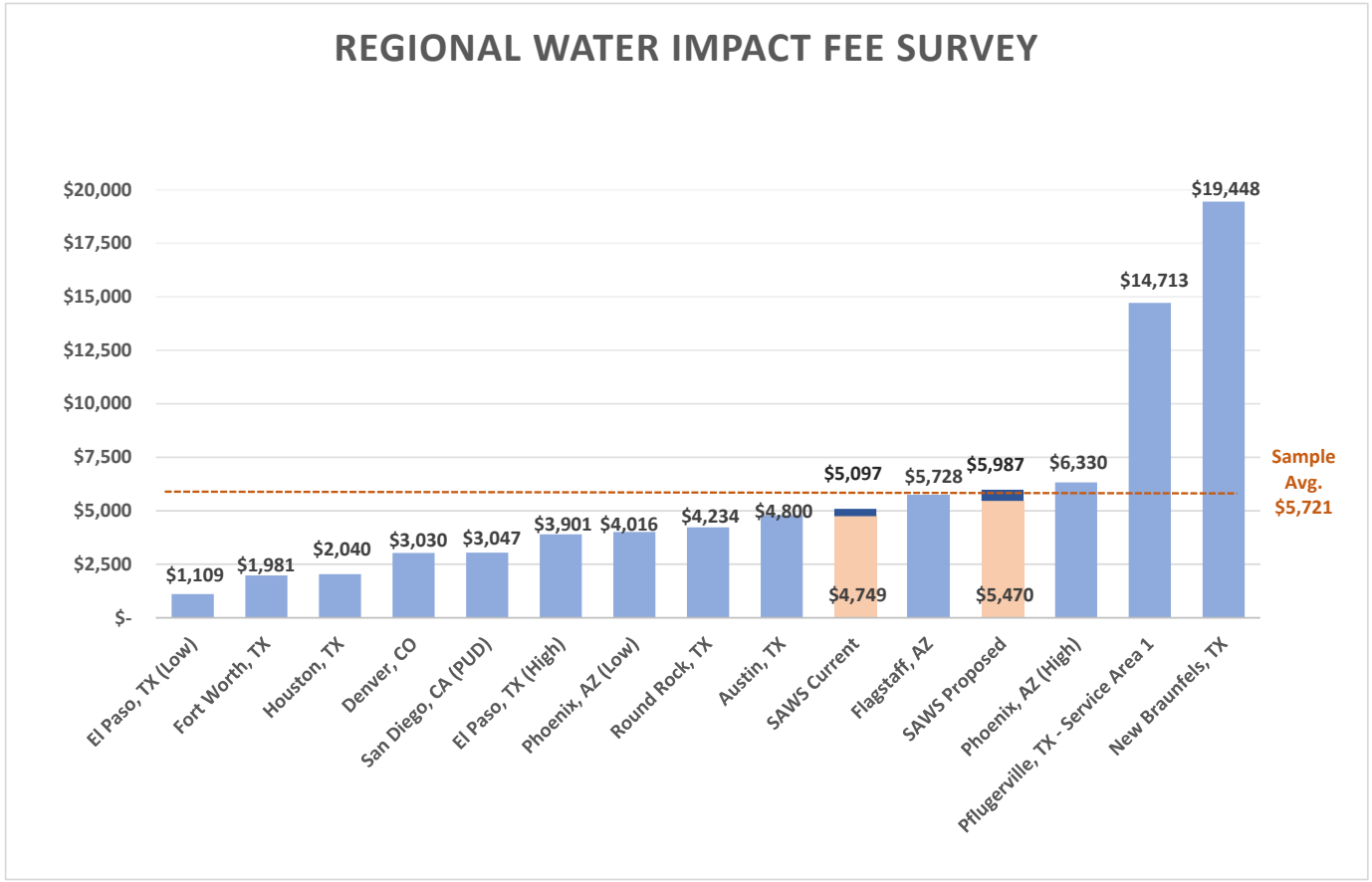
SAWS Water + Wastewter Impact Fee Compared to Southwest U.S. Cities Charging Impact Fees



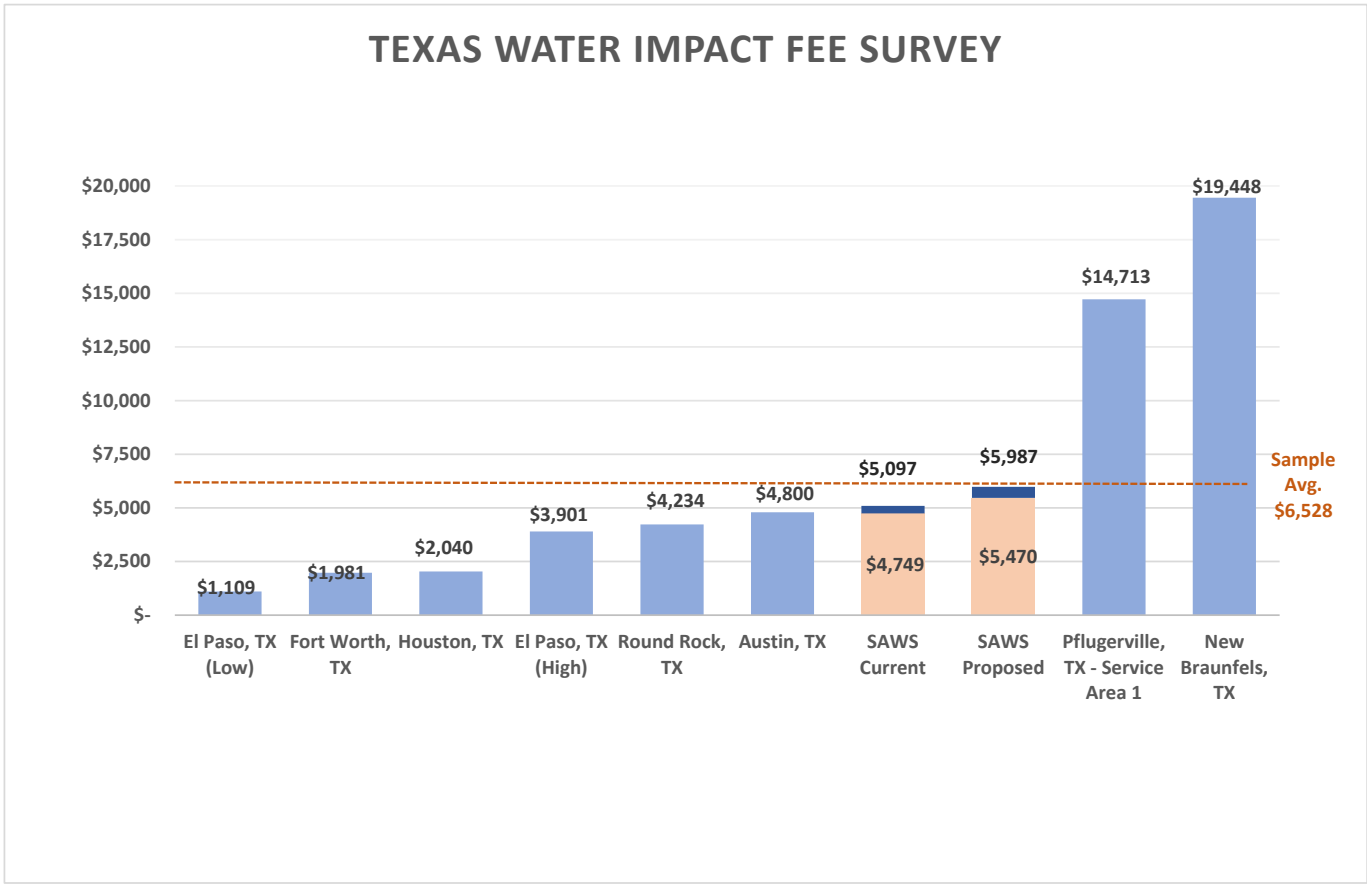
SAWS Water + Wastewter Impact Fee Compared to Texas Cities Charging Impact Fees



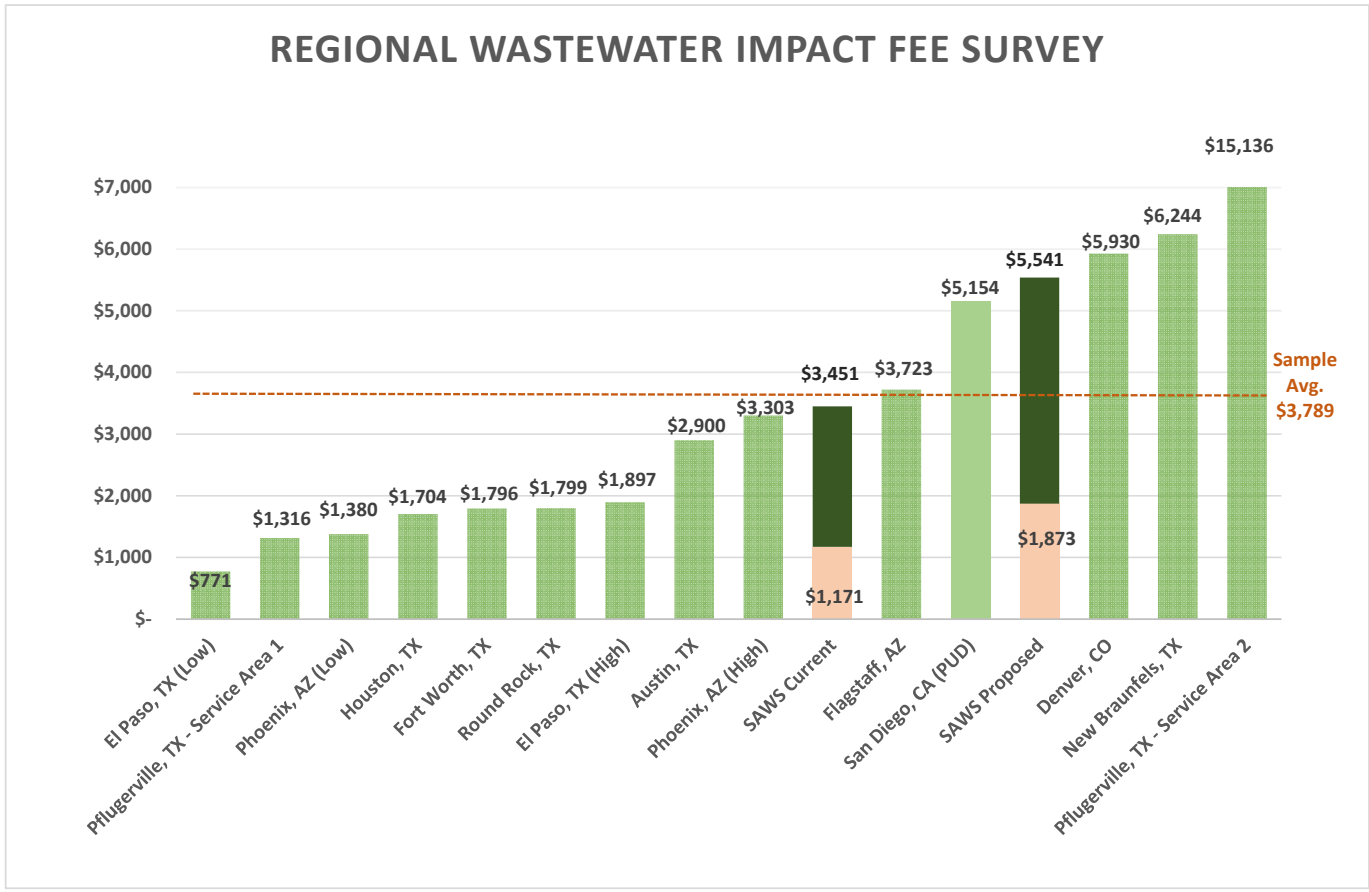
SAWS Water Impact Fee Compared to Southwest U.S. Cities Charging Impact Fees



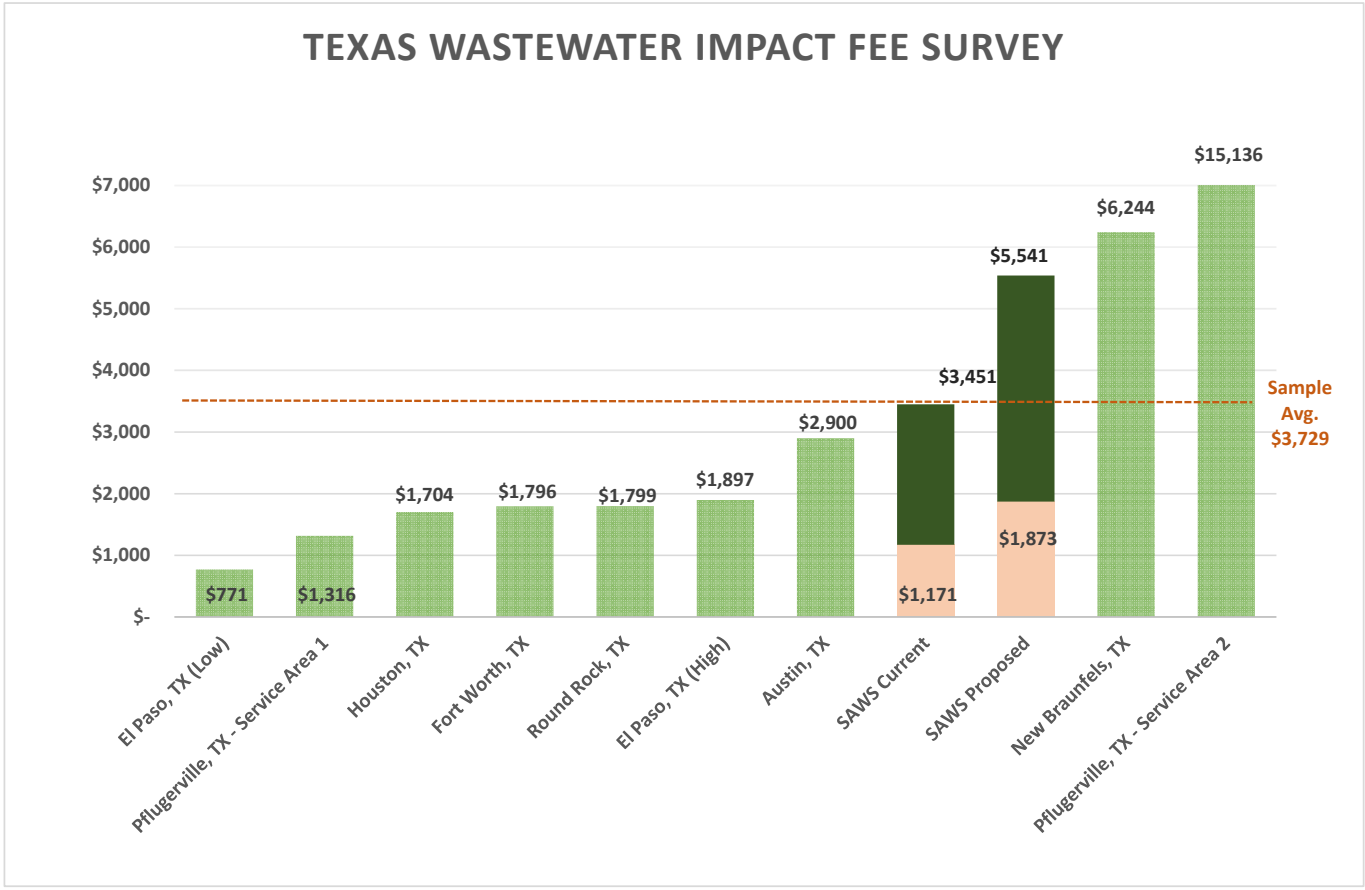
SAWS Water Impact Fee Compared to Texas Cities Charging Impact Fees



SAWS Wastewter Impact Fee Compared to Southwest U.S. Cities Charging Impact Fees



SAWS Wastewter Impact Fee Compared to Texas Cities Charging Impact Fees



APPENDIX G

2024 CIAC FINDINGS REPORT

CAPITAL IMPROVEMENTS ADVISORY COMMITTEE
REPORT TO THE SAN ANTONIO CITY COUNCIL ON THE UPDATE OF THE 2024 – 2033 LAND USE ASSUMPTION PLAN, CAPITAL IMPROVEMENTS PLAN AND MAXIMUM IMPACT

Chapter 395 of the Texas Local Government Code establishes both the procedural and substantive requirements for the City Council of the City of San Antonio (City) to adopt impact fees related to the San Antonio Water System's (SAWS) water and wastewater capital costs associated with new development. As part of those requirements, Section 395.058 of the Code requires the City Council to appoint an impact fee advisory committee but gives the Council the option to either: designate the Planning or Zoning Commission as the advisory committee; or create a separate and independent advisory committee. In August of 1987, pursuant to Resolution No. 87-41-64, the City Council created the Capital Improvements Advisory Committee (CIAC) as an independent impact fee advisory committee. Pursuant to Section 395.058, the CIAC is charged with the following responsibilities: advise and assist the City/SAWS in adopting a Land Use Assumptions Plan (LUAP); review the Capital Improvements Plan (CIP) and file written comments; monitor and evaluate the implementation of the CIP; file semiannual reports on the progress of the CIP and report any perceived inequities to the City/SAWS; and advise the City/SAWS of the need to update the CIP, LUAP and/or Impact Fees (see § 395.058). For the purposes of the proposed comprehensive five (5) year update, the CIAC's main purpose is to timely file its written comments consistent with those relevant responsibilities delineated above. The SAWS Board has the authority to make an independent recommendation to City Council and the Council has the final authority to adopt the updated CIP, LUAP and Impact Fees up to the maximum calculations. The CIAC shall meet at least semi-annually to review the status of the impact fee program and to meet the current legislative requirements.

District	Name	Real Estate/ Community	District	Name	Real Estate/ Community
1	Ms. Danielle Dawn Garcia	Community	**7**	Mr. Aaron R. Elizondo	Community
2	Ms. Susan M. Wright - Chair	Real Estate	**8**	Mr. Shad R. Schmid	Real Estate
3	Mr. Thad Rutherford	Real Estate	**9**	Mr. Michael D. Moore	Real Estate
4	Ms. Kacy D. Cigarroa – Vice Chair	Real Estate	**10**	Mr. Louis Ortiz	Community
5	Vacant		**ETJ**	Ms. Anita Ledbetter	Community
6	Mr. Michael Hogan	Real Estate			

BACKGROUND

1. Legal Basis

a. Impact fees may be adopted and collected under Chapter 395 of the Texas Local Government Code.
b. Impact fees are a framework for financing the capital improvements related to growth for water and sewer infrastructure.
c. Impact fees are a one-time charge to fund the cost of building new infrastructure to serve new development. They may be collected only for capital costs. Costs for operations and maintenance are not eligible.
d. Chapter 395 requires that impact fees must be updated every five years, for a ten-year period.
e. Chapter 395 of the L.G.C. requires utilities to calculate a rate credit for growth related capital improvements to be subtracted from the calculated impact fee.
f. The rate credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP.
g. Utilities can calculate the rate credit and apply it to the impact fee or apply a credit equal to 50% of the calculated impact fee.
h. SAWS has historically opted to calculate the rate credit which results in the calculation of the maximum impact fee.
i. Chapter 395 requires the calculation of the maximum impact fee. It does not require that the maximum impact fee be charged.
j. A copy of all agendas, minutes, recordings, and presentations to the CIAC will be maintained by SAWS. A copy of the draft 2024-2033 impact fee report is attached for reference.
k. The CIAC, in its advisory capacity to City Council, is required to file its written comments on the proposed updates and amendments to the CIP, LUAP and maximum impact fees no later than six (6) business days prior to the public hearing on the updates and amendments (see § 395.056).

2. Factual Basis

a. The San Antonio Water System updated impact fees in June 2019. The SAWS impact fees must be updated before June 2024.
b. Chapter 395 of the L.G.C. allows for financing costs to be included in the calculation of impact fees.
c. Financing costs for existing projects were included in the impact fee calculation.
d. Financing costs for future projects were not included since SAWS reserves the option to fund growth projects with cash.
e. Historically, the City of San Antonio has approved charging the maximum impact fee.
f. Many other cities charge an impact fee that is less than the maximum impact fee. A comparison of other U.S. and Texas cities' impact fees is in Appendix B.
g. If less than the maximum impact fee is charged the difference would be made up from other sources in order to fund future CIP.

h. Using a timeline of 1993 through July 2023, SAWS staff found that without the inclusion of an impact fee the average SAWS water bill would increase by approximately $11.00, equating to an overall rate increase of approximately 19%.

LAND USE ASSUMPTIONS PLAN (LUAP*)*

3. The Land Use Assumptions Plan is accepted and recommended for City Council approval.

a. 10-year water Land Use Assumptions Plan = 161,030 equivalent dwelling units (EDUs).
b. 10-year wastewater Land Use Assumptions Plan = 148,129 EDUs.
c. A summary of the change in EDUs, CIP, and maximum calculated impact fees is in Appendix A.
d. The committee recommended approval of the Land Use Assumptions Plan by a vote of 7-0.
e. The SAWS Water Management Plan was updated in 2024, and the population projections that were used by SAWS staff were developed using Alamo Area Municipal Planning Organization and Texas Water Development Board projected growth rates.

EQUIVALENT DWELLING UNIT (EDU) DEFINTIONS

4. EDU Definitions

The EDU definitions are accepted and recommended for City Council approval.

a. A water EDU = 290 gallons per day.
b. A wastewater EDU = 200 gallons per day with an I/I factor (inflow and infiltration) of 600 gallons per acre per day.
c. The committee recommended approval of the EDU definitions by a vote of 8-0.

CAPITAL IMPROVEMENTS PLAN (CIP)

5. The Water Supply Capital Improvements Plan is based on the SAWS 50 Year Water Management Plan.

a. San Antonio Water System’s long-standing commitment and investment in water conservation and infrastructure improvements has yielded its most diverse water supply. SAWS, in partnership with the community, has successfully cultivated an ethic of conservation and invested in infrastructure over the past 25 years and effectively reduced the gallons per capita per day (GPCD) by approximately 50 percent, all while SAWS’ service area population has grown by approximately 150 percent.

b. The 50-Year Water Management Plan applies the hybrid drought of record conditions to all water supplies in its current inventory to calculate the firm yield. When demand exceeds available supply during nine-year drought planning, a supply gap occurs. This determines when additional supplies are needed to meet demand.
c. The existing water supply projects used in the calculation are Edwards Aquifer, Aquifer Storage & Recovery, Vista Ridge Projects, Local Carrizo, Regional Carrizo, Trinity Aquifer, Canyon Lake (Guadalupe Blanco River Authority), Brackish Groundwater Desalination, and Canyon Regional Water Authority.
d. SAWS staff determined the 2024 water supply capacity to be 321,076 (acre feet) and the 2033 water supply capacity to be 358,076 AF.
e. SAWS staff determined the 2024 AD (annual demand) to be 282,732 AF and the 2033 (AD) to be 335,034 AF.
f. SAWS staff changed the assumption for debt financing the existing Water Supply infrastructure from 60% to 85% debt financing, matching SAWS multi-year financial plan for existing Supply projects. Increasing the debt financing assumption increases the rate credit.
g. The CIAC recommends assessing the maximum calculated impact fee.
h. A reconciled CIP list will be provided to the CIAC biannually for review.
i. A summary of the change in EDUs, CIP, and maximum calculated impact fees is in Appendix A.

6. The Water Delivery System Development and Flow Capital improvements Plan

a. The gallons per day used to define an EDU has remained 290 GPD based on data provided by SAWS staff.
b. The CIAC recommends assessing the maximum Water Delivery System and Flow Impact Fees.
c. A reconciled CIP list will be provided to the CIAC at the biannual meetings for review.
d. A summary of the change in EDUs, CIP, and maximum calculated impact fees is in Appendix A.

7. The Wastewater Treatment and Collection Capital Improvements Plan

a. The gallons per day used to define an EDU will remain at 200 GPD. Data collected by SAWS staff did not warrant a change in the calculation of gallons per day.
b. Due to prolonged drought conditions, data collected over the previous five years did not provide conclusive evidence of a reduction in inflow and infiltration. Inflow and infiltration will continue to be calculated at 600 gallons per acre. With the completion of condition and capacity projects, inflow and infiltration is expected to be reduced.
c. The CIAC recommends assessing the maximum Wastewater Treatment and Collection fees.

d. A reconciled CIP list will be provided to the CIAC at the biannual meetings for review.
e. A summary of the change in EDUs, CIP, and maximum calculated impact fees is in Appendix A.

8. The Capital Improvements Plan is accepted and recommended for City Council approval.

a. 10-year value of eligible water supply capacity = $465.4 M
b. 10-year value of eligible water flow capacity = $238.2 M
c. 10-year value of eligible water system development capacity = $275.8 M
d. 10-year value of eligible wastewater treatment capacity = $187.3 M
e. 10-year value of eligible wastewater collection capacity = $336.8 M
Total 10-year value of all impact fee eligible capacity = $1,503.5 M

MAXIMUM IMPACT FEES

9. The maximum calculated impact fees are shown below:

a. Water Supply Impact Fee……..$2,592
b. Water Flow Impact Fee…….$1,368
c. Water System Development Impact Fee
    i. High……...$2,027
    ii. Middle……$1,744
    iii. Low……$1,510
d. Wastewater Treatment
    i. Medio Creek……..$1,527
    ii. Clouse / Leon Creek……..$1,105
e. Wastewater Collection
    i. Medio Creek…….$1,836
    ii. Upper Medina……...$1,702
    iii. Lower Medina……...$768
    iv. Upper Collection……...$4,436
    v. Middle Collection…….$2,792
    vi. Lower Collection……..$1,138

The Committee recommended approval of the Maximum Impact Fees by a vote of 9-0.

A graphic of the percentage change and dollar amount of the maximum impact fees by service areas are shown in Appendix C.

10. Impact Fee Waiver Program

a. The City of San Antonio Fee Wavier Program was updated by City Council with an effective date of December 16, 2021.
b. The program is available citywide for eligible projects.

CAPITAL IMPROVEMENTS ADVISORY COMMITTEE RECOMMENDATIONS

11. The CIAC accepts and recommends for City Council the calculated impact fees as shown below:

a. Water Supply Impact Fee……..$2,592
b. Water Flow Impact Fee…….$1,368
c. Water System Development Impact Fee
    i. High……...$2,027
    ii. Middle……$1,744
    iii. Low……$1,510
d. Wastewater Treatment
    i. Medio Creek……..$1,527
    ii. Clouse / Leon Creek……..$1,105
e. Wastewater Collection
    i. Medio Creek…….$1,836
    ii. Upper Medina……...$1,702
    iii. Lower Medina……...$768
    iv. Upper Collection……...$4,436
    v. Middle Collection…….$2,792
    vi. Lower Collection……..$1,138

APPENDIX A: SUMMARY OF CHANGE IN EDUS, CIP, AND MAXIMUM CALCULATED IMPACT FEE

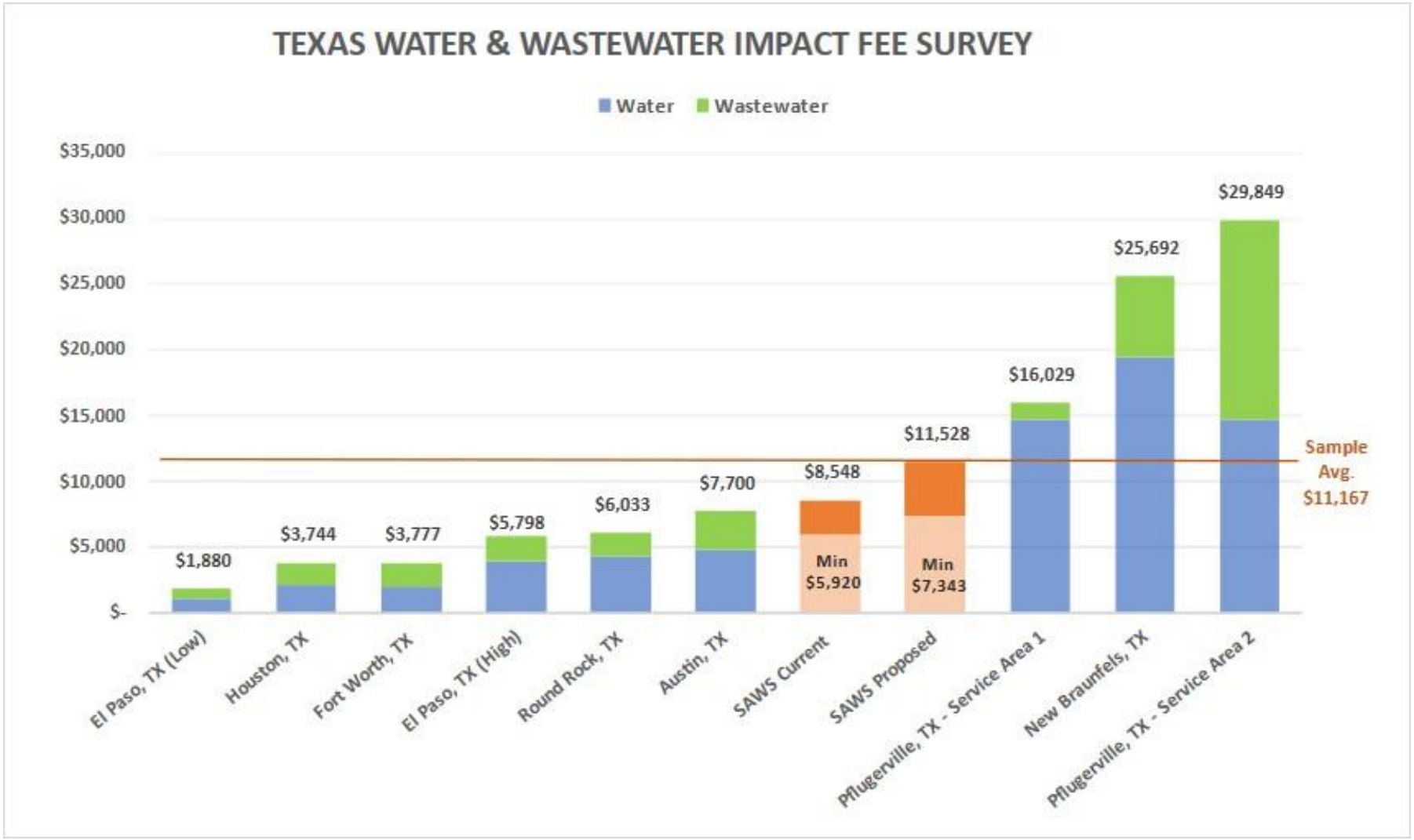
Proposed 2024-2033 Impact Fee Program Compared to Current Program
As of January 31, 2024

Impact Fee Component	EDU Definition (gpd)		LUAP (EDUs)		Eligible Equity, CIP and Finance ($)		Calculated Fee ($/EDU)		Rate Credit ($/EDU)		Impact Fee ($/EDU)		Fee Change	
	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed	$	%
Water Supply	290	290	141,770	161,030	$ 519,048,777	$ 465,504,645	$ 3,661	$ 2,891	$ 339	$ 299	$ 2,706	$ 2,592	$ (114)	-4%
Water Flow	290	290	141,770	161,030	$ 182,232,572	$ 238,263,060	$ 1,285	$ 1,480	$ 97	$ 112	$ 1,188	$ 1,368	$ 180	15%
Water System Development (total)	290	290	141,770	161,030	$ 139,999,299	$ 275,767,530	$ 988	$ 1,713	$ 52	$ 79	$ 935	$ 1,633	$ 698	75%
High Elevation			6,845	11,964	$ 8,467,874	$ 24,905,812	$ 1,237	$ 2,082	$ 34	$ 55	$ 1,203	$ 2,027	$ 824	68%
Middle Elevation			56,478	58,592	$ 60,338,483	$ 106,691,530	$ 1,068	$ 1,821	$ 54	$ 77	$ 1,014	$ 1,744	$ 730	72%
Low Elevation			78,447	90,474	$ 71,192,942	$ 144,170,188	$ 908	$ 1,593	$ 53	$ 84	$ 855	$ 1,510	$ 655	77%
Wastewater Treatment (total)	200	200	131,840	148,129	$ 102,044,699	$ 187,267,176	$ 774	$ 1,264	$ 58	$ 89	$ 716	$ 1,175	$ 459	64%
Medio Creek			15,167	24,730	$ 19,820,413	$ 40,310,424	$ 1,307	$ 1,630	$ 85	$ 103	$ 1,222	$ 1,527	$ 305	25%
Leon/Dos Rios Creeks			116,673	123,399	$ 82,224,287	$ 146,956,752	$ 705	$ 1,191	$ 54	$ 86	$ 651	$ 1,105	$ 454	70%
Wastewater Collection (total)	200 & 600	200 & 600	131,840	148,129	$ 235,191,944	$ 336,842,521	$ 1,784	$ 2,274	$ 103	$ 123	$ 1,681	$ 2,150	$ 470	28%
Medio Creek			15,167	24,730	$ 13,693,357	$ 47,219,999	$ 903	$ 1,909	$ 42	$ 73	$ 861	$ 1,836	$ 976	113%
Upper Medina			11,667	25,995	$ 11,011,473	$ 25,932,175	$ 1,504	$ 1,826	$ 82	$ 124	$ 1,422	$ 1,702	$ 280	20%
Lower Medina			4,410	8,008	$ 9,011,045	$ 28,177,450	$ 560	$ 829	$ 40	$ 61	$ 520	$ 768	$ 248	48%
Upper Collection			39,389	33,547	$ 32,831,501	$ 57,663,063	$ 2,969	$ 4,669	$ 169	$ 233	$ 2,800	$ 4,436	$ 1,636	58%
Middle Collection			21,769	6,281	$ 71,615,338	$ 68,978,940	$ 2,136	$ 2,950	$ 123	$ 158	$ 2,013	$ 2,792	$ 779	39%
Lower Collection			39,438	49,568	$ 97,029,230	$ 108,870,894	$ 965	$ 1,218	$ 63	$ 80	$ 902	$ 1,138	$ 236	26%
Totals					**$ 1,178,517,291**	***$ 1,503,644,932***	**$ 8,492**	**$ 9,621**	**$ 649**	***$ 702***	**$ 7,227**	***$ 8,919***	***$ 1,692***	***23%***

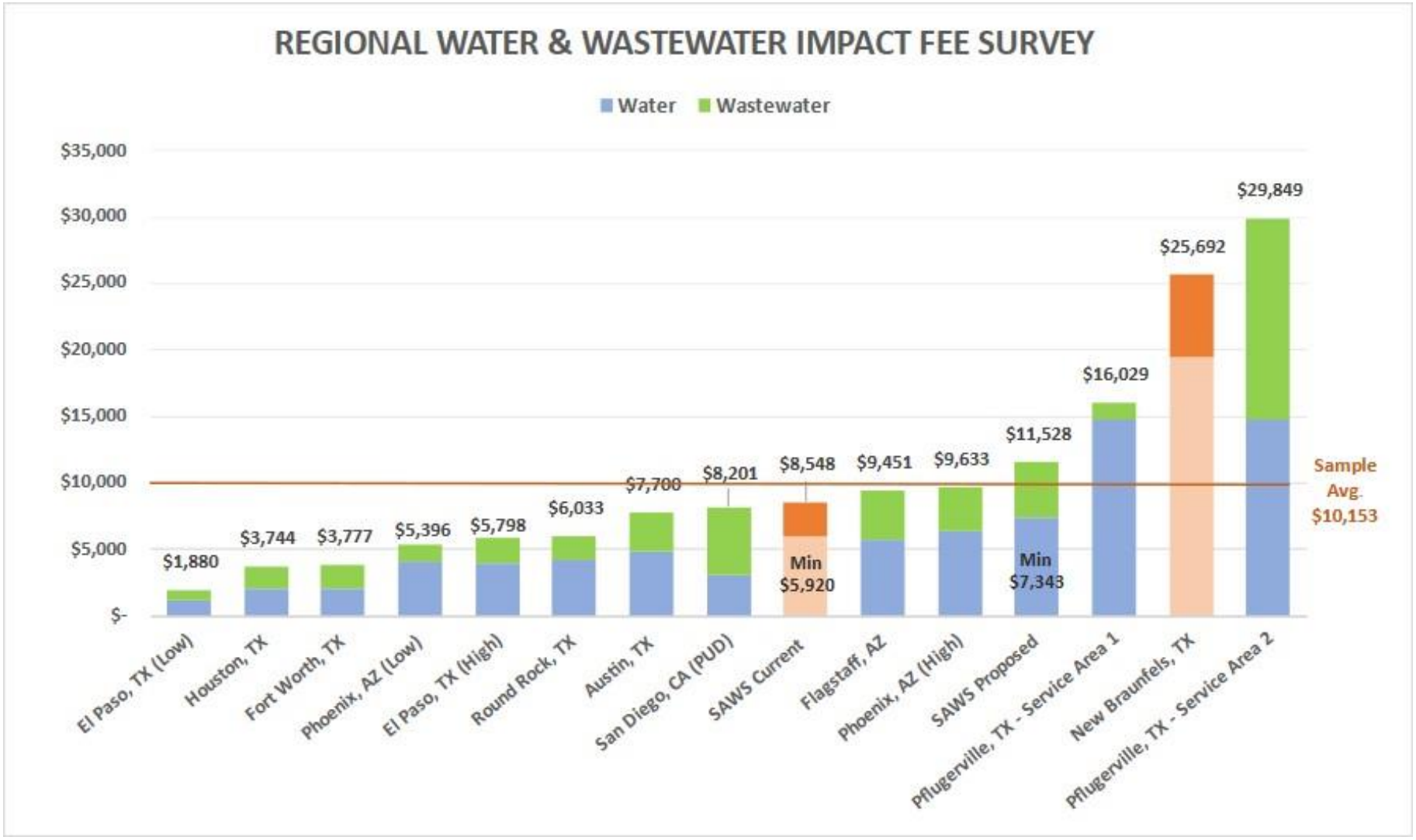
Notes:
1. Current = Final Approved 2019 to 2028 impact fee program
2. Proposed = Draft 2024 to 2033 impact fee program presented to the CIAC
3. Total Impact Fees ($/EDU) are weighted averages for water system development, wastewater treatment, wastewater collection, and total.
4. *Eligible Equity, CIP and Finance* is the prorated amount of existing and proposed infrastructure to serve the LUAP.
5. EDU definition applies based on average daily flow in gallons per day (gpd) except collection which shows 200 gpd average dry weather flow & 600 gpd per acre for Inflow & Infiltration (I/I).

January 31, 2024

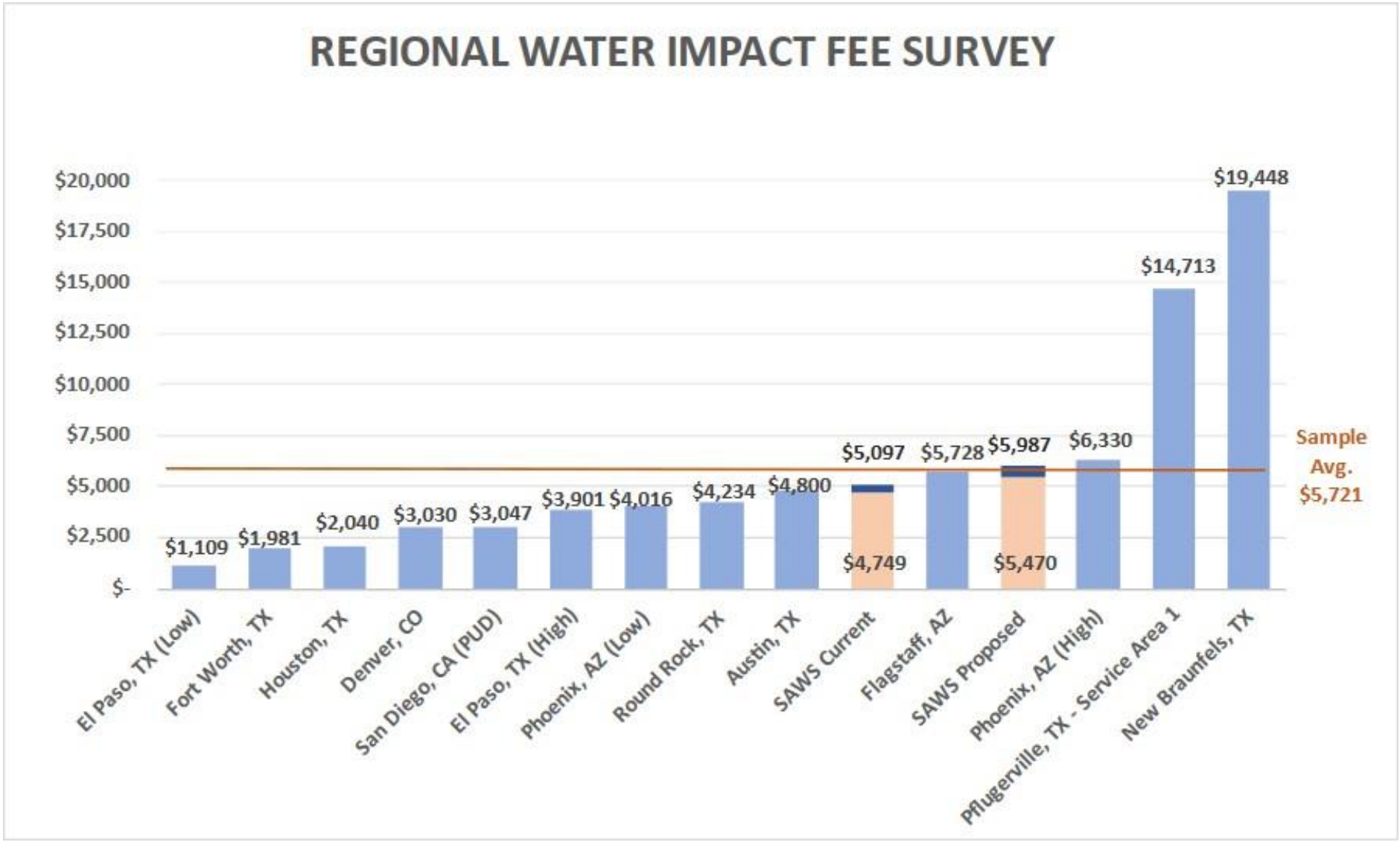
APPENDIX B: Impact Fee Survey of Texas Cities



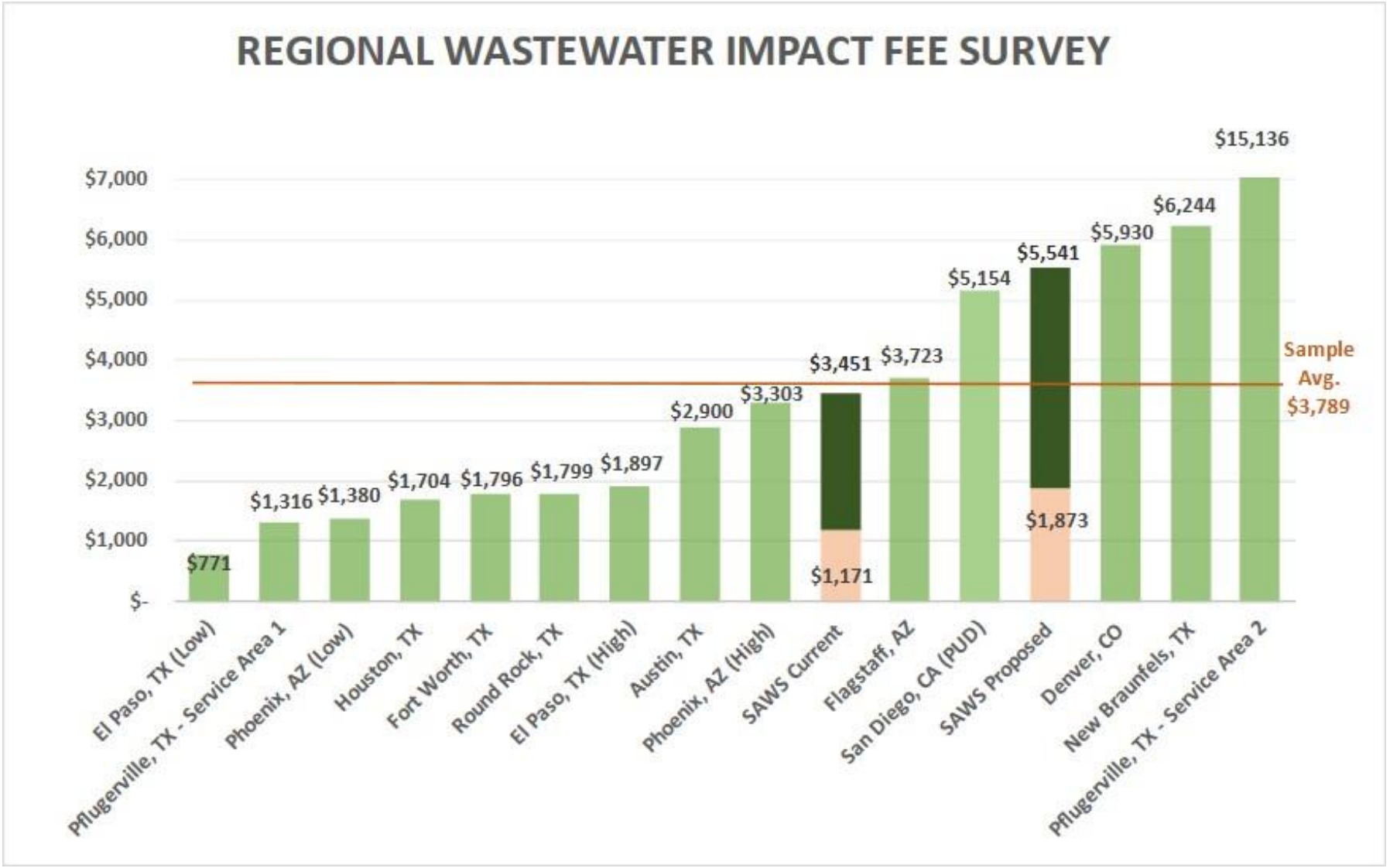
APPENDIX B: Impact Fee Survey of Regional Cities



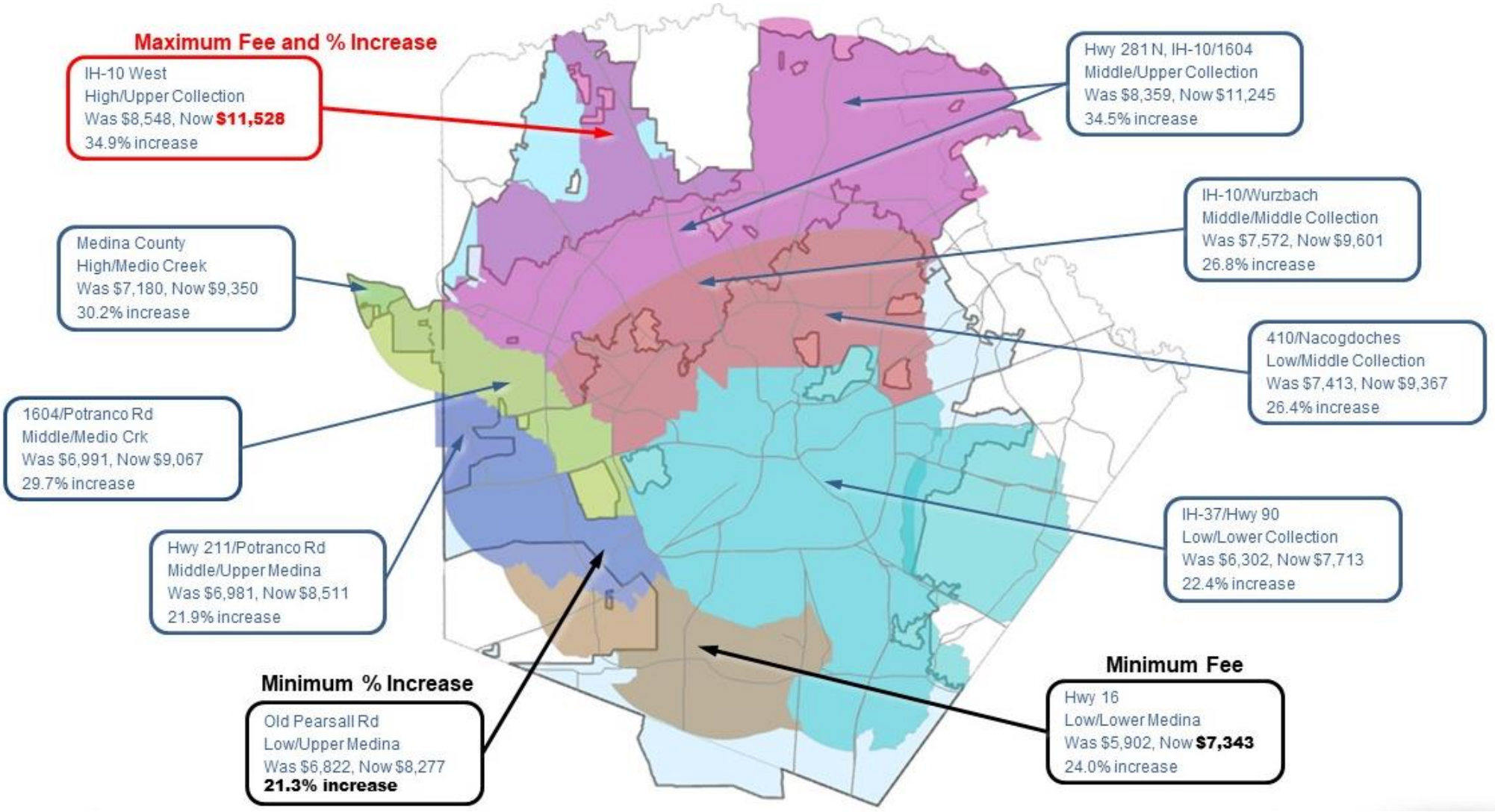
APPENDIX B: Impact Fee Survey of Regional Cities



APPENDIX B: Impact Fee Survey of Regional Cities



APPENDIX C: Maximum Calculated Impact Fees by Service Level



Capital Improvements Advisory Committee

Danielle D. Garcia
District 1

Aaron R. Elizondo
District 7

Susan M. Wright
District 2
Chairwoman

Shad R. Schmid
District 8

Thad Rutherford
District 3

Michael D. Moore
District 9

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District 4
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Louis Ortiz
District 10

Vacant
District 5

Anita Ledbetter
ETJ

Michael Hogan
District 6

APPENDIX H

IMPACT FEE PROJECT ESTIMATES

San Antonio Water System
Impact Fee Study (2024-2033)
San Antonio, TX

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DRAFT

85 NE Loop 410
Suite 600
San Antonio, Texas 78216
Office: 210/403-2284
Fax: 210/403-2281
www.agcm.com

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimat

March 8, 2024

RECAP - PROJECT COST

PROJECT ID	PROPOSED PROJECT NAME	Quantity	Unit	Project Unit Cost	Construction Cost Total	Owner Soft Cost Total	Owner Project Cost Total
Water Projects							
A1	F-72 Montgomery Rd 16-inch Water Line	7,700	LF	$1,089.92	$7,414,450	$977,966	$8,392,416
A2	F-73 PZ 828 PRV & 16-inch Water Line	18,100	LF	$1,110.38	$17,755,894	$2,342,002	$20,097,897
A3	F-74 PZ 1080 Briggs Ranch 16-inch Water Line	15,000	LF	$924.78	$12,255,259	$1,616,469	$13,871,728
A4	S-43 Pecan Springs Booster Station Facility	1	LS	$13,812,604.25	$12,203,025	$1,609,579	$13,812,604
1	Hardy Oak Blvd 30-inch WL	6,697	LF	$1,475.76	$8,731,485	$1,151,683	$9,883,167
2	PZ 6 to PZ 905E Pressure Reducing Valve	323	LF	$1,338.58	$381,977	$50,383	$432,360
3	FM 1604 16-inch WL	14,114	LF	$754.66	$9,410,085	$1,241,190	$10,651,275
4	Eddie Road 16-inch WL	4,386	LF	$946.89	$3,669,090	$483,953	$4,153,043
5	North Foster 16-inch WL	6,253	LF	$1,156.41	$6,388,383	$842,628	$7,231,011
6	12-inch WL, Loop 1604 16-inch WL	9,851	LF	$840.51	$7,315,030	$964,852	$8,279,882
7	16-inch PZ 1080, PZ 994-North to PZ 999 Connections	9,597	LF	$1,846.96	$15,659,771	$2,065,524	$17,725,295
8	SW Loop 410 16-inch WL	4,453	LF	$1,402.95	$5,519,329	$727,999	$6,247,328
9	Helotes Park No 2 PRV to PZ 1201 from PZ 1400	450	LF	$857.33	$340,840	$44,957	$385,797
10	US Hwy 281 12-inch WL	10,967	LF	$822.90	$7,973,075	$1,051,649	$9,024,724
11	Montgomery Drive 16-inch WL	1,347	LF	$1,527.27	$1,817,506	$239,729	$2,057,235
12	SH-16 12-inch WL	5,555	LF	$825.79	$4,052,708	$534,552	$4,587,260
13	Borgfeld Dr 16-inch WL	10,612	LF	$1,873.46	$17,564,436	$2,316,749	$19,881,185
14	16-inch WL along Huebner Rd and West	19,939	LF	$319.02	$5,619,643	$741,231	$6,360,874
15	16-inch Ladera WLs	25,498	LF	$1,055.73	$23,782,054	$3,136,853	$26,918,907
16	Judson Rd 16-inch WL	3,633	LF	$1,044.73	$3,353,211	$442,289	$3,795,499
17	Starcrest Dr 12-inch WL	4,029	LF	$1,070.68	$3,811,085	$502,682	$4,313,767
18	Rolling Oaks Estates 12-inch and 16-inch WLs	29,911	LF	$1,003.86	$26,527,494	$3,498,977	$30,026,471
19	Jungman Rd 12-inch WLs and PZ 930 16-inch WL	76,170	LF	$888.28	$59,775,861	$7,884,436	$67,660,297
20	FM 143 16-inch WL, West Montgomery 16-inch WL	23,119	LF	$597.63	$12,206,488	$1,610,036	$13,816,524
21	Sage Run 16-inch WL	5,881	LF	$666.64	$3,463,678	$456,859	$3,920,537
22	Palo Alto Rd 16-inch and Noyes Rd - Senior Rd 12-inch WLs	25,723	LF	$660.05	$14,999,883	$1,978,485	$16,978,367
23	SH-16 16-inch WL	9,811	LF	$975.41	$8,454,577	$1,115,159	$9,569,736
24	Pleasanton Road 12-inch WL	10,025	LF	$871.70	$7,720,421	$1,018,323	$8,738,744
25	Roosevelt Avenue 12-inch WL	10,669	LF	$914.64	$8,621,150	$1,137,130	$9,758,280
26	Applewhite 12-inch WL	6,988	LF	$893.02	$5,513,205	$727,192	$6,240,397
27	Hunters Pond 12-inch WL	2,976	LF	$994.18	$2,613,894	$344,773	$2,958,667
28	Morin Road 12-inch WL	4,133	LF	$819.51	$2,992,345	$394,690	$3,387,036
29	Stacey Road 12-inch WL	16,987	LF	$569.42	$8,545,622	$1,127,168	$9,672,790
30	Kirkner Road 12-inch WL, Stuart Road 12-inch WL	20,615	LF	$703.27	$12,808,537	$1,689,446	$14,497,983
31	Tamaron Pass 12-inch WL	20,767	LF	$623.08	$11,431,671	$1,507,837	$12,939,509
32	PZ 1610-East 12-inch WL	12,451	LF	$940.47	$10,345,199	$1,364,532	$11,709,731
33	PZ 1400-West 12-inch WL (1)	8,602	LF	$592.52	$4,502,905	$593,933	$5,096,839
34	Boerne Stage Airfield 12-inch WL	16,545	LF	$508.58	$7,433,951	$980,538	$8,414,489
35	1540-West PRV and 12-inch WL	10,468	LF	$782.12	$7,233,163	$954,054	$8,187,218

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimat

March 8, 2024

RECAP - PROJECT COST

PROJECT ID	PROPOSED PROJECT NAME	Quantity	Unit	Project Unit Cost	Construction Cost Total	Owner Soft Cost Total	Owner Project Cost Total
36	16-inch PZ 1125 WL along Stahl Road	5,293	LF	$1,035.77	$4,843,481	$638,855	$5,482,336
37	Shady Falls Road 12-inch WL	17,500	LF	$729.44	$11,277,628	$1,487,519	$12,765,147
38	Western PZ 1400-West 12-inch WL	22,755	LF	$807.86	$16,240,632	$2,142,139	$18,382,771
39	12-inch and 16-inch Looping in Eastern PZ 1258-East	59,138	LF	$657.58	$34,356,393	$4,531,608	$38,888,001
40	PZ 1610-East 12-inch WL (1)	20,009	LF	$666.24	$11,777,304	$1,553,426	$13,330,730
41	PZ4-PZ4-05 12-inch WL along Five Palms, Quintana Road and PLs heading north to Farr Drive	11,632	LF	$400.51	$4,115,816	$542,876	$4,658,692
42	PZ5-PZ5-02 16-inch WL along Evers from Callaghan Road to Wildflower	921	LF	$511.40	$416,116	$54,886	$471,002
43	PZ6-PZ6-06 12-inch WL along Lookout Road from O'Connor to Lookout Way	4,073	LF	$332.02	$1,194,728	$157,585	$1,352,312
44	PZ8-PZ8-06 12-inch WL along PLs from Silver Pointe to Galm Road	3,406	LF	$433.44	$1,304,263	$172,032	$1,476,295
45	PZ8 16-inch WL along Cedar Trail across Bandera Road	2,075	LF	$401.00	$735,116	$96,962	$832,078
46	PZ9-PZ9-01 12-inch WL along Toepperwein Road from Rain Tree Path to Mia Way	7,724	LF	$385.84	$2,632,912	$347,281	$2,980,193
47	PZ10-PZ10-01 12-inch Along Stone Oak Parkway from Ruby Run to Cibolo Canyon	14,022	LF	$260.43	$3,226,191	$425,535	$3,651,726
48	PZ11-PZ11-03 16-inch Along PLs and W Apache Blf from State Hwy 16 to Ranch Town Tank	1,985	LF	$1,699.29	$2,980,032	$393,066	$3,373,098
49	PZ 1400-West 12-inch WL	3,536	LF	$737.66	$2,304,409	$303,952	$2,608,361
50	PZ10B-PZ10B-02 16-inch WL along CR 371 from Hwy 1283 to CR 278	6,914	LF	$856.58	$5,232,274	$690,137	$5,922,411
51	PZ10B 16-inch WL along FM 1283 from FM 471 to CR 371	5,351	LF	$473.80	$2,239,856	$295,437	$2,535,292
52	PZ11A-PZ11A-01 16-inch WL along existing pipe near Borgfeld Tank	9,595	LF	$485.86	$4,118,594	$543,243	$4,661,836
53	PZ12West-PZ12A-03 16-inch WL along SH 16 N from Shadow Canyon Road to Private Road	8,160	LF	$981.60	$7,076,465	$933,386	$8,009,851
54	PZ14-PZ14-02 16-inch WL along Bridlewood Trail from Boerne Stage Road to Bridle Path	8,066	LF	$342.47	$2,440,439	$321,894	$2,762,333
55	16-inch WL along Old Fredericksburg Road from Lost Creek Gap to Fahrenthold	2,993	LF	$755.62	$1,998,026	$263,540	$2,261,565
56	Potranco Road PZ Interconnection	915	LF	$670.26	$541,824	$71,467	$613,291
57	Along Nacogdoches from O'Conner to Judson to 16-inch WL near Kings Mountain	10,869	LF	$856.80	$8,227,324	$1,085,184	$9,312,508
58	Miranda Ridge PS elimination pipeline	2,960	LF	$1,463.38	$3,826,842	$504,761	$4,331,603
F-72	F-72 Montgomery Rd 16-inch Water Line	7,700	LF	$629.14	$4,279,887	$564,517	$4,844,404
F-73	F-73 PZ 828 PRV & 16-inch Water Line	18,100	LF	$757.42	$12,111,763	$1,597,542	$13,709,305
F-74	F-74 PZ 1080 Briggs Ranch 16-inch Water Line	15,000	LF	$754.97	$10,004,913	$1,319,648	$11,324,561
S-43	S-43 Pecan Springs Booster Station Facility	1	LS	$15,914,049	$14,059,590	$1,854,460	$15,914,049
	Water Projects - Project Cost Total	**761,037**	**LF**	**$838.50**	**$563,771,198**	**$74,361,421**	**$638,132,619**

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimat

March 8, 2024

RECAP - PROJECT COST

PROJECT ID	PROPOSED PROJECT NAME	Quantity	Unit	Project Unit Cost	Construction Cost Total	Owner Soft Cost Total	Owner Project Cost Total
Wastewater Projects							
1	C5/C28 OLLU 21-inch WW	4,236	LF	$1,475.76	$5,522,856	$728,465	$6,251,321
2	Cresta Bella LS 15-inch WW	506	LF	$1,338.58	$598,391	$78,928	$677,319
3	CS30-02 18-inch WW	3,188	LF	$754.66	$2,125,503	$280,354	$2,405,857
4	CS33-03 15-inch and 18-inch WW	1,763	LF	$946.89	$1,474,830	$194,530	$1,669,360
5	CS71-01 12-inch WW	2,656	LF	$1,156.41	$2,713,505	$357,911	$3,071,416
6	Dietrich 12-inch WW	4,102	LF	$840.51	$3,046,011	$401,769	$3,447,780
7	E-54 Segment 24-inch WW	14,102	LF	$1,846.96	$23,010,743	$3,035,117	$26,045,860
8	E_46374-01 33-inch WW	5,043	LF	$1,448.50	$6,453,550	$851,223	$7,304,773
9	E_46374-10 24-inch WW	8,744	LF	$857.33	$6,622,909	$873,562	$7,496,471
10	Hawkins 18-inch WW	6,594	LF	$822.90	$4,793,878	$632,312	$5,426,190
11	Medio Creek Outfall 42-inch and 48-inch WW	22,071	LF	$1,527.27	$29,780,375	$3,928,031	$33,708,406
12	Medio M17 12-inch WW	5,420	LF	$825.79	$3,954,217	$521,561	$4,475,779
13	NW IH-10 Corridor 24-inch, 27-inch, and 30-inch WW	14,734	LF	$1,873.46	$24,386,958	$3,216,640	$27,603,597
14	Rosillo Creek 42-inch WW	15,620	LF	$851.15	$11,745,769	$1,549,267	$13,295,035
15	SE MP 12-inch, 15-inch, 18-inch, 21-inch, 24-inch, and 30-inch WW	43,335	LF	$1,055.73	$40,418,672	$5,331,223	$45,749,895
16	SE_52815-02 27-inch WW	5,081	LF	$1,044.73	$4,689,696	$618,571	$5,308,266
17	SE11-05, 06 18-inch and 27-inch WW	5,443	LF	$1,070.68	$5,148,606	$679,101	$5,827,707
18	Siller 12-inch WW	3,352	LF	$1,003.86	$2,972,825	$392,116	$3,364,940
19	USA-17013 24-inch WWs	17,467	LF	$888.28	$13,707,562	$1,808,027	$15,515,589
20	WS58-01 12-inch WW	1,028	LF	$597.63	$542,769	$71,591	$614,360
21	Texas Research 24-inch and 30-inch WW	20,209	LF	$666.64	$11,902,308	$1,569,914	$13,472,222
22	E_46374-11 18-inch, 21-inch, and 27-inch WW	5,832	LF	$660.05	$3,400,821	$448,568	$3,849,389
23	SE_43869-03,04 27-inch and 36-inch WW	9,585	LF	$975.41	$8,259,823	$1,089,471	$9,349,294
24	E-20 Seg 2 36-inch WW	12,463	LF	$871.70	$9,597,965	$1,265,972	$10,863,937
25	Apache Creek Siphon 54-inch WW	871	LF	$3,101.44	$2,386,567	$314,788	$2,701,356
	Wastewater Projects - Project Cost Total	**233,445**	**LF**	**$1,111.59**	**$229,257,108**	**$30,239,012**	**$259,496,120**

	Wastewater Projects - Project Cost Total	**994,482**	**LF**	**$902.61**	**$793,028,306**	**$104,600,434**	**$897,628,739**

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimat

March 8, 2024

SUMMARY - CONSTRUCTION COST ONLY

PROJECT ID	PROPOSED PROJECT NAME	Quantity	Unit	Construction Unit Cost	Construction Cost - Subtotal	Construction Cost - MarkUps	Construction Cost - Total
Additional Water Projects							
A1	F-72 Montgomery Rd 16-inch Water Line	7,700	LF	$962.92	$5,441,039	$1,973,411	$7,414,450
A1	F-73 PZ 828 PRV & 16-inch Water Line	18,100	LF	$980.99	$13,030,032	$4,725,862	$17,755,894
A3	F-74 PZ 1080 Briggs Ranch 16-inch Water Line	15,000	LF	$817.02	$8,993,432	$3,261,828	$12,255,259
A4	S-43 Pecan Springs Booster Station Facility	1	LS	$12,203,025.22	$8,955,100	$3,247,925	$12,203,025
	Additional Water Projects - Construction Cost Total	**40,800**	**LF**	**$892.64**	**$36,419,603**	**$13,209,026**	**$49,628,629**
Water Projects							
1	Hardy Oak Blvd 30-inch WL	6,697	LF	$1,303.79	$6,407,536	$2,323,949	$8,731,485
2	PZ 6 to PZ 905E Pressure Reducing Valve	323	LF	$1,182.59	$280,311	$101,666	$381,977
3	FM 1604 16-inch WL	14,114	LF	$666.72	$6,905,521	$2,504,564	$9,410,085
4	Eddie Road 16-inch WL	4,386	LF	$836.55	$2,692,535	$976,555	$3,669,090
5	North Foster 16-inch WL	6,253	LF	$1,021.65	$4,688,068	$1,700,315	$6,388,383
6	12-inch WL, Loop 1604 16-inch WL	9,851	LF	$742.57	$5,368,081	$1,946,949	$7,315,030
7	16-inch PZ 1080, PZ 994-North to PZ 999 Connections	9,597	LF	$1,631.74	$11,491,808	$4,167,964	$15,659,771
8	SW Loop 410 16-inch WL	4,453	LF	$1,239.46	$4,050,319	$1,469,010	$5,519,329
9	Helotes Park No 2 PRV to PZ 1201 from PZ 1400	450	LF	$757.42	$250,123	$90,717	$340,840
10	US Hwy 281 12-inch WL	10,967	LF	$727.01	$5,850,982	$2,122,093	$7,973,075
11	Montgomery Drive 16-inch WL	1,347	LF	$1,349.30	$1,333,763	$483,743	$1,817,506
12	SH-16 12-inch WL	5,555	LF	$729.56	$2,974,050	$1,078,658	$4,052,708
13	Borgfeld Dr 16-inch WL	10,612	LF	$1,655.15	$12,889,532	$4,674,904	$17,564,436
14	16-inch WL along Huebner Rd and West	19,939	LF	$281.84	$4,123,934	$1,495,709	$5,619,643
15	16-inch Ladera WLs	25,498	LF	$932.70	$17,452,285	$6,329,769	$23,782,054
16	Judson Rd 16-inch WL	3,633	LF	$922.99	$2,460,729	$892,482	$3,353,211
17	Starcrest Dr 12-inch WL	4,029	LF	$945.91	$2,796,736	$1,014,348	$3,811,085
18	Rolling Oaks Estates 12-inch and 16-inch WLs	29,911	LF	$886.88	$19,467,006	$7,060,488	$26,527,494
19	Jungman Rd 12-inch WLs and PZ 930 16-inch WL	76,170	LF	$784.77	$43,866,074	$15,909,787	$59,775,861
20	FM 143 16-inch WL, West Montgomery 16-inch WL	23,119	LF	$527.99	$8,957,642	$3,248,847	$12,206,488
21	Sage Run 16-inch WL	5,881	LF	$588.96	$2,541,795	$921,884	$3,463,678
22	Palo Alto Rd 16-inch and Noyes Rd - Senior Rd 12-inch WLs	25,723	LF	$583.13	$11,007,553	$3,992,330	$14,999,883
23	SH-16 16-inch WL	9,811	LF	$861.74	$6,204,329	$2,250,248	$8,454,577
24	Pleasanton Road 12-inch WL	10,025	LF	$770.12	$5,665,574	$2,054,847	$7,720,421
25	Roosevelt Avenue 12-inch WL	10,669	LF	$808.06	$6,326,568	$2,294,583	$8,621,150
26	Applewhite 12-inch WL	6,988	LF	$788.95	$4,045,825	$1,467,380	$5,513,205
27	Hunters Pond 12-inch WL	2,976	LF	$878.32	$1,918,187	$695,707	$2,613,894
28	Morin Road 12-inch WL	4,133	LF	$724.01	$2,195,910	$796,435	$2,992,345
29	Stacey Road 12-inch WL	16,987	LF	$503.07	$6,271,142	$2,274,480	$8,545,622
30	Kirkner Road 12-inch WL, Stuart Road 12-inch WL	20,615	LF	$621.32	$9,399,450	$3,409,087	$12,808,537
31	Tamaron Pass 12-inch WL	20,767	LF	$550.47	$8,389,048	$3,042,624	$11,431,671

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimat

March 8, 2024

SUMMARY - CONSTRUCTION COST ONLY

PROJECT ID	PROPOSED PROJECT NAME	Quantity	Unit	Construction Unit Cost	Construction Cost - Subtotal	Construction Cost - MarkUps	Construction Cost - Total
32	PZ 1610-East 12-inch WL	12,451	LF	$830.87	$7,591,748	$2,753,451	$10,345,199
33	PZ 1400-West 12-inch WL (1)	8,602	LF	$523.47	$3,304,424	$1,198,482	$4,502,905
34	Boerne Stage Airfield 12-inch WL	16,545	LF	$449.32	$5,455,350	$1,978,601	$7,433,951
35	1540-West PRV and 12-inch WL	10,468	LF	$690.98	$5,308,004	$1,925,160	$7,233,163
36	16-inch PZ 1125 WL along Stahl Road	5,293	LF	$915.07	$3,554,353	$1,289,128	$4,843,481
37	Shady Falls Road 12-inch WL	17,500	LF	$644.44	$8,276,004	$3,001,624	$11,277,628
38	Western PZ 1400-West 12-inch WL	22,755	LF	$713.72	$11,918,068	$4,322,564	$16,240,632
39	12-inch and 16-inch Looping in Eastern PZ 1258-East	59,138	LF	$580.95	$25,212,185	$9,144,207	$34,356,393
40	PZ 1610-East 12-inch WL (1)	20,009	LF	$588.60	$8,642,687	$3,134,616	$11,777,304
41	PZ4-PZ4-05 12-inch WL along Five Palms, Quintana Road and PLs heading north to Farr Drive	11,632	LF	$353.84	$3,020,361	$1,095,455	$4,115,816
42	PZ5-PZ5-02 16-inch WL along Evers from Callaghan Road to Wildflower	921	LF	$451.81	$305,364	$110,752	$416,116
43	PZ6-PZ6-06 12-inch WL along Lookout Road from O'Connor to Lookout Way	4,073	LF	$293.33	$876,742	$317,986	$1,194,728
44	PZ8-PZ8-06 12-inch WL along PLs from Silver Pointe to Galm Road	3,406	LF	$382.93	$957,124	$347,139	$1,304,263
45	PZ8 16-inch WL along Cedar Trail across Bandera Road	2,075	LF	$354.27	$539,460	$195,657	$735,116
46	PZ9-PZ9-01 12-inch WL along Toepperwein Road from Rain Tree Path to Mia Way	7,724	LF	$340.87	$1,932,143	$700,769	$2,632,912
47	PZ10-PZ10-01 12-inch Along Stone Oak Parkway from Ruby Run to Cibolo Canyon	14,022	LF	$230.08	$2,367,517	$858,675	$3,226,191
48	PZ11-PZ11-03 16-inch Along PLs and W Apache Blf from State Hwy 16 to Ranch Town Tank	1,985	LF	$1,501.28	$2,186,875	$793,158	$2,980,032
49	PZ 1400-West 12-inch WL	3,536	LF	$651.70	$1,691,074	$613,335	$2,304,409
50	PZ10B-PZ10B-02 16-inch WL along CR 371 from Hwy 1283 to CR 278	6,914	LF	$756.77	$3,839,666	$1,392,608	$5,232,274
51	PZ10B 16-inch WL along FM 1283 from FM 471 to CR 371	5,351	LF	$418.59	$1,643,701	$596,154	$2,239,856
52	PZ11A-PZ11A-01 16-inch WL along existing pipe near Borgfeld Tank	9,595	LF	$429.24	$3,022,400	$1,096,194	$4,118,594
53	PZ12West-PZ12A-03 16-inch WL along SH 16 N from Shadow Canyon Road to Private Road	8,160	LF	$867.21	$5,193,012	$1,883,453	$7,076,465
54	PZ14-PZ14-02 16-inch WL along Bridlewood Trail from Boerne Stage Road to Bridle Path	8,066	LF	$302.56	$1,790,898	$649,541	$2,440,439
55	16-inch WL along Old Fredericksburg Road from Lost Creek Gap to Fahrenthold	2,993	LF	$667.57	$1,466,236	$531,789	$1,998,026
56	Potranco Road PZ Interconnection	915	LF	$592.16	$397,614	$144,211	$541,824
57	Along Nacogdoches from O'Conner to Judson to 16-inch WL near Kings Mountain	10,869	LF	$756.95	$6,037,561	$2,189,763	$8,227,324
58	Miranda Ridge PS elimination pipeline	2,960	LF	$0.00	$2,808,300	$1,018,542	$3,826,842
F-72	F-72 Montgomery Rd 16-inch Water Line	7,700	LF	$555.83	$3,140,763	$1,139,123	$4,279,887

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimat

March 8, 2024

SUMMARY - CONSTRUCTION COST ONLY

PROJECT ID	PROPOSED PROJECT NAME	Quantity	Unit	Construction Unit Cost	Construction Cost - Subtotal	Construction Cost - MarkUps	Construction Cost - Total
F-73	F-73 PZ 828 PRV & 16-inch Water Line	18,100	LF	$669.16	$8,888,128	$3,223,635	$12,111,763
F-74	F-74 PZ 1080 Briggs Ranch 16-inch Water Line	15,000	LF	$666.99	$7,342,032	$2,662,881	$10,004,913
S-43	S-43 Pecan Springs Booster Station Facility	1	LS	$14,059,590	$10,317,526	$3,742,064	$14,059,590
	Water Projects - Construction Cost Total	**720,237**	**LF**	**$523.85**	**$377,299,730**	**$136,842,839**	**$514,142,569**
Wastewater Projects							
1	C5/C28 OLLU 21-inch WW	4,236	LF	$1,303.79	$4,052,907	$1,469,949	$5,522,856
2	Cresta Bella LS 15-inch WW	506	LF	$1,182.59	$439,125	$159,266	$598,391
3	CS30-02 18-inch WW	3,188	LF	$666.72	$1,559,785	$565,718	$2,125,503
4	CS33-03 15-inch WW	1,400	LF	$1,053.45	$1,082,293	$392,537	$1,474,830
5	CS71-01 12-inch WW	2,656	LF	$1,021.65	$1,991,286	$722,219	$2,713,505
6	Dietrich 12-inch WW	4,102	LF	$742.57	$2,235,293	$810,718	$3,046,011
7	E-54 Segment 24-inch WW	1,411	LF	$16,308.11	$16,886,264	$6,124,479	$23,010,743
8	E_46374-01 33-inch WW	5,043	LF	$1,279.70	$4,735,890	$1,717,660	$6,453,550
9	E_46374-10 24-inch WW	8,744	LF	$757.42	$4,860,173	$1,762,736	$6,622,909
10	Hawkins 18-inch WW	6,594	LF	$727.01	$3,517,952	$1,275,926	$4,793,878
11	Medio Creek Outfall 42-inch WW	18,746	LF	$1,588.63	$21,854,108	$7,926,267	$29,780,375
12	Medio M17 12-inch WW	5,420	LF	$729.56	$2,901,773	$1,052,444	$3,954,217
13	NW IH-10 Corridor 24-inch WW	4,250	LF	$5,738.11	$17,896,189	$6,490,769	$24,386,958
14	Rosillo Creek 42-inch WW	15,620	LF	$751.97	$8,619,546	$3,126,223	$11,745,769
15	SE MP 12-inch WW	1,737	LF	$23,269.24	$29,660,944	$10,757,728	$40,418,672
16	SE_52815-02 27-inch WW	5,081	LF	$922.99	$3,441,498	$1,248,197	$4,689,696
17	SE11-05, 06 18-inch WW	3,059	LF	$1,683.10	$3,778,267	$1,370,340	$5,148,606
18	Siller 12-inch WW	3,352	LF	$886.88	$2,181,586	$791,239	$2,972,825
19	USA-17013 24-inch WWs	17,467	LF	$784.77	$10,059,193	$3,648,369	$13,707,562
20	WS58-01 12-inch WW	1,028	LF	$527.99	$398,307	$144,462	$542,769
21	Texas Research 24-inch WW	11,718	LF	$1,015.73	$8,734,421	$3,167,887	$11,902,308
22	E_46374-11 21-inch WW	1,105	LF	$3,077.67	$2,495,667	$905,154	$3,400,821
23	SE_43869-03,04 36-inch WW	4,985	LF	$1,656.94	$6,061,410	$2,198,413	$8,259,823
24	E-20 Seg 2 36-inch WW	12,463	LF	$770.12	$7,043,396	$2,554,569	$9,597,965
25	Apache Creek Siphon 54-inch WW	871	LF	$2,740.03	$1,751,365	$635,203	$2,386,567
	Wastewater Projects - Construction Cost Total	**144,782**	**LF**	**$1,583.46**	**$168,238,637**	**$61,018,471**	**$229,257,108**
	All Projects Above - Construction Cost Total	**905,819**	**LF**	**$875.48**	**$581,957,970**	**$211,070,336**	**$793,028,306**

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - ADDITIONAL WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
1	**F-72 Montgomery Rd 16-inch Water Line**	**7,700**	**LF**	**$706.63**		**$5,441,039**
a.	Mobilization & Preparing Right of Way	15%	PCT	4,731,338.59		$709,701
b.	Demolition, Protection, Traffic Control, etc…	1	LS	29,625.00		$29,625
c.	Inspection, Testing, etc	7,700	LF	3.30		$25,410
d.	Piping Materials & Installation, Protection, etc…	7,700	LF	519.95		$4,003,652
e.	Connections, Meters, Valves, etc…	22	EA	4,500.00		$99,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	55,408.33		$55,408
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings	444	LF	1,167.22		$518,243
2	**F-73 PZ 828 PRV & 16-inch Water Line**	**18,100**	**LF**	**$719.89**		**$13,030,032**
a.	Mobilization & Preparing Right of Way	15%	PCT	11,330,462.62		$1,699,569
b.	Demolition, Protection, Traffic Control, etc…	1	LS	20,000.00		$20,000
c.	Inspection, Testing, etc	18,100	LF	3.30		$59,733
d.	Piping Materials & Installation, Protection, etc…	18,100	LF	610.50		$11,049,981
e.	Connections, Meters, Valves, etc…	4	EA	4,500.00		$18,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	31,408.33		$31,408
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings	165	LF	917.22		$151,340
3	**F-74 PZ 1080 Briggs Ranch 16-inch Water Line**	**15,000**	**LF**	**$599.56**		**$8,993,432**
a.	Mobilization & Preparing Right of Way	15%	PCT	7,820,375.42		$1,173,056
b.	Demolition, Protection, Traffic Control, etc…	1	LS	39,500.00		$39,500
c.	Inspection, Testing, etc	15,000	LF	3.30		$49,503
d.	Piping Materials & Installation, Protection, etc…	15,000	LF	498.40		$7,476,063
e.	Connections, Meters, Valves, etc…	12	EA	4,500.00		$54,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	55,408.33		$55,408
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings	125	LF	1,167.22		$145,902
4	**S-43 Pecan Springs Booster Station Facility**	**1**	**LS**	**$8,955,100**		**$8,955,100**
a.	Site Work - Clearing, grading, paving	1	LS	600,000.00		$600,000
b.	Site Pipes, valves and meters	1	LS	350,000.00		$350,000
c.	Mechanical and Misc. Equipment - Cranes, etc.	1	LS	312,500.00		$312,500
d.	0.5 MG Ground Storage Tank	1	EA	1,790,100.00		$1,790,100

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates

March 8, 2024

DETAIL SHEET - ADDITIONAL WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
e.	Booster Pump including, Building, Pumps, wells, Electrical, instrumentation Controls, hydropneumatic tank and equipment	1	LS	4,375,000.00		$4,375,000
f.	Electrical, instrumentation Controls,SCADA and equipment	1	LS	1,147,500.00		$1,147,500
g.	Site Improvements, Paving, Mulching, etc…	1	LS	380,000.00		$380,000
	Construction Cost Subtotal	**40,800**	**LF**	**$892.64**		**$36,419,603**

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
1	**Hardy Oak Blvd 30-inch WL**	**6,697**	**LF**	**$956.78**		**$6,407,536**
a.	Mobilization & Preparing Right of Way	15%	PCT	5,571,770.06		$835,766
b.	Demolition, Protection, Traffic Control, etc…	1	LS	23,500.00		$23,500
c.	Inspection, Testing, etc	6,697	LF	4.45		$29,806
d.	Piping Materials & Installation, Protection, etc…	6,697	LF	705.4		$4,723,792
e.	Connections, Meters, Valves, etc…	22	EA	4,500.00		$99,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	26,469.44		$26,469
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	444	LF	1,507.22		$669,203
2	**PZ 6 to PZ 905E Pressure Reducing Valve**	**323**	**LF**	**$867.84**		**$280,311**
a.	Mobilization & Preparing Right of Way	15%	PCT	243,748.72		$36,562
b.	Demolition, Protection, Traffic Control, etc…	1	LS	20,000.00		$20,000
c.	Inspection, Testing, etc	323	LF	3.31		$1,068
d.	Piping Materials & Installation, Protection, etc…	323	LF	67.90		$21,932
e.	Connections, Meters, Valves, etc…	4	EA	4,500.00		$18,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	31,408.33		$31,408
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	165	LF	917.22		$151,340
3	**FM 1604 16-inch WL**	**14,114**	**LF**	**$489.27**		**$6,905,521**
a.	Mobilization & Preparing Right of Way	15%	PCT	6,004,801.30		$900,720
b.	Demolition, Protection, Traffic Control, etc…	1	LS	39,500.00		$39,500
c.	Inspection, Testing, etc	14,114	LF	3.30		$46,579
d.	Piping Materials & Installation, Protection, etc…	14,114	LF	401.26		$5,663,412
e.	Connections, Meters, Valves, etc…	12	EA	4,500.00		$54,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	55,408.33		$55,408
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	125	LF	1,167.22		$145,902
4	**Eddie Road 16-inch WL**	**4,386**	**LF**	**$613.89**		**$2,692,535**
a.	Mobilization & Preparing Right of Way	15%	PCT	2,341,334.52		$351,200
b.	Demolition, Protection, Traffic Control, etc…	1	LS	27,750.00		$27,750
c.	Inspection, Testing, etc	4,386	LF	3.30		$14,476
d.	Piping Materials & Installation, Protection, etc…	4,386	LF	460.53		$2,019,884
e.	Connections, Meters, Valves, etc…	12	EA	4,500.00		$54,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	38,469.44		$38,469
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	160	LF	1,167.22		$186,754

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
5	**North Foster 16-inch WL**	**6,253**	**LF**	**$749.73**		**$4,688,068**
a.	Mobilization & Preparing Right of Way	15%	PCT	4,076,580.82		$611,487
b.	Demolition, Protection, Traffic Control, etc…	1	LS	26,000.00		$26,000
c.	Inspection, Testing, etc	6,253	LF	3.30		$20,637
d.	Piping Materials & Installation, Protection, etc…	6,253	LF	575.48		$3,598,465
e.	Connections, Meters, Valves, etc…	7	EA	4,500.00		$31,500
f.	Site Improvements, Paving, Mulching, etc…	1	LS	26,469.44		$26,469
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	320	LF	1,167.22		$373,509
6	**12-inch WL, Loop 1604 16-inch WL**	**9,851**	**LF**	**$544.93**		**$5,368,081**
a.	Mobilization & Preparing Right of Way	15%	PCT	4,667,896.35		$700,184
b.	Demolition, Protection, Traffic Control, etc…	1	LS	53,750.00		$53,750
c.	Inspection, Testing, etc	9,851	LF	3.30		$32,511
d.	Piping Materials & Installation, Protection, etc…	9,851		455.13		$4,483,441
e.	Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
f.	Site Improvements, Paving, Mulching, etc…	1	LS	84,694.44		$84,694
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	0	LF	0.00		$0
7	**16-inch PZ 1080, PZ 994-North to PZ 999 Connections**	**9,597**	**LF**	**$1,197.44**		**$11,491,808**
a.	Mobilization & Preparing Right of Way	15%	PCT	9,992,876.25		$1,498,931
b.	Demolition, Protection, Traffic Control, etc…	1	LS	67,250.00		$67,250
c.	Inspection, Testing, etc	9,597	LF	3.30		$31,673
d.	Piping Materials & Installation, Protection, etc…	9,597	LF	955.40		$9,168,999
e.	Connections, Meters, Valves, etc…	10	EA	4,500.00		$45,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	96,347.22		$96,347
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	500	LF	1,167.22		$583,608
8	**SW Loop 410 16-inch WL**	**4,453**	**LF**	**$909.57**		**$4,050,319**
a.	Mobilization & Preparing Right of Way	15%	PCT	3,522,016.11		$528,302
b.	Demolition, Protection, Traffic Control, etc…	1	LS	18,500.00		$18,500
c.	Inspection, Testing, etc	4,453	LF	3.30		$14,697
d.	Piping Materials & Installation, Protection, etc…	4,453	LF	654.52		$2,914,569
e.	Connections, Meters, Valves, etc…	8	EA	4,500.00		$36,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	36,347.22		$36,347

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	430	LF	1,167.22		$501,902
9	**Helotes Park No 2 PRV to PZ 1201 from PZ 1400**	**450**	**LF**	**$555.83**		**$250,123**
	a. Mobilization & Preparing Right of Way	15%	PCT	217,498.50		$32,625
	b. Demolition, Protection, Traffic Control, etc…	1	LS	1,500.00		$1,500
	c. Inspection, Testing, etc	450	LF	3.31		$1,488
	d. Piping Materials & Installation, Protection, etc…	450	LF	440.23		$198,103
	e. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	7,408.33		$7,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	0	LF	0.00		$0
10	**US Hwy 281 12-inch WL**	**10,967**	**LF**	**$533.51**		**$5,850,982**
	a. Mobilization & Preparing Right of Way	15%	PCT	5,087,810.64		$763,172
	b. Demolition, Protection, Traffic Control, etc…	1	LS	68,000.00		$68,000
	c. Inspection, Testing, etc	10,967	LF	3.30		$36,194
	d. Piping Materials & Installation, Protection, etc…	10,967	LF	417.82		$4,582,213
	e. Connections, Meters, Valves, etc…	17	EA	4,500.00		$76,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	78,173.61		$78,174
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	269	LF	917.22		$246,731
11	**Montgomery Drive 16-inch WL**	**1,347**	**LF**	**$990.17**		**$1,333,763**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,159,793.94		$173,969
	b. Demolition, Protection, Traffic Control, etc…	1	LS	18,500.00		$18,500
	c. Inspection, Testing, etc	1,347	LF	3.30		$4,448
	d. Piping Materials & Installation, Protection, etc…	1,347	LF	662.35		$892,190
	e. Connections, Meters, Valves, etc…	7	EA	4,500.00		$31,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	25,234.72		$25,235
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	161	LF	1,167.22		$187,922
12	**SH-16 12-inch WL**	**5,555**	**LF**	**$535.38**		**$2,974,050**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,586,130.25		$387,920
	b. Demolition, Protection, Traffic Control, etc…	1	LS	76,500.00		$76,500
	c. Inspection, Testing, etc	5,555	LF	3.30		$18,334
	d. Piping Materials & Installation, Protection, etc…	5,555	LF	395.76		$2,198,455
	e. Connections, Meters, Valves, etc…	5	EA	4,500.00		$22,500

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	f. Site Improvements, Paving, Mulching, etc…	1	LS	103,408.33		$103,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	182	LF	917.22		$166,933
13	**Borgfeld Dr 16-inch WL**	**10,612**	**LF**	**$1,214.62**		**$12,889,532**
	a. Mobilization & Preparing Right of Way	15%	PCT	11,208,288.28		$1,681,243
	b. Demolition, Protection, Traffic Control, etc…	1	LS	77,250.00		$77,250
	c. Inspection, Testing, etc	10,612	LF	3.30		$35,022
	d. Piping Materials & Installation, Protection, etc…	10,612	LF	1,012.59		$10,745,617
	e. Connections, Meters, Valves, etc…	17	EA	4,500.00		$76,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	98,816.67		$98,817
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	150	LF	1,167.22		$175,082
14	**16-inch WL along Huebner Rd and West**	**19,939**	**LF**	**$206.83**		**$4,123,934**
	a. Mobilization & Preparing Right of Way	15%	PCT	3,586,029.15		$537,904
	b. Demolition, Protection, Traffic Control, etc…	1	LS	110,000.00		$110,000
	c. Inspection, Testing, etc	19,939	LF	3.30		$65,801
	d. Piping Materials & Installation, Protection, etc…	19,939	LF	114.62		$2,285,360
	e. Connections, Meters, Valves, etc…	57	EA	4,500.00		$256,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	144,694.44		$144,694
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	620	LF	1,167.22		$723,673
15	**16-inch Ladera WLs**	**25,498**	**LF**	**$684.46**		**$17,452,285**
	a. Mobilization & Preparing Right of Way	15%	PCT	15,175,899.64		$2,276,385
	b. Demolition, Protection, Traffic Control, etc…	1	LS	94,000.00		$94,000
	c. Inspection, Testing, etc	25,498	LF	3.30		$84,146
	d. Piping Materials & Installation, Protection, etc…	25,498	LF	547.54		$13,961,091
	e. Connections, Meters, Valves, etc…	27	EA	4,500.00		$121,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	113,286.11		$113,286
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	687	LF	1,167.22		$801,877
16	**Judson Rd 16-inch WL**	**3,633**	**LF**	**$677.33**		**$2,460,729**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,139,764.34		$320,965
	b. Demolition, Protection, Traffic Control, etc…	1	LS	47,000.00		$47,000
	c. Inspection, Testing, etc	3,633	LF	3.30		$11,991
	d. Piping Materials & Installation, Protection, etc…	3,633	LF	472.19		$1,715,470

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	e. Connections, Meters, Valves, etc…	25	EA	4,500.00		$112,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	57,877.78		$57,878
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	167	LF	1,167.22		$194,925
17	**Starcrest Dr 12-inch WL**	**4,029**	**LF**	**$694.15**		**$2,796,736**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,431,944.69		$364,792
	b. Demolition, Protection, Traffic Control, etc…	1	LS	44,500.00		$44,500
	c. Inspection, Testing, etc	4,029	LF	3.30		$13,298
	d. Piping Materials & Installation, Protection, etc…	4,029	LF	455.96		$1,837,058
	e. Connections, Meters, Valves, etc…	9	EA	4,500.00		$40,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	55,408.33		$55,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	481	LF	917.22		$441,180
18	**Rolling Oaks Estates 12-inch and 16-inch WLs**	**29,911**	**LF**	**$650.83**		**$19,467,006**
	a. Mobilization & Preparing Right of Way	15%	PCT	16,927,831.34		$2,539,175
	b. Demolition, Protection, Traffic Control, etc…	1	LS	168,750.00		$168,750
	c. Inspection, Testing, etc	29,911	LF	3.30		$98,709
	d. Piping Materials & Installation, Protection, etc…	29,911	LF	518.93		$15,521,716
	e. Connections, Meters, Valves, etc…	68	EA	4,500.00		$306,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	204,694.44		$204,694
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	538	LF	1,167.22		$627,962
19	**[illegible] WL**	**76,170**	**LF**	**$575.90**		**$43,866,074**
	a. Mobilization & Preparing Right of Way	15%	PCT	38,144,412.60		$5,721,662
	b. Demolition, Protection, Traffic Control, etc…	1	LS	235,000.00		$235,000
	c. Inspection, Testing, etc	76,170	LF	3.30		$251,364
	d. Piping Materials & Installation, Protection, etc…	76,170	LF	477.79		$36,393,004
	e. Connections, Meters, Valves, etc…	35	EA	4,500.00		$157,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	289,388.89		$289,389
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	892	LF	917.22		$818,156
20	**FM 143 16-inch WL, West Montgomery 16-inch WL**	**23,119**	**LF**	**$387.46**		**$8,957,642**
	a. Mobilization & Preparing Right of Way	15%	PCT	7,789,253.48		$1,168,388
	b. Demolition, Protection, Traffic Control, etc…	1	LS	95,750.00		$95,750
	c. Inspection, Testing, etc	23,119	LF	3.30		$76,295

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	d. Piping Materials & Installation, Protection, etc…	23,119	LF	277.61		$6,417,960
	e. Connections, Meters, Valves, etc…	20	EA	4,500.00		$90,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	125,286.11		$125,286
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	843	LF	1,167.22		$983,962
21	**Sage Run 16-inch WL**	**5,881**	**LF**	**$432.20**		**$2,541,795**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,210,256.23		$331,538
	b. Demolition, Protection, Traffic Control, etc…	1	LS	42,750.00		$42,750
	c. Inspection, Testing, etc	5,881	LF	3.30		$19,410
	d. Piping Materials & Installation, Protection, etc…	5,881	LF	272.67		$1,603,596
	e. Connections, Meters, Valves, etc…	8	EA	4,500.00		$36,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	53,286.11		$53,286
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	390	LF	1,167.22		$455,214
22	**Palo Alto Rd 16-inch and Noyes Rd - Senior Rd 12-inch WLs**	**25,723**	**LF**	**$427.93**		**$11,007,553**
	a. Mobilization & Preparing Right of Way	15%	PCT	9,571,785.53		$1,435,768
	b. Demolition, Protection, Traffic Control, etc…	1	LS	61,250.00		$61,250
	c. Inspection, Testing, etc	25,723	LF	3.30		$84,888
	d. Piping Materials & Installation, Protection, etc…	25,723	LF	351.59		$9,043,872
	e. Connections, Meters, Valves, etc…	29	EA	4,500.00		$130,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	79,755.56		$79,756
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	187	LF	917.22		$171,519
23	**SH-16 16-inch WL**	**9,811**	**LF**	**$632.39**		**$6,204,329**
	a. Mobilization & Preparing Right of Way	15%	PCT	5,395,068.90		$809,260
	b. Demolition, Protection, Traffic Control, etc…	1	LS	47,000.00		$47,000
	c. Inspection, Testing, etc	9,811	LF	3.30		$32,379
	d. Piping Materials & Installation, Protection, etc…	9,811	LF	501.76		$4,922,803
	e. Connections, Meters, Valves, etc…	10	EA	4,500.00		$45,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	67,755.56		$67,756
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	240	LF	1,167.22		$280,132
24	**Pleasanton Road 12-inch WL**	**10,025**	**LF**	**$565.14**		**$5,665,574**
	a. Mobilization & Preparing Right of Way	15%	PCT	4,926,585.75		$738,988
	b. Demolition, Protection, Traffic Control, etc…	1	LS	121,750.00		$121,750

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	c. Inspection, Testing, etc	10,025	LF	3.30		$33,085
	d. Piping Materials & Installation, Protection, etc…	10,025	LF	430.29		$4,313,666
	e. Connections, Meters, Valves, etc…	15	EA	4,500.00		$67,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	156,694.44		$156,694
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	255	LF	917.22		$233,890
25	**Roosevelt Avenue 12-inch WL**	**10,669**	**LF**	**$592.99**		**$6,326,568**
	a. Mobilization & Preparing Right of Way	15%	PCT	5,501,363.16		$825,204
	b. Demolition, Protection, Traffic Control, etc…	1	LS	154,500.00		$154,500
	c. Inspection, Testing, etc	10,669	LF	3.30		$35,210
	d. Piping Materials & Installation, Protection, etc…	10,669	LF	439.88		$4,693,029
	e. Connections, Meters, Valves, etc…	28	EA	4,500.00		$126,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	192,694.44		$192,694
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	327	LF	917.22		$299,929
26	**Applewhite 12-inch WL**	**6,988**	**LF**	**$578.97**		**$4,045,825**
	a. Mobilization & Preparing Right of Way	15%	PCT	3,518,108.60		$527,716
	b. Demolition, Protection, Traffic Control, etc…	1	LS	16,750.00		$16,750
	c. Inspection, Testing, etc	6,988	LF	3.30		$23,063
	d. Piping Materials & Installation, Protection, etc…	6,988	LF	492.34		$3,440,448
	e. Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	24,347.22		$24,347
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	0	LF	0.00		$0
27	**Hunters Pond 12-inch WL**	**2,976**	**LF**	**$644.55**		**$1,918,187**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,667,988.48		$250,198
	b. Demolition, Protection, Traffic Control, etc…	1	LS	47,000.00		$47,000
	c. Inspection, Testing, etc	2,976	LF	3.30		$9,823
	d. Piping Materials & Installation, Protection, etc…	2,976	LF	428.37		$1,274,828
	e. Connections, Meters, Valves, etc…	15	EA	4,500.00		$67,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	57,877.78		$57,878
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	230	LF	917.22		$210,959
28	**Morin Road 12-inch WL**	**4,133**	**LF**	**$531.31**		**$2,195,910**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,909,487.33		$286,423

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	b. Demolition, Protection, Traffic Control, etc…	1	LS	28,500.00		$28,500
	c. Inspection, Testing, etc	4,133	LF	3.30		$13,641
	d. Piping Materials & Installation, Protection, etc…	4,133	LF	439.26		$1,815,468
	e. Connections, Meters, Valves, etc…	4	EA	4,500.00		$18,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	33,877.78		$33,878
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	0	LF	0.00		$0
29	**Stacey Road 12-inch WL**	**16,987**	**LF**	**$369.17**		**$6,271,142**
	a. Mobilization & Preparing Right of Way	15%	PCT	5,453,166.74		$817,975
	b. Demolition, Protection, Traffic Control, etc…	1	LS	83,000.00		$83,000
	c. Inspection, Testing, etc	16,987	LF	3.30		$56,060
	d. Piping Materials & Installation, Protection, etc…	16,987	LF	280.22		$4,760,057
	e. Connections, Meters, Valves, etc…	17	EA	4,500.00		$76,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	86,816.67		$86,817
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	426	LF	917.22		$390,734
30	**Kirkner Road 12-inch WL, Stuart Road 12-inch WL**	**20,615**	**LF**	**$455.95**		**$9,399,450**
	a. Mobilization & Preparing Right of Way	15%	PCT	8,173,435.20		$1,226,015
	b. Demolition, Protection, Traffic Control, etc…	1	LS	71,250.00		$71,250
	c. Inspection, Testing, etc	20,615	LF	3.30		$68,032
	d. Piping Materials & Installation, Protection, etc…	20,615	LF	367.74		$7,581,043
	e. Connections, Meters, Valves, etc…	6	EA	4,500.00		$27,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	74,816.67		$74,817
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	383	LF	917.22		$351,293
31	**Tamaron Pass 12-inch WL**	**20,767**	**LF**	**$403.96**		**$8,389,048**
	a. Mobilization & Preparing Right of Way	15%	PCT	7,294,824.09		$1,094,224
	b. Demolition, Protection, Traffic Control, etc…	1	LS	103,250.00		$103,250
	c. Inspection, Testing, etc	20,767	LF	3.30		$68,534
	d. Piping Materials & Installation, Protection, etc…	20,767	LF	307.07		$6,376,975
	e. Connections, Meters, Valves, etc…	34	EA	4,500.00		$153,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	125,286.11		$125,286
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	510	LF	917.22		$467,780
32	**PZ 1610-East 12-inch WL**	**12,451**	**LF**	**$609.73**		**$7,591,748**

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	a. Mobilization & Preparing Right of Way	15%	PCT	6,601,520.20		$990,228
	b. Demolition, Protection, Traffic Control, etc…	1	LS	148,500.00		$148,500
	c. Inspection, Testing, etc	12,451	LF	3.30		$41,091
	d. Piping Materials & Installation, Protection, etc…	12,451	LF	453.86		$5,650,992
	e. Connections, Meters, Valves, etc…	27	EA	4,500.00		$121,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	158,816.67		$158,817
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	524	LF	917.22		$480,621
33	**PZ 1400-West 12-inch WL (1)**	**8,602**	**LF**	**$384.15**		**$3,304,424**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,873,412.08		$431,012
	b. Demolition, Protection, Traffic Control, etc…	1	LS	51,000.00		$51,000
	c. Inspection, Testing, etc	8,602	LF	3.30		$28,389
	d. Piping Materials & Installation, Protection, etc…	8,602	LF	262.00		$2,253,742
	e. Connections, Meters, Valves, etc…	31	EA	4,500.00		$139,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	79,755.56		$79,756
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	350	LF	917.22		$321,025
34	**Boerne Stage Airfield 12-inch WL**	**16,545**	**LF**	**$329.73**		**$5,455,350**
	a. Mobilization & Preparing Right of Way	15%	PCT	4,743,782.40		$711,567
	b. Demolition, Protection, Traffic Control, etc…	1	LS	125,000.00		$125,000
	c. Inspection, Testing, etc	16,545	LF	3.30		$54,601
	d. Piping Materials & Installation, Protection, etc…	16,545	LF	220.15		$3,642,453
	e. Connections, Meters, Valves, etc…	22	EA	4,500.00		$99,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	134,816.67		$134,817
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	750	LF	917.22		$687,911
35	**1540-West PRV and 12-inch WL**	**10,468**	**LF**	**$507.07**		**$5,308,004**
	a. Mobilization & Preparing Right of Way	15%	PCT	4,615,655.24		$692,348
	b. Demolition, Protection, Traffic Control, etc…	1	LS	73,750.00		$73,750
	c. Inspection, Testing, etc	10,468	LF	3.30		$34,547
	d. Piping Materials & Installation, Protection, etc…	10,468	LF	391.43		$4,097,482
	e. Connections, Meters, Valves, etc…	14	EA	4,500.00		$63,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	69,877.78		$69,878
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	302	LF	917.22		$276,999

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
36	**16-inch PZ 1125 WL along Stahl Road**	**5,293**	**LF**	**$671.52**		**$3,554,353**
a.	Mobilization & Preparing Right of Way	15%	PCT	3,090,741.49		$463,611
b.	Demolition, Protection, Traffic Control, etc…	1	LS	110,000.00		$110,000
c.	Inspection, Testing, etc	5,293	LF	3.30		$17,469
d.	Piping Materials & Installation, Protection, etc…	5,293	LF	445.84		$2,359,824
e.	Connections, Meters, Valves, etc…	8	EA	4,500.00		$36,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	127,408.33		$127,408
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings	377	LF	1,167.22		$440,040
37	**Shady Falls Road 12-inch WL**	**17,500**	**LF**	**$472.91**		**$8,276,004**
a.	Mobilization & Preparing Right of Way	15%	PCT	7,196,525.00		$1,079,479
b.	Demolition, Protection, Traffic Control, etc…	1	LS	44,250.00		$44,250
c.	Inspection, Testing, etc	17,500	LF	3.30		$57,753
d.	Piping Materials & Installation, Protection, etc…	17,500	LF	394.49		$6,903,537
e.	Connections, Meters, Valves, etc…	19	EA	4,500.00		$85,500
f.	Site Improvements, Paving, Mulching, etc…	1	LS	36,694.44		$36,694
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings	75	LF	917.22		$68,791
38	**Western PZ 1400-West 12-inch WL**	**22,755**	**LF**	**$523.76**		**$11,918,068**
a.	Mobilization & Preparing Right of Way	15%	PCT	10,363,537.20		$1,554,531
b.	Demolition, Protection, Traffic Control, etc…	1	LS	176,250.00		$176,250
c.	Inspection, Testing, etc	22,755	LF	3.30		$75,094
d.	Piping Materials & Installation, Protection, etc…	22,755	LF	400.54		$9,114,342
e.	Connections, Meters, Valves, etc…	56	EA	4,500.00		$252,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	204,694.44		$204,694
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings	590	LF	917.22		$541,157
39	**12-inch and 16-inch Looping in Eastern PZ 1258-East**	**59,138**	**LF**	**$426.33**		**$25,212,185**
a.	Mobilization & Preparing Right of Way	15%	PCT	21,923,639.36		$3,288,546
b.	Demolition, Protection, Traffic Control, etc…	1	LS	172,000.00		$172,000
c.	Inspection, Testing, etc	59,138	LF	3.30		$195,158
d.	Piping Materials & Installation, Protection, etc…	59,138	LF	348.77		$20,625,536
e.	Connections, Meters, Valves, etc…	53	EA	4,500.00		$238,500
f.	Site Improvements, Paving, Mulching, etc…	1	LS	217,388.89		$217,389

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	407	LF	1,167.22		$475,057
40	**PZ 1610-East 12-inch WL (1)**	**20,009**	**LF**	**$431.94**		**$8,642,687**
	a. Mobilization & Preparing Right of Way	15%	PCT	7,515,380.40		$1,127,307
	b. Demolition, Protection, Traffic Control, etc…	1	LS	76,250.00		$76,250
	c. Inspection, Testing, etc	20,009	LF	3.30		$66,032
	d. Piping Materials & Installation, Protection, etc…	20,009	LF	349.92		$7,001,547
	e. Connections, Meters, Valves, etc…	24	EA	4,500.00		$108,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	84,694.44		$84,694
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	195	LF	917.22		$178,857
41	**PZ4-PZ4-05 12-inch WL along Five Palms, Quintana Road and PLs heading north to Farr Drive**	**11,632**	**LF**	**$259.66**		**$3,020,361**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,626,400.91		$393,960
	b. Demolition, Protection, Traffic Control, etc…	1	LS	404,250.00		$404,250
	c. Inspection, Testing, etc	11,632	LF	3.30		$38,388
	d. Piping Materials & Installation, Protection, etc…	11,632	LF	91.41		$1,063,264
	e. Connections, Meters, Valves, etc…	14	EA	4,500.00		$63,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	511,755.56		$511,756
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	595	LF	917.22		$545,743
42	**PZ5-PZ5-02 16-inch WL along Evers from Callaghan Road to Wildflower**	**921**	**LF**	**$331.56**		**$305,364**
	a. Mobilization & Preparing Right of Way	15%	PCT	265,533.51		$39,830
	b. Demolition, Protection, Traffic Control, etc…	1	LS	29,250.00		$29,250
	c. Inspection, Testing, etc	921	LF	3.30		$3,042
	d. Piping Materials & Installation, Protection, etc…	921	LF	20.09		$18,504
	e. Connections, Meters, Valves, etc…	6	EA	4,500.00		$27,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	36,000.00		$36,000
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	130	LF	1,167.22		$151,738
43	**PZ6-PZ6-06 12-inch WL along Lookout Road from O'Connor to Lookout Way**	**4,073**	**LF**	**$215.26**		**$876,742**
	a. Mobilization & Preparing Right of Way	15%	PCT	762,384.32		$114,358
	b. Demolition, Protection, Traffic Control, etc…	1	LS	58,750.00		$58,750

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	c. Inspection, Testing, etc	4,073	LF	3.30		$13,443
	d. Piping Materials & Installation, Protection, etc…	4,073	LF	61.83		$251,827
	e. Connections, Meters, Valves, etc…	6	EA	4,500.00		$27,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	67,408.33		$67,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	375	LF	917.22		$343,956
44	**PZ8-PZ8-06 12-inch WL along PLs from Silver Pointe to Galm Road**	**3,406**	**LF**	**$281.01**		**$957,124**
	a. Mobilization & Preparing Right of Way	15%	PCT	832,281.45		$124,842
	b. Demolition, Protection, Traffic Control, etc…	1	LS	69,750.00		$69,750
	c. Inspection, Testing, etc	3,406	LF	3.30		$11,242
	d. Piping Materials & Installation, Protection, etc…	3,406	LF	77.04		$262,412
	e. Connections, Meters, Valves, etc…	7	EA	4,500.00		$31,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	91,408.33		$91,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	399	LF	917.22		$365,969
45	**PZ8 16-inch WL along Cedar Trail across Bandera Road**	**2,075**	**LF**	**$259.98**		**$539,460**
	a. Mobilization & Preparing Right of Way	15%	PCT	469,095.25		$70,364
	b. Demolition, Protection, Traffic Control, etc…	1	LS	30,250.00		$30,250
	c. Inspection, Testing, etc	2,075	LF	3.30		$6,850
	d. Piping Materials & Installation, Protection, etc…	2,075	LF	62.40		$129,480
	e. Connections, Meters, Valves, etc…	7	EA	4,500.00		$31,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	43,408.33		$43,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	195	LF	1,167.22		$227,607
46	**PZ9-PZ9-01 12-inch WL along Toepperwein Road from Rain Tree Path to Mia Way**	**7,724**	**LF**	**$250.15**		**$1,932,143**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,680,124.48		$252,019
	b. Demolition, Protection, Traffic Control, etc…	1	LS	84,000.00		$84,000
	c. Inspection, Testing, etc	7,724	LF	3.30		$25,492
	d. Piping Materials & Installation, Protection, etc…	7,724	LF	137.19		$1,059,658
	e. Connections, Meters, Valves, etc…	11	EA	4,500.00		$49,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	108,347.22		$108,347
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	385	LF	917.22		$353,128

AG|CM INC.

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates

March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
47	**PZ10-PZ10-01 12-inch Along Stone Oak Parkway from Ruby Run to Cibolo Canyon**	**14,022**	**LF**	**$168.84**		**$2,367,517**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,058,710.04		$308,807
	b. Demolition, Protection, Traffic Control, etc…	1	LS	136,000.00		$136,000
	c. Inspection, Testing, etc	14,022	LF	3.30		$46,275
	d. Piping Materials & Installation, Protection, etc…	14,022	LF	74.63		$1,046,443
	e. Connections, Meters, Valves, etc…	10	EA	4,500.00		$45,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	161,286.11		$161,286
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	680	LF	917.22		$623,706
48	**PZ11-PZ11-03 16-inch Along PLs and W Apache Blf from State Hwy 16 to Ranch Town Tank**	**1,985**	**LF**	**$1,101.70**		**$2,186,875**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,901,630.00		$285,245
	b. Demolition, Protection, Traffic Control, etc…	1	LS	33,500.00		$33,500
	c. Inspection, Testing, etc	1,985	LF	3.30		$6,553
	d. Piping Materials & Installation, Protection, etc…	1,985	LF	915.20		$1,816,669
	e. Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	31,408.33		$31,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	0	LF	0.00		$0
49	**PZ 1400-West 12-inch WL**	**3,536**	**LF**	**$478.24**		**$1,691,074**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,470,498.80		$220,575
	b. Demolition, Protection, Traffic Control, etc…	1	LS	26,750.00		$26,750
	c. Inspection, Testing, etc	3,536	LF	3.30		$11,671
	d. Piping Materials & Installation, Protection, etc…	3,536	LF	349.82		$1,236,970
	e. Connections, Meters, Valves, etc…	8	EA	4,500.00		$36,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	16,938.89		$16,939
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	155	LF	917.22		$142,168
50	**PZ10B-PZ10B-02 16-inch WL along CR 371 from Hwy 1283 to CR 278**	**6,914**	**LF**	**$555.35**		**$3,839,666**
	a. Mobilization & Preparing Right of Way	15%	PCT	3,338,839.74		$500,826
	b. Demolition, Protection, Traffic Control, etc…	1	LS	26,000.00		$26,000
	c. Inspection, Testing, etc	6,914	LF	3.30		$22,819
	d. Piping Materials & Installation, Protection, etc…	6,914	LF	469.65		$3,247,143
	e. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	33,877.78		$33,878

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	0	LF	0.00		$0
51	**PZ10B 16-inch WL along FM 1283 from FM 471 to CR 371**	**5,351**	**LF**	**$307.18**		**$1,643,701**
a.	Mobilization & Preparing Right of Way	15%	PCT	1,429,305.61		$214,396
b.	Demolition, Protection, Traffic Control, etc…	1	LS	37,750.00		$37,750
c.	Inspection, Testing, etc	5,351	LF	3.30		$17,661
d.	Piping Materials & Installation, Protection, etc…	5,351	LF	178.54		$955,353
e.	Connections, Meters, Valves, etc…	5	EA	4,500.00		$22,500
f.	Site Improvements, Paving, Mulching, etc…	1	LS	45,877.78		$45,878
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	300	LF	1,167.22		$350,165
52	**PZ11A-PZ11A-01 16-inch WL along existing pipe near Borgfeld Tank**	**9,595**	**LF**	**$315.00**		**$3,022,400**
a.	Mobilization & Preparing Right of Way	15%	PCT	2,628,173.62		$394,226
b.	Demolition, Protection, Traffic Control, etc…	1	LS	68,000.00		$68,000
c.	Inspection, Testing, etc	9,595	LF	3.30		$31,666
d.	Piping Materials & Installation, Protection, etc…	9,595	LF	195.65		$1,877,291
e.	Connections, Meters, Valves, etc…	30	EA	4,500.00		$135,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	84,347.22		$84,347
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	370	LF	1,167.22		$431,870
53	**PZ12West-PZ12A-03 16-inch WL along SH 16 N from Shadow Canyon Road to Private Road**	**8,160**	**LF**	**$636.40**		**$5,193,012**
a.	Mobilization & Preparing Right of Way	15%	PCT	4,515,662.40		$677,349
b.	Demolition, Protection, Traffic Control, etc…	1	LS	87,250.00		$87,250
c.	Inspection, Testing, etc	8,160	LF	3.30		$26,931
d.	Piping Materials & Installation, Protection, etc…	8,160	LF	503.14		$4,105,590
e.	Connections, Meters, Valves, etc…	8	EA	4,500.00		$36,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	98,816.67		$98,817
g.	Jacking, Bore, Tunneling, and Casing at Street Crossings□	138	LF	1,167.22		$161,076
54	**PZ14-PZ14-02 16-inch WL along Bridlewood Trail from Boerne Stage Road to Bridle Path**	**8,066**	**LF**	**$222.03**		**$1,790,898**
a.	Mobilization & Preparing Right of Way	15%	PCT	1,557,302.62		$233,595
b.	Demolition, Protection, Traffic Control, etc…	1	LS	103,250.00		$103,250
c.	Inspection, Testing, etc	8,066	LF	3.30		$26,620

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	d. Piping Materials & Installation, Protection, etc…	8,066	LF	140.74		$1,135,215
	e. Connections, Meters, Valves, etc…	6	EA	4,500.00		$27,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	122,816.67		$122,817
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	122	LF	1,167.22		$142,400
55	**16-inch WL along Old Fredericksburg Road from Lost Creek Gap to Fahrenthold**	**2,993**	**LF**	**$489.89**		**$1,466,236**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,274,988.07		$191,248
	b. Demolition, Protection, Traffic Control, etc…	1	LS	81,500.00		$81,500
	c. Inspection, Testing, etc	2,993	LF	3.30		$9,879
	d. Piping Materials & Installation, Protection, etc…	2,993	LF	207.59		$621,331
	e. Connections, Meters, Valves, etc…	6	EA	4,500.00		$27,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	103,408.33		$103,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	370	LF	1,167.22		$431,870
56	**Potranco Road PZ Interconnection**	**915**	**LF**	**$434.55**		**$397,614**
	a. Mobilization & Preparing Right of Way	15%	PCT	345,751.05		$51,863
	b. Demolition, Protection, Traffic Control, etc…	1	LS	63,000.00		$63,000
	c. Inspection, Testing, etc	915	LF	3.30		$3,022
	d. Piping Materials & Installation, Protection, etc…	915	LF	83.51		$76,411
	e. Connections, Meters, Valves, etc…	7	EA	4,500.00		$31,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	43,408.33		$43,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	140	LF	917.22		$128,410
57	**Along Nacogdoches from O'Conner to Judson to 16-inch WL near Kings Mountain**	**10,869**	**LF**	**$555.48**		**$6,037,561**
	a. Mobilization & Preparing Right of Way	15%	PCT	5,250,053.07		$787,508
	b. Demolition, Protection, Traffic Control, etc…	1	LS	139,500.00		$139,500
	c. Inspection, Testing, etc	10,869	LF	3.30		$35,870
	d. Piping Materials & Installation, Protection, etc…	10,869	LF	361.60		$3,930,265
	e. Connections, Meters, Valves, etc…	8	EA	4,500.00		$36,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	182,816.67		$182,817
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	793	LF	1,167.22		$925,601
58	**Miranda Ridge PS elimination pipeline**	**2,960**	**LF**	**$948.75**		**$2,808,300**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,442,000.00		$366,300

AG|CM INC.

San Antonio Water System

Impact Fee Study (2024-2033)

DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates

March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	b. Demolition, Protection, Traffic Control, etc…	1	LS	24,250.00		$24,250
	c. Inspection, Testing, etc	2,960	LF	3.30		$9,771
	d. Piping Materials & Installation, Protection, etc…	2,960	LF	680.68		$2,014,802
	e. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	21,877.78		$21,878
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	395	LF	917.22		$362,300
F-72	**F-72 Montgomery Rd 16-inch Water Line**	**7,700**	**LF**	**$407.89**		**$3,140,763**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,731,098.42		$409,665
	b. Demolition, Protection, Traffic Control, etc…	1	LS	29,625.00		$29,625
	c. Inspection, Testing, etc	7,700	LF	3.30		$25,410
	d. Piping Materials & Installation, Protection, etc…	7,700	LF	305.07		$2,349,032
	e. Connections, Meters, Valves, etc…	12	EA	4,500.00		$54,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	55,408.33		$55,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	225	LF	967.22		$217,623
F-73	**F-73 PZ 828 PRV & 16-inch Water Line**	**18,100**	**LF**	**$491.06**		**$8,888,128**
	a. Mobilization & Preparing Right of Way	15%	PCT	7,728,806.92		$1,159,321
	b. Demolition, Protection, Traffic Control, etc…	1	LS	20,000.00		$20,000
	c. Inspection, Testing, etc	18,100	LF	3.30		$59,733
	d. Piping Materials & Installation, Protection, etc…	18,100	LF	411.00		$7,439,153
	e. Connections, Meters, Valves, etc…	4	EA	4,500.00		$18,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	31,408.33		$31,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	175	LF	917.22		$160,513
F-74	**F-74 PZ 1080 Briggs Ranch 16-inch Water Line**	**15,000**	**LF**	**$489.47**		**$7,342,032**
	a. Mobilization & Preparing Right of Way	15%	PCT	6,384,375.42		$957,656
	b. Demolition, Protection, Traffic Control, etc…	1	LS	39,500.00		$39,500
	c. Inspection, Testing, etc	15,000	LF	3.30		$49,503
	d. Piping Materials & Installation, Protection, etc…	15,000	LF	405.54		$6,083,063
	e. Connections, Meters, Valves, etc…	8	EA	4,500.00		$36,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	55,408.33		$55,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings□	125	LF	967.22		$120,902
S-43	**S-43 Pecan Springs Booster Station Facility**	**1**	**LS**	**$10,317,526**		**$10,317,526**
	a. Site Improvements - Excavation, Site Concrete, Manholes.	1	LS	818,496.00		$818,496

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
b.	Pump Station Building - Assuming 2,000 SF	1	LS	1,502,200.00		$1,502,200
c.	High Service Pump Station, Pumps, Piping, Valves, and Hydropneumatic Tank	1	LS	2,980,230.00		$2,980,230
d.	Electrical, Mechanical and Instrumentaion, controls, SCADA	1	LS	3,211,200.00		$3,211,200
e.	0.5 MG Ground Storage Tank	1	EA	1,805,400.00		$1,805,400
	Construction Cost Subtotal	**720,237**	**LF**	**$523.85**		**$377,299,730**

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WASTEWATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
1	**C5/C28 OLLU 21-inch WW**	**4,236**	**LF**	**$956.78**		**$4,052,907**
a.	Mobilization & Preparing Right of Way	15%	PCT	3,524,267.28		$528,640
b.	Demolition, Protection, Traffic Control, etc…	1	LS	53,750.00		$53,750
c.	Inspection, Testing, etc	4,236	LF	3.30		$13,983
d.	Piping Materials & Installation, Protection, etc…	4,236	LF	713.51		$3,022,412
e.	Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	67,408.33		$67,408
f.	Jacking, Bore, Tunneling, and Casing at Street Crossings	390	LF	917.22		$357,714
2	**Cresta Bella LS 15-inch WW**	**506**	**LF**	**$867.84**		**$439,125**
a.	Mobilization & Preparing Right of Way	15%	PCT	381,847.84		$57,277
b.	Demolition, Protection, Traffic Control, etc…	1	LS	19,500.00		$19,500
c.	Inspection, Testing, etc	506	LF	3.30		$1,672
c.	Piping Materials & Installation, Protection, etc…	506	LF	48.39		$24,484
d.	Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	28,938.89		$28,939
f.	Jacking, Bore, Tunneling, and Casing at Street Crossings	340	LF	877.22		$298,253
3	**CS30-02 18-inch WW**	**3,188**	**LF**	**$489.27**		**$1,559,785**
a.	Mobilization & Preparing Right of Way	15%	PCT	1,356,334.60		$203,450
b.	Demolition, Protection, Traffic Control, etc…	1	LS	55,500.00		$55,500
c.	Inspection, Testing, etc	3,188	LF	3.30		$10,523
c.	Piping Materials & Installation, Protection, etc…	3,188	LF	157.76		$502,924
d.	Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
f.	Site Improvements, Paving, Mulching, etc…	1	LS	81,877.78		$81,878
f.	Jacking, Bore, Tunneling, and Casing at Street Crossings	772	LF	902.22		$696,510
4	**CS33-03 15-inch and 18-inch WW**	**1,763**	**LF**	**$613.89**		**$1,082,293**
a.	Mobilization & Preparing Right of Way	15%	PCT	941,124.66		$141,169
b.	Demolition, Protection, Traffic Control, etc…	1	LS	55,500.00		$55,500
c.	Inspection, Testing, etc	1,763	LF	3.30		$5,820
c.	Piping Materials & Installation, Protection, etc…	1,763	LF	288.63		$508,852
d.	Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
f.	Site Improvements, Paving, Mulching, etc…	1	LS	73,234.72		$73,235

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WASTEWATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	324	LF	877.22		$284,218
5	**CS71-01 12-inch WW**	**2,656**	**LF**	**$749.73**		**$1,991,286**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,731,552.64		$259,733
	b. Demolition, Protection, Traffic Control, etc…	1	LS	69,750.00		$69,750
	c. Inspection, Testing, etc	2,656	LF	3.30		$8,767
	c. Piping Materials & Installation, Protection, etc…	2,656	LF	473.86		$1,258,564
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	96,347.22		$96,347
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	372	LF	777.22		$289,124
6	**Dietrich 12-inch WW**	**4,102**	**LF**	**$544.93**		**$2,235,293**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,943,732.70		$291,560
	b. Demolition, Protection, Traffic Control, etc…	1	LS	53,750.00		$53,750
	c. Inspection, Testing, etc	4,102	LF	3.30		$13,539
	c. Piping Materials & Installation, Protection, etc…	4,102	LF	376.79		$1,545,610
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	72,347.22		$72,347
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	321	LF	777.22		$249,486
7	**E-54 Segment 24-inch WW**	**14,102**	**LF**	**$1,197.44**		**$16,886,264**
	a. Mobilization & Preparing Right of Way	15%	PCT	14,683,707.50		$2,202,556
	b. Demolition, Protection, Traffic Control, etc…	1	LS	77,750.00		$77,750
	c. Inspection, Testing, etc	14,102	LF	3.30		$46,539
	c. Piping Materials & Installation, Protection, etc…	14,102	LF	1,012.08		$14,272,344
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	60,694.44		$60,694
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	237	LF	917.22		$217,380
8	**E_46374-01 33-inch WW**	**5,043**	**LF**	**$939.10**		**$4,735,890**
	a. Mobilization & Preparing Right of Way	15%	PCT	4,118,165.13		$617,725
	b. Demolition, Protection, Traffic Control, etc…	1	LS	72,250.00		$72,250
	c. Inspection, Testing, etc	5,043	LF	3.30		$16,644
	c. Piping Materials & Installation, Protection, etc…	5,043	LF	639.70		$3,226,022
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WASTEWATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	f. Site Improvements, Paving, Mulching, etc…	1	LS	96,347.22		$96,347
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	538	LF	1,297.22		$697,902
9	**E_46374-10 24-inch WW**	**8,744**	**LF**	**$555.83**		**$4,860,173**
	a. Mobilization & Preparing Right of Way	15%	PCT	4,226,237.52		$633,936
	b. Demolition, Protection, Traffic Control, etc…	1	LS	33,500.00		$33,500
	c. Inspection, Testing, etc	8,744	LF	3.30		$28,858
	c. Piping Materials & Installation, Protection, etc…	8,744	LF	460.80		$4,029,210
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	41,286.11		$41,286
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	92	LF	917.22		$84,384
10	**Hawkins 18-inch WW**	**6,594**	**LF**	**$533.51**		**$3,517,952**
	a. Mobilization & Preparing Right of Way	15%	PCT	3,059,088.48		$458,863
	b. Demolition, Protection, Traffic Control, etc…	1	LS	21,750.00		$21,750
	c. Inspection, Testing, etc	6,594	LF	3.30		$21,763
	c. Piping Materials & Installation, Protection, etc…	6,594	LF	443.37		$2,923,585
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	24,347.22		$24,347
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	65	LF	902.22		$58,644
11	**Medio Creek Outfall 42-inch and 48-inch WW**	**22,071**	**LF**	**$990.17**		**$21,854,108**
	a. Mobilization & Preparing Right of Way	15%	PCT	19,003,572.42		$2,850,536
	b. Demolition, Protection, Traffic Control, etc…	1	LS	77,750.00		$77,750
	c. Inspection, Testing, etc	22,071	LF	3.30		$72,837
	c. Piping Materials & Installation, Protection, etc…	22,071	LF	818.89		$18,073,793
	d. Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	60,694.44		$60,694
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	604	LF	1,167.22		$704,998
12	**Medio M17 12-inch WW**	**5,420**	**LF**	**$535.38**		**$2,901,773**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,523,281.00		$378,492
	b. Demolition, Protection, Traffic Control, etc…	1	LS	40,250.00		$40,250
	c. Inspection, Testing, etc	5,420	LF	3.30		$17,889
	c. Piping Materials & Installation, Protection, etc…	5,420	LF	412.70		$2,236,808

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WASTEWATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	48,347.22		$48,347
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	220	LF	777.22		$170,987
13	**NW IH-10 Corridor 24-inch, 27-inch, and 30-inch WW**	**14,734**	**LF**	**$1,214.62**		**$17,896,189**
	a. Mobilization & Preparing Right of Way	15%	PCT	15,561,903.46		$2,334,286
	b. Demolition, Protection, Traffic Control, etc…	1	LS	95,750.00		$95,750
	c. Inspection, Testing, etc	14,734	LF	3.30		$48,625
	c. Piping Materials & Installation, Protection, etc…	14,734	LF	951.33		$14,016,877
	d. Connections, Meters, Valves, etc…	5	EA	4,500.00		$22,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	130,225.00		$130,225
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	1,186	LF	1,052.22		$1,247,927
14	**Rosillo Creek 42-inch WW**	**15,620**	**LF**	**$551.83**		**$8,619,546**
	a. Mobilization & Preparing Right of Way	15%	PCT	7,495,257.00		$1,124,289
	b. Demolition, Protection, Traffic Control, etc…	1	LS	62,000.00		$62,000
	c. Inspection, Testing, etc	15,620	LF	3.30		$51,549
	c. Piping Materials & Installation, Protection, etc…	15,620	LF	435.17		$6,797,410
	d. Connections, Meters, Valves, etc…	4	EA	4,500.00		$18,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	72,694.44		$72,694
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	318	LF	1,552.22		$493,604
15	**SE MP 12-inch, 15-inch, 18-inch, 21-inch, 24-inch, and 30-inch WW**	**43,335**	**LF**	**$684.46**		**$29,660,944**
	a. Mobilization & Preparing Right of Way	15%	PCT	25,792,125.30		$3,868,819
	b. Demolition, Protection, Traffic Control, etc…	1	LS	71,250.00		$71,250
	c. Inspection, Testing, etc	43,335	LF	3.30		$143,008
	c. Piping Materials & Installation, Protection, etc…	43,335	LF	565.65		$24,512,527
	d. Connections, Meters, Valves, etc…	9	EA	4,500.00		$40,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	84,694.44		$84,694
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	1,025	LF	917.22		$940,145
16	**SE_52815-02 27-inch WW**	**5,081**	**LF**	**$677.33**		**$3,441,498**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,992,607.38		$448,891
	b. Demolition, Protection, Traffic Control, etc…	1	LS	49,500.00		$49,500

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WASTEWATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	c. Inspection, Testing, etc	5,081	LF	3.30		$16,770
	c. Piping Materials & Installation, Protection, etc…	5,081	LF	462.50		$2,349,971
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	60,347.22		$60,347
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings	460	LF	1,102.22		$507,019
17	**SE11-05, 06 18-inch and 27-inch WW**	**5,443**	**LF**	**$694.15**		**$3,778,267**
	a. Mobilization & Preparing Right of Way	15%	PCT	3,285,449.23		$492,817
	b. Demolition, Protection, Traffic Control, etc…	1	LS	31,000.00		$31,000
	c. Inspection, Testing, etc	5,443	LF	3.30		$17,964
	c. Piping Materials & Installation, Protection, etc…	5,443	LF	564.50		$3,072,579
	d. Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	41,286.11		$41,286
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings	99	LF	1,102.22		$109,119
18	**Siller 12-inch WW**	**3,352**	**LF**	**$650.83**		**$2,181,586**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,897,030.88		$284,555
	b. Demolition, Protection, Traffic Control, etc…	1	LS	24,250.00		$24,250
	c. Inspection, Testing, etc	3,352	LF	3.30		$11,064
	c. Piping Materials & Installation, Protection, etc…	3,352	LF	447.37		$1,499,592
	d. Connections, Meters, Valves, etc…	68	EA	4,500.00		$306,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	36,694.44		$36,694
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings	25	LF	777.22		$19,430
19	**USA-17013 24-inch WWs**	**17,467**	**LF**	**$575.90**		**$10,059,193**
	a. Mobilization & Preparing Right of Way	15%	PCT	8,747,124.26		$1,312,069
	b. Demolition, Protection, Traffic Control, etc…	1	LS	56,000.00		$56,000
	c. Inspection, Testing, etc	17,467	LF	3.30		$57,644
	c. Piping Materials & Installation, Protection, etc…	17,467	LF	482.64		$8,430,231
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	51,163.89		$51,164
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings	156	LF	917.22		$143,086
20	**WS58-01 12-inch WW**	**1,028**	**LF**	**$387.46**		**$398,307**
	a. Mobilization & Preparing Right of Way	15%	PCT	346,353.76		$51,953
	b. Demolition, Protection, Traffic Control, etc…	1	LS	30,250.00		$30,250

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WASTEWATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	c. Inspection, Testing, etc	1,028	LF	3.30		$3,395
	c. Piping Materials & Installation, Protection, etc…	1,028	LF	107.45		$110,461
	d. Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	43,408.33		$43,408
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	187	LF	777.22		$145,339
21	**Texas Research 24-inch and 30-inch WW**	**20,209**	**LF**	**$432.20**		**$8,734,421**
	a. Mobilization & Preparing Right of Way	15%	PCT	7,595,148.47		$1,139,272
	b. Demolition, Protection, Traffic Control, etc…	1	LS	74,500.00		$74,500
	c. Inspection, Testing, etc	20,209	LF	3.30		$66,692
	c. Piping Materials & Installation, Protection, etc…	20,209	LF	359.13		$7,257,696
	d. Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	72,694.44		$72,694
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	120	LF	917.22		$110,066
22	**E_46374-11 18-inch, 21-inch, and 27-inch WW**	**5,832**	**LF**	**$427.93**		**$2,495,667**
	a. Mobilization & Preparing Right of Way	15%	PCT	2,170,145.52		$325,522
	b. Demolition, Protection, Traffic Control, etc…	1	LS	53,750.00		$53,750
	c. Inspection, Testing, etc	5,832	LF	3.30		$19,248
	c. Piping Materials & Installation, Protection, etc…	5,832	LF	284.34		$1,658,274
	d. Connections, Meters, Valves, etc…	5	EA	4,500.00		$22,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	79,755.56		$79,756
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	367	LF	917.22		$336,618
23	**SE_43869-03,04 27-inch and 36-inch WW**	**9,585**	**LF**	**$632.39**		**$6,061,410**
	a. Mobilization & Preparing Right of Way	15%	PCT	5,270,791.50		$790,619
	b. Demolition, Protection, Traffic Control, etc…	1	LS	75,500.00		$75,500
	c. Inspection, Testing, etc	9,585	LF	3.30		$31,633
	c. Piping Materials & Installation, Protection, etc…	9,585	LF	443.66		$4,252,483
	d. Connections, Meters, Valves, etc…	3	EA	4,500.00		$13,500
	f. Site Improvements, Paving, Mulching, etc…	1	LS	91,755.56		$91,756
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings□	596	LF	1,352.22		$805,920
24	**E-20 Seg 2 36-inch WW**	**12,463**	**LF**	**$565.14**		**$7,043,396**
	a. Mobilization & Preparing Right of Way	15%	PCT	6,124,692.09		$918,704

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

DETAIL SHEET - WASTEWATER PROJECTS

PROJECT ID	PROPOSED PROJECT NAME	QUANTITY	UNIT	UNIT COST		CONSTRUCTION COST SUBTOTAL
	b. Demolition, Protection, Traffic Control, etc…	1	LS	84,750.00		$84,750
	c. Inspection, Testing, etc	12,463	LF	3.30		$41,130
	c. Piping Materials & Installation, Protection, etc…	12,463	LF	294.39		$3,668,934
	d. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	108,694.44		$108,694
	f. Jacking, Bore, Tunneling, and Casing at Street Crossings	1,550	LF	1,427.22		$2,212,183
25	**Apache Creek Siphon 54-inch WW**	**871**	**LF**	**$2,010.75**		**$1,751,365**
	a. Mobilization & Preparing Right of Way	15%	PCT	1,522,925.92		$228,439
	b. Demolition, Protection, Traffic Control, etc…	1	LS	10,750.00		$10,750
	c. Inspection, Testing, etc	871	LF	3.30		$2,877
	d. Piping Materials & Installation, Protection, etc…	871	LF	697.00		$607,088
	e. Connections, Meters, Valves, etc…	2	EA	4,500.00		$9,000
	f. Site Improvements, Paving, Mulching, etc…	1	LS	19,408.33		$19,408
	g. Jacking, Bore, Tunneling, and Casing at Street Crossings	327	LF	2,672.18		$873,803
	Construction Cost Subtotal	**720,237**	**LF**	**$233.59**		**$168,238,637**

San Antonio Water System
Impact Fee Study (2024-2033)
DRAFT Conceptual (Rough-Order-of-Magnitude) Estimates
March 8, 2024

MARK-UPS

I. Construction Costs Mark-Ups	% Applied
A. General Conditions	5.0%
B. Bonds & Insurance	3.0%
C. Estimating & Design Contingency	20.0%
D. General Contractors Overhead & Profit	5.0%

II. Owner Soft Cost Mark-Ups	% Applied
A. Design Fees	5.0%
B. Escalation - 12 Months@ .65% per Month	7.8%

A. General Conditions 5.0%

This represents Direct Costs to the Contractor for construction of the project not associated with specialty trades. Supervisory personnel, temporary field office facilities, miscellaneous equipment and construction aids are items typically identified as General Conditions expenses.

B. Bonds & Insurance 3.0%

This item represents the amount the Contractor will pay to secure Performance and Payment Bonds, General Liability Insurance, Builder's Risk Insurance and other protective means during construction of the project. These items are necessary for protection of both the Owner and the Contractor and are typically required by the Financing Entity, State and Local Governing Authorities.

C. Estimating & Design Contingency 20.0%

An amount allowed for items that may be necessary for construction of the project but are not yet identified in the plans and specifications or are unforeseen, associated with the original project quality and scope. It is not intended to cover increases in quality, scope or escalation. The amount varies from 20% to 50% at Feasibility / Program, 25% at Conceptual Design, 20% at Schematic Design, 15% to 25% at Design Development, 5% to 10% at Construction Documents and 0% at Bid Documents, based on historical and statistical data and industry standards. The estimator is responsible, based on their experience and review of the planning documents, to assign an appropriate value for this item using the percentages above as a guideline.

D. General Contractors Overhead & Profit 5.0%

Overhead represents Indirect Costs born by the Contractor for Home Office expenses associated with the project. Items such as Accounting, Submittal Processing, Contracting and Legal Fees fall under this category. Profit represents the amount the Contractor proposes for it's margin after all costs associated with constructing the project are satisfied. This is first and foremost based on risk analysis and secondly on market conditions.