



## San Antonio Water System

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# Water and Wastewater Facilities Capital Improvements Plan and Maximum Impact Fee per Service Unit Executive Summary

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# 1. Executive Summary

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## 1.1. Introduction

The Texas Local Government Code (TLGC), Chapter 395 authorizes a political subdivision, such as the San Antonio Water System (SAWS), to impose impact fees on new development within its corporate boundaries and extraterritorial jurisdiction (ETJ). 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.

Chapter 395 requires the political subdivision imposing an impact fee to update its Land Use Assumptions Plan (LUAP) and Capital Improvements Plan (CIP) every five years. SAWS commissioned Red Oak Consulting (Red Oak), to conduct a Capital Improvements Plan and Maximum Impact Fees Study. This report updates the previous LUAP and CIP for SAWS, which were completed in 2006.

Red Oak calculated the following impact fees by service area:

- Water Supply
- Water Delivery – Flow
- Water Delivery – System Development
- Wastewater Treatment
- Wastewater Collection

## 1.2. Land Use Assumptions Plan

Future land use assumptions are based on current land use data. For SAWS, these assumptions are primarily based on Bexar County Appraisal District (BCAD) databases and supplemented with SAWS customer data, Alamo Area Council of Governments (AACOG) land use studies as well as aerial photo documentation. Table 1-1 presents the land use distribution.

**Table 1-1: Area Land Use Distribution**

<b>Land Use</b>	<b>Water</b>	<b>Wastewater</b>
Commercial	12%	10%
Industrial	1%	1%
Residential	34%	29%
Undevelopable	10%	13%
Vacant	42%	47%
<b>Total Acres</b>	<b>379,177</b>	<b>544,332</b>

Population data is collected and converted into Equivalent Dwelling Units (EDU), the standard measure of demand expressed as water usage and wastewater discharge for an average household unit. One water EDU is equivalent to 313 gallons per day; a wastewater EDU is equivalent to 240 gallons per day.

In an effort to improve the equity of the impact fees, some changes to the current service areas are proposed:

Water Flow is separated into two service areas – Inside Loop 410 and Outside Loop 410.

There is currently one systemwide service area.

For Wastewater Treatment, the current Far West and Upper / Lower service areas are combined into one service area, the Leon Creek / Dos Rios service area.

- Wastewater Collection will be separated into six service areas – Medio Creek, Upper Medina, Lower Medina, Upper Collection, Middle Collection and Lower Collection. There are currently four Wastewater Collection service areas.

Table 1-2 presents population and EDU projections for water and wastewater by service areas.

**Table 1-2: Water and Wastewater Service Area Population and EDU Projections**

	Service Area	Population		EDUs		Change
		2011	2020	2010	2020	
<b>Flow &amp; Supply</b>	Inside 410	562,911	577,647	245,344	251,767	6,423
	Outside 410	784,056	953,655	341,729	415,649	73,920
	<b>Total Flow &amp; Supply</b>	<b>1,346,967</b>	<b>1,531,302</b>	<b>587,073</b>	<b>667,416</b>	<b>80,343</b>
<b>System Development</b>	High Elevation	41,004	84,181	17,872	36,690	18,818
	Middle Elevation	500,181	595,400	218,003	259,504	41,501
	Low Elevation	805,780	851,721	351,198	371,222	20,024
	<b>Total System Development</b>	<b>1,346,965</b>	<b>1,531,302</b>	<b>587,073</b>	<b>667,416</b>	<b>80,343</b>
<b>Treatment</b>	Medio Creek <sup>(1)</sup>	78,393	118,720	33,501	50,735	17,234
	Leon Creek / Dos Rios	1,567,369	1,777,596	669,816	759,656	89,840
	<b>Total Treatment</b>	<b>1,645,762</b>	<b>1,896,316</b>	<b>703,317</b>	<b>810,391</b>	<b>107,074</b>
<b>Collection</b>	Medio Creek <sup>(1)</sup>	78,393	118,720	33,501	50,735	17,234
	Upper Medina <sup>(2)</sup>	29,100	62,384	12,436	26,660	14,224
	Lower Medina	6,074	10,102	2,596	4,317	1,721
	Upper Collection	349,313	468,013	149,279	200,006	50,727
	Middle Collection	613,865	630,734	262,335	269,544	7,209
	Lower Collection	569,017	606,372	243,170	259,133	15,963
	<b>Total Collection</b>	<b>1,645,762</b>	<b>1,896,325</b>	<b>703,317</b>	<b>810,395</b>	<b>107,078</b>

Boundaries are for population served in 2020

(1) Medio Creek sewershed of current Far West

(2) Includes lower 3 sewersheds of current Far West

### 1.3. Capital Improvement Plan

SAWS owns and operates an infrastructure-intensive system comprised of treatment facilities, pumping stations, storage facilities, and pipelines that are continuously improved and expanded. The schedule for future investment in the water and wastewater system is known as the CIP. SAWS staff, with assistance from Red Oak and other consultants, updated the CIP as part of 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 2011-2020 study period can be included in the maximum impact fee calculation.

Tables 1-3 through 1-9 provide the value of water facilities that are eligible to be included in the calculation of the maximum water impact fee.

**Table 1-3: 2011 - 2020 Eligible Water Supply CIP Cost**

Service Area	Value of Existing Capacity	Value of New CIP Capacity	Total Value of Existing and New CIP Capacity	Total Value of Eligible Study Period Capacity
All	\$575,247,480	\$326,573,211	\$901,820,691	\$147,719,764

**Table 1-4: 2011 - 2020 Eligible Water Flow CIP Cost**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
Inside 410	\$223,006,792	\$11,648,000	\$234,654,792	\$7,658,952
Outside 410	380,230,849	139,307,749	519,538,597	116,401,358
<b>Total</b>	<b>\$603,237,641</b>	<b>\$150,955,749</b>	<b>\$754,193,390</b>	<b>\$124,060,310</b>

**Table 1-5: 2011 - 2020 Eligible Well Pumps CIP Cost**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
All	\$69,308,164	\$43,031,000	\$112,339,164	\$17,489,285

**Table 1-6: 2011 - 2020 Eligible High Service and Booster Pump Stations CIP Cost**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
High Elevation	\$4,450,456	\$7,079,157	\$11,529,613	\$3,219,077
Middle Elevation	37,190,339	11,652,911	48,843,250	7,023,917
Low Elevation	51,914,948	4,637,932	56,552,880	2,953,982
<b>Total</b>	<b>\$93,555,743</b>	<b>\$23,370,000</b>	<b>\$116,925,743</b>	<b>\$13,196,976</b>

**Table 1-7: 2011 - 2020 Eligible Elevated Storage CIP Cost**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
High Elevation	\$3,975,584	\$10,676,000	\$14,651,584	\$4,489,028
Middle Elevation	18,222,082	32,990,000	51,212,082	6,116,707
Low Elevation	24,383,896	14,139,000	38,522,896	1,910,654
<b>Total</b>	<b>\$46,581,563</b>	<b>\$57,805,000</b>	<b>\$104,386,563</b>	<b>\$12,516,389</b>

**Table 1-8: 2011 - 2020 Eligible Ground Storage CIP Cost**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
High Elevation	\$221,526	\$0	\$221,526	\$4,214
Middle Elevation	8,928,955	4,225,000	13,153,955	261,518
Low Elevation	18,358,970	0	18,358,970	480,539
<b>Total</b>	<b>\$27,509,451</b>	<b>\$4,225,000</b>	<b>\$31,734,451</b>	<b>\$746,270</b>

**Table 1-9: 2011 - 2020 Eligible Water Transmission Mains CIP Cost**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
High Elevation	\$11,384,862	\$21,941,531	\$33,326,394	\$9,263,276
Middle Elevation	40,049,226	44,437,236	84,486,462	14,026,090
Low Elevation	49,083,076	2,578,051	51,661,126	2,618,984
<b>Total</b>	<b>\$100,517,164</b>	<b>\$68,956,818</b>	<b>\$169,473,982</b>	<b>\$25,908,350</b>

Tables 1-10 and 1-11 provide the value of wastewater facilities that are eligible to be included in the calculation of the maximum wastewater impact fee.

**Table 1-10: 2011 - 2020 Eligible Wastewater Treatment CIP Costs**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
Medio Creek	\$62,770,361	\$0	\$62,770,361	\$23,653,796
Leon Creek / Dos Rios	367,856,341	59,665,710	427,522,051	91,789,543
<b>Total</b>	<b>\$430,626,702</b>	<b>\$59,665,710</b>	<b>\$490,292,412</b>	<b>\$115,443,339</b>

**Table 1-11: 2011 - 2020 Eligible Wastewater Collection CIP Costs**

<b>Service Area</b>	<b>Value of Existing Capacity</b>	<b>Value of New CIP Capacity</b>	<b>Total Value of Existing and New CIP Capacity</b>	<b>Total Value of Eligible Study Period Capacity</b>
Medio Creek	\$21,217,243	\$38,662,980	\$59,880,223	\$10,285,377
Upper Medina	7,876,112	53,545,401	61,421,513	8,877,790
Lower Medina	1,644,129	76,622,918	78,267,046	12,097,872
Upper Collection	94,543,113	99,975,884	194,518,997	34,328,678
Middle Collection	166,145,055	205,625,520	371,770,575	36,098,134
Lower Collection	154,007,254	268,217,925	422,225,179	42,757,964
<b>Total</b>	<b>\$445,432,906</b>	<b>\$742,650,628</b>	<b>\$1,188,083,534</b>	<b>\$144,445,814</b>

## 1.4. Impact Fees Calculation

Eligible capital costs for growth-related CIP by service area are divided by the projected number of total service units for that service area to determine the calculated impact fee per service unit.

Table 1-12 present the calculated impact fees for water and wastewater service.

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**Table 1-12: Water and Wastewater Calculated Impact Fees**

Impact Fee	Service Area	Eligible CIP Value	Service Units	Calculated Impact Fee per Service Unit
Water Supply	All	\$147,719,764	80,343	\$1,839
Flow	Inside Loop 410	7,658,952	6,423	1,192
	Outside Loop 410	116,401,358	73,920	1,575
System Development	High Elevation	21,071,949	18,818	1,120
	Middle Elevation	36,462,283	41,501	879
	Low Elevation	12,323,038	20,024	615
Treatment	Medio Creek	23,653,796	17,234	1,373
	Leon Creek / Dos Rios	91,789,543	89,840	1,022
Collection	Medio Creek	10,285,377	17,234	597
	Upper Medina <sup>(1)</sup>	8,877,790	14,224	1,383
	Lower Medina	12,097,872	15,945	759
	Upper Collection <sup>(2)</sup>	34,328,678	50,727	1,878
	Middle Collection <sup>(3)</sup>	36,098,134	57,936	1,202
	Lower Collection	42,757,964	73,899	579

(1) Maximum Impact Fee per Service Unit includes Lower Medina fee

(2) Maximum Impact Fee per Service Unit includes Middle Collection fee

(3) Maximum Impact Fee per Service Unit includes Lower Collection fee

### 1.4.1. Credit Calculation

Chapter 395 of the Local Government Code 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.<sup>1</sup> 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. 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% 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 growth-related CIP with cash from impact fee revenues. However, it plans to fully fund the Water Supply CIP and the Medina River Sewer Outfall, as well as approximately 20% of all other future CIP, with debt.

### 1.4.2. Maximum Impact Fees per Service Unit

The maximum impact fees per service unit include both the existing value of infrastructure with capacity available to serve new development projected for the study period, 2011 through 2020, as well as the value of new water supply, water delivery, and wastewater capacity available to serve new development during the study period.

<sup>1</sup> 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.

Calculated impact fees, rate credits, and maximum impact fees by service area are presented in Table 1-13.

**Table 1-13: Maximum Water and Wastewater Impact Fees per Service Unit**

<b>Impact Fee</b>	<b>Service Area</b>	<b>Calculated Impact Fee per EDU</b>	<b>Rate Credit per EDU</b>	<b>Maximum Impact Fee per EDU</b>
Water Supply	All	\$1,839	\$183	\$1,656
Flow	Inside 410	1,192	82	1,110
	Outside 410	1,575	74	1,501
System Development	High Elevation	1,120	56	1,064
	Middle Elevation	879	38	841
	Low Elevation	615	32	583
Treatment	Medio Creek	1,373	103	1,270
	Dos Rios/Leon Creek	1,022	29	993
Collection	Medio Creek	597	30	567
	Upper Medina	1,383	252	1,131
	Lower Medina	759	128	631
	Upper Collection	1,878	92	1,786
	Middle Collection	1,202	58	1,144
	Lower Collection	579	26	553

Table 1-14 compares the maximum impact fee per service unit to the current impact fee per service unit.

**Table 1-14: Maximum Impact Fees per EDU versus Current Fees per EDU**

<b>Impact Fee</b>	<b>Service Area</b>	<b>Maximum Impact Fee per EDU</b>	<b>Current Fee per EDU</b>	<b>Change</b>
Water Supply	All	\$1,656	\$1,242	\$414
Flow	Inside 410	1,110	1,098	12
	Outside 410	1,501	1,098	403
System Development	High Elevation	1,064	1,356	(292)
	Middle Elevation	841	591	250
	Low Elevation	583	668	(85)
Treatment	Medio Creek	1,270	901	369
	Dos Rios/Leon Creek	993	453	540
Collection	Medio Creek	567	394	173
	Upper Medina	1,131	772	359
	Lower Medina	631	413	218
	Upper Collection	1,786	691	1,095
	Middle Collection	1,144	413	731
	Lower Collection	553	413	140