BUDGET

ANNUAL OPERATING BUDGET & CAPITAL IMPROVEMENT PROGRAM

2020

Fiscal Year Ending December 31, 2020 — San Antonio, Texas

San Antonio Water System

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ANNUAL OPERATING BUDGET
AND
CAPITAL IMPROVEMENT PROGRAM

FISCAL YEAR ENDING DECEMBER 31, 2020

DOUGLAS EVANSON
SENIOR VICE PRESIDENT & CHIEF FINANCIAL OFFICER

PREPARED BY FINANCIAL SERVICES & ENGINEERING:
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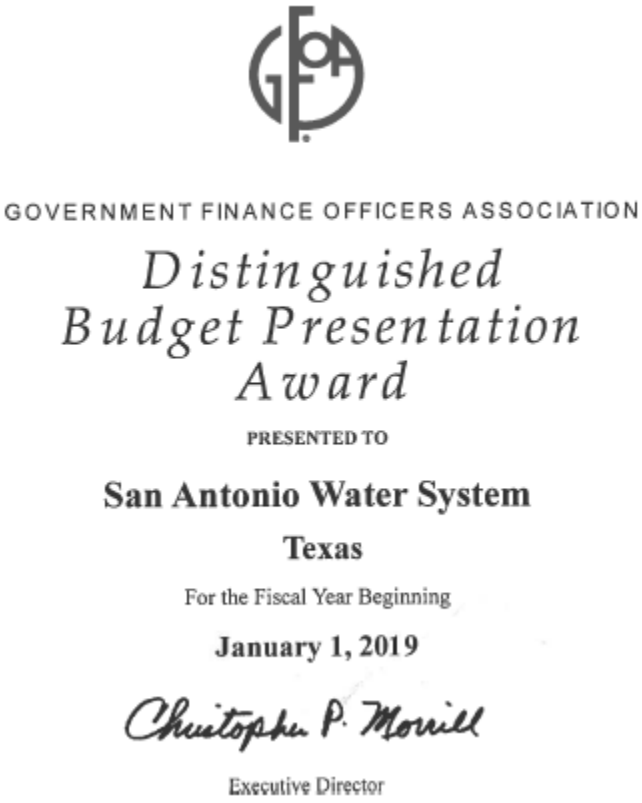

The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to **San Antonio Water System, Texas** for its annual budget for the fiscal year beginning **January 1, 2019**. In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan and as a communications device.

This award is valid for a period of one year only. We believe our current budget continues to conform to program requirements, and we are submitting it to GFOA to determine its eligibility for another award.

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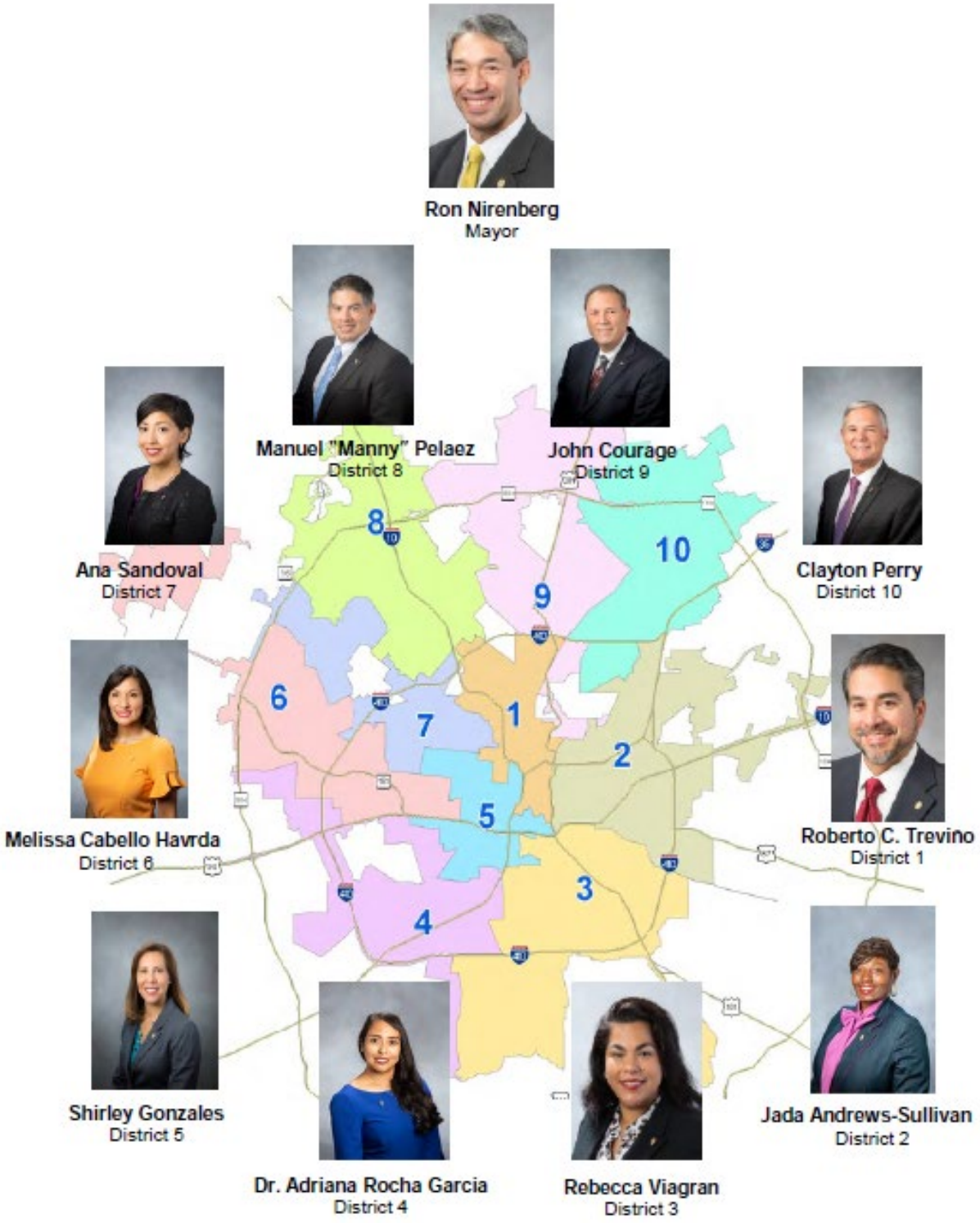
CITY OF SAN ANTONIO
MAYOR AND CITY COUNCIL



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SAN ANTONIO WATER SYSTEM
BOARD OF TRUSTEES

Berto Guerra, Jr.
Chairman

Pat Jasso
Vice Chairman

Amy Hardberger.
Secretary

Pat Merritt
Assistant Secretary

David McGee

Eduardo Parra

Ron Nirenberg, ex Officio

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SAN ANTONIO WATER SYSTEM
ORGANIZATION CHART

RATEPAYERS

MAYOR AND CITY COUNCIL

BOARD OF TRUSTEES

EXECUTIVE MANAGEMENT

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MISSION – VISION - VALUES

The mission and vision statements, combined with SAWS' intrinsic core values, provide the compass which serves to guide the activities, goals and objectives of SAWS leadership team and workforce.

SAWS' mission of sustainable, affordable water services defines its purpose in serving the ratepayers.

The vision statement – to be leaders in delivering responsible water services for life – along with the values of excellence, integrity and respect, make up SAWS' core philosophy, describing what we as an organization believe, where we stand today, and where we wish to be in the future.

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November 5, 2019

Mr. Berto Guerra, Jr., Chairman
Ms. Pat Jasso, Vice Chairman
Ms. Amy Hardberger, Secretary
Ms. Pat Merritt, Assistant Secretary
Mr. David McGee, Trustee
Mr. Eduardo Parra, Trustee
Honorable Ron Nirenberg, Mayor

Honorable Mayor and Trustees:

I am pleased to present the 2020 Annual Operating Budget and Capital Improvement Program of the San Antonio Water System (SAWS), which has been prepared in accordance with the requirements of San Antonio City Ordinance No. 75686. Some of the key objectives of this budget are to:

- Provide for the initiation of water delivery from the Vista Ridge Pipeline Project
- Maintain infrastructure to ensure reliability of service and compliance with regulatory requirements
- Continue to implement technological advancements in order to increase productivity, enhance customer interactions and safeguard SAWS' assets
- Ensure that employee pay and benefits remain fair and competitive while retirement obligations are adequately funded
- Balance the need for strong financial metrics and the maintenance of credit ratings with the affordability of our services

In October 2015, in addition to rate adjustments recommended to support the 2016 budget, the Board of Trustees also recommended that the City Council pre-approve water supply fee maximum rate adjustments for 2017, 2018, 2019, and 2020, respectively, to assure that the resources necessary to meet the commitments associated with the Vista Ridge Pipeline Project would be available upon the commencement of water deliveries from the project. The pre-approved water supply fee maximum rate adjustments for 2017-2020 provided for an increase in the water supply fee of up to 114% by the year 2020. On November 19, 2015, the City Council approved this recommendation. The 2020 rate adjustments included in the 2020 Annual Operating Budget reflect an increase of 52.4% in the water supply fee rate, bringing the total increase over the four-year period to 78%, well less than the pre-approved limit. There are no proposed changes to the water delivery or wastewater rates for 2020.

As a result of the water supply fee rate change, a 19.2% rate adjustment is also implemented for recycled water service, which is consistent with SAWS policy to change recycled water rates based on the average impact of water delivery and water supply rate adjustments on the average residential customer for potable water service. The rate adjustments are projected to generate a total of $82.1 million in additional revenues in 2020.

The 2020 budget balances revenue requirements for the fiscal year ending December 31, 2020 with available revenues and other funding sources. Highlights of the 2020 budget include:

- Assumes 2020 billed water usage of 65.9 billion gallons, which is consistent with the 2019 budgeted water usage
- Assumes Water customer growth of 1.49% and wastewater growth of 1.51% for a combined growth of 1.5%

- Includes estimated total Sources of Funds of $929.2 million, which is $100.9 million or 12.2% more than the 2019 Sources of Funds and comprised of:
  - Operating revenues totaling $807.1 million
  - Non-Operating revenues totaling $22.0 million
  - Capital recovery fees of $100.1 million

- Provides for funding of $436.0 million in operations and maintenance costs, reflecting an increase of $85.6 million or 24.4% when compared to the 2019 Budget. This increase in O&M costs is primarily attributable to the anticipated commencement of the operational phase of the Vista Ridge Pipeline in April 2020.
- Assumes funding for $608.9 million in capital improvement projects
  - $98.3 million in Water Resources projects
  - $94.8 million in Water Delivery projects
  - $412.7 million in Wastewater projects
  - $1.3 million in Chilled Water projects
  - $1.8 million in Recycled Water projects
- Provides for $11.6 million in capital outlay funding for vehicles, equipment, and computer related capital
- Provides for $235.9 million in funding for debt service and expenses, which is $4.7 million or 1.9% less than the 2019 budget for debt service and expenses
- Conservatively projects 1.72 times debt coverage on total bonded debt
- Includes a transfer of $31.7 million to the City of San Antonio, reflecting the increase in SAWS transfer payment to the City from 2.7% to 4.0% of gross revenues

The annual budget process is an effort to strike the appropriate balance between ensuring that rates remain affordable for SAWS customers and ensuring the ongoing operational and financial integrity of the organization. The 2020 Annual Operating Budget and Capital Improvement Program will allow the San Antonio Water System to continue providing high quality water, wastewater, recycled water, and chilled water services at reasonable costs, while also maintaining a healthy financial position.

Respectfully submitted,

Douglas P. Evanson

Douglas P. Evanson
Senior Vice President/Chief Financial Officer

Budget Summary

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BUDGET SUMMARY

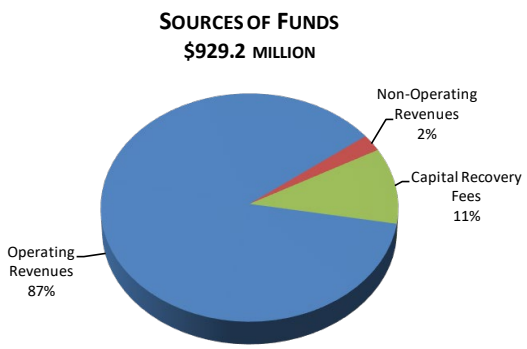
The 2020 Budget presents a comprehensive projection of San Antonio Water System (SAWS) operations from January 1, 2020 through December 31, 2020. This budget summary describes the key recommendations encompassing the 2020 Budget.

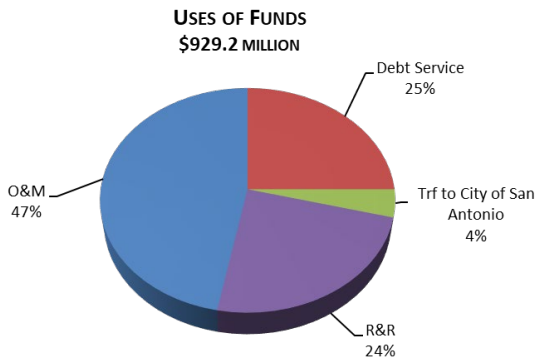
In October 2015, in addition to rate adjustments recommended to support the 2016 budget, the Board of Trustees also recommended that the City Council pre-approve water supply fee maximum rate adjustments for 2017, 2018, 2019, and 2020, respectively, to assure that the resources necessary to meet the commitments associated with the Vista Ridge Pipeline Project would be available upon the commencement of water deliveries from the project. The pre-approved water supply fee maximum rate adjustments for 2017-2020 provided for an increase in the water supply fee of up to 114% by the year 2020. On November 19, 2015, the City Council approved this recommendation. The 2020 rate adjustments included in the 2020 Annual Operating Budget reflect an increase of 52.4% in the water supply fee rate, bringing the total increase over the four-year period to 78%, well less than the pre-approved limit. There are no proposed changes to the water delivery or wastewater rates for 2020. As a result of the water supply fee rate change, a 19.2% rate adjustment is proposed for recycled water service, which is consistent with SAWS policy to change recycled water rates based on the average impact of water delivery and water supply rate adjustments on the average residential customer for potable water service. A summary of the 2020 revenue requirements, as well as the sources of funding to meet the requirements are provided in the table below.

	$ in Millions			
	2019 Budget	2020 Budget	Change	% Change
Sources of Funds				
Operating Revenues	$ 729.4	$ 807.1	$ 77.7	10.7%
Non-Operating Revenues	24.6	22.0	(2.6)	-10.6%
Draw on Equity	1.4	-	(1.4)	-100.0%
Capital Recovery Fees	72.9	100.1	27.2	37.3%
Total	**$ 828.3**	**$ 929.2**	**$ 100.9**	**12.2%**
Uses of Funds				
Operations and Maintenance	$ 350.4	$ 436.0	$ 85.6	24.4%
Debt Service and Expenses	240.6	235.9	(4.7)	-2.0%
Transfer to City of San Antonio	19.3	31.7	12.4	64.2%
Available for Renewal and Replacement - Restricted	88.8	108.1	19.3	21.7%
Available for Renewal and Replacement - Unestricted	129.2	117.5	(11.7)	-9.1%
Total	**$ 828.3**	**$ 929.2**	**$ 100.9**	**12.2%**

The 2020 budget presents a financial plan designed to continue SAWS' mission to provide sustainable affordable water services. The budget balances revenue requirements with available revenues and other funding sources. Some of the key objectives of the plan are:

- Compliance with the requirements of the Consent Decree entered into with the United States Environmental Protection Agency and Texas Commission on Environmental Quality relating to the reduction of sanitary sewer overflows,
- Sustained investment in water supply initiatives in support of the 2017 Water Management Plan to include the commencement of the operational phase of the Vista Ridge Pipeline in April 2020, and
- Continued repair and replacement of aging infrastructure.





OPERATIONS AND MAINTENANCE (O&M) BUDGET HIGHLIGHTS

The 2020 O&M budget totals $436 million. This is an increase of $85.6 million, or 24.4% compared to $350.4 million in 2019. The table below summarizes the primary drivers for the change in the O&M budget from 2019 to 2020.

	$ in Millions	
2019 O&M budget		**$ 350.4**
Vista Ridge Water Payment	$ 61.0	
Vista Ridge Ops. & Maint. Payment	7.8	
Vista Ridge Utilities Costs	8.0	
Agua Vista Station Chemical Cost	1.5	
Agua Vista Station Utilities & Materials Costs	1.8	
Agua Vista Station Staffing (6 New Positions)	0.6	
Performance Pay & Health Insurance Costs	4.0	
Other O&M Changes (Net)	0.9	
Net Increase in O&M		$ 85.6
2020 O&M budget		**$ 436.0**

The most significant change in the budget over 2019 is the provision of the additional funds necessary to initiate water delivery from the Vista Ridge Pipeline Project. Specifically, a total of $80.7 million is budgeted to make contractually required payments for water transmitted via the Vista Ridge Pipeline, to provide for the operation and maintenance of the pipeline, to support the operation of the new Agua Vista Station, which will receive and treat Vista Ridge water for transmission into the SAWS distribution system, and to provide for the added utility expenses associated with the pipeline and the Agua Vista Station. Additionally, $4.0 million is budgeted to provide funds for performance pay in 2020 and support increased health insurance costs.

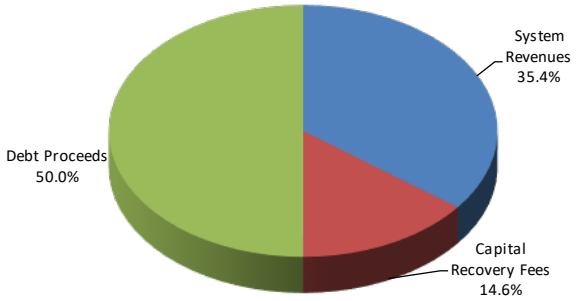
CAPITAL IMPROVEMENT PROGRAM (CIP) HIGHLIGHTS

The projected 2020 Capital Improvement Program (CIP) totals $608.9 million. The planned projects include:

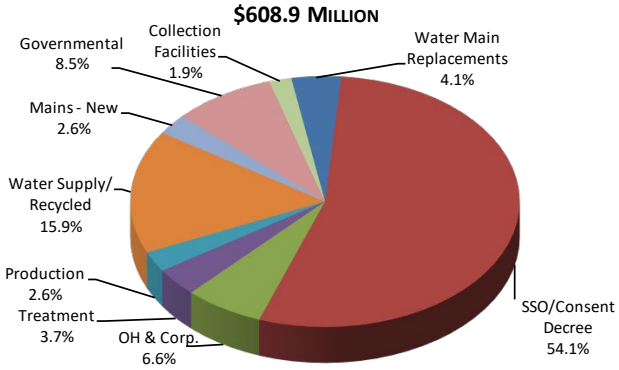
- Improvements necessary to comply with the federal Consent Decree requiring major capital improvements to address sanitary sewer overflows (SSOs),
- Improvements to water production and wastewater treatment facilities,
- Water and sewer main replacements and relocations that support City of San Antonio, Bexar County, and Texas Department of Transportation (TXDOT) street, highway, and drainage improvements,
- Replacement of other deteriorating water mains, and
- New water and sewer mains in support of growth within SAWS service area.

The 2020 budget assumes that approximately 50% of the funds necessary to complete the 2020 CIP will be provided by existing renewal and replacement funds, capital recovery fees and investment income with the remaining funds to be provided by the issuance of additional debt. This more than $300 million commitment of existing cash balances is part of a rate strategy designed to mitigate the need for wastewater rate adjustments at the same time that the most significant of the preapproved water supply adjustments are taking effect. While it is anticipated that the expenditure of this level of cash reserves will result in some weakening of SAWS' current liquidity position, it is intended to reduce the need for additional debt issuances, thereby minimizing current and future rate adjustments.

SOURCES OF FUNDS
2020 CIP FUNDING
$608.9 MILLION



USES OF FUNDS
2020 CIP BY CATEGORY
$608.9 MILLION



FIVE-YEAR CIP PROJECTION BY CATEGORY

Over the next five years, SAWS expects to invest $2.6 billion in capital improvements, the majority of which will be focused on improvements to our wastewater system in support of our obligations under the federal Consent Decree.

$ in millions

Core Business/ Category	2020	2021	2022	2023	2024	Total
Water Delivery						
Corporate	$ 2.1	$ 39.1	$ 25.3	$ 23.5	$ 23.1	$ 113.1
Governmental	31.1	28.5	27.2	27.9	28.7	143.4
Main Replacements	25.0	25.6	26.5	25.9	79.6	182.6
Mains - New	9.8	14.8	19.5	43.6	47.5	135.2
Production	16.0	25.7	50.9	42.5	34.9	170.0
Overhead	10.8	10.8	10.8	10.8	10.8	54.0
Water Delivery Total	**94.8**	**144.5**	**160.2**	**174.2**	**224.6**	**798.3**
Wastewater						
Corporate	8.6	24.0	16.3	9.2	7.6	65.7
Collection Facilities	11.3	18.0	3.8	-	1.3	34.4
Governmental	20.6	28.5	27.1	27.9	28.7	132.8
Main Replacements	329.0	149.7	95.8	138.8	149.7	863.0
Mains - New	6.2	23.0	5.8	4.6	19.8	59.4
Treatment	22.2	60.9	104.5	42.5	61.1	291.2
Overhead	14.8	14.8	14.8	14.8	14.8	74.0
Wastewater Total	**412.7**	**318.9**	**268.1**	**237.8**	**283.0**	**1,520.5**
Water Resources						
Corporate	0.6	28.5	22.8	20.6	20.1	92.6
ASR	1.3	26.5	9.2	8.3	6.9	52.2
Central Water Int. Pipeline (CWIP)	-	1.6	-	15.1	-	16.7
Desalination	-	-	-	10.0	4.5	14.5
Water Resources Int. Pipeline (WRIP)	93.4	-	-	-	-	93.4
Overhead	3.0	3.0	3.0	3.0	3.0	15.0
Water Resources Total	**98.3**	**59.6**	**35.0**	**57.0**	**34.5**	**284.4**
Recycled Water	**1.8**	**1.0**	**5.7**	**7.0**	**7.2**	**22.7**
Chilled Water	**1.3**	**0.1**	**0.1**	**0.1**	**0.1**	**1.7**
Grand Total	**$ 608.9**	**$ 524.1**	**$ 469.1**	**$ 476.1**	**$ 549.4**	**$ 2,627.6**

IMPACT ON RATES

In order to facilitate the financial close of the Vista Ridge Water Supply Project, in late 2015, the Board of Trustees and the City Council pre-approved a series of four annual water supply fee maximum rate adjustments beginning in 2017 and ending in 2020. Consistent with the terms of these pre-approved increases, the 2020 Annual Operating Budget reflects an increase of 52.4% in the water supply fee rate. This increase combined with there being no changes in either the water delivery or wastewater rates for 2020 results in a 9.9% rate adjustment for the average residential customer (assuming 7,092 gallons of water usage and 5,668 gallons of sewer usage per month).

As a result of the water supply fee rate change, a 19.2% rate adjustment is also implemented for recycled water service, which is consistent with SAWS policy to change recycled water rates based on the average impact of water delivery and water supply rate adjustments on the average residential customer for potable water service. It is proposed that these adjustments be implemented as of January 1, 2020.

Rate Category	2020 Adjustment
Wastewater	0.0%
Water Delivery	0.0%
Water Supply	52.4%
Combined Impact on Average Residential Customer *	9.9%
Recycled Water	19.2%

* Average based on 7,092 gallons water/5,668 gallons sewer usage per month excluding EAA and TCEQ pass-through fees and City storm water fees.

Community Profile

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COMMUNITY PROFILE

Beyond its role as a significant population and business center within the state of Texas, San Antonio possesses a deep history that dates back to the 1700's. In 1718, Spanish monks built a mission named San Antonio de Valero on the site of a Coahuiltecan Indian village. Eventually, this mission would be named the Alamo, where Texan forces fought Mexican soldiers to the death during the Texas revolution. Following the revolution, Texas was annexed into the United States and San Antonio served as a place of cultural convergence that has shaped it into the city that it is today.

LOCATION

San Antonio, the county seat of Bexar County (pronounced "bear"), is located in south central Texas. The city encompasses a total geographic area of 486 square miles and is:

- 80 miles south of Austin (state Capitol)
- 280 miles south of Dallas
- 200 miles west of Houston
- 140 miles northwest of the Gulf of Mexico
- 150 miles northeast of the city of Laredo on the Mexican border

CLIMATE

With its location on the northwest edge of Texas' Gulf Coastal Plain, San Antonio experiences a modified subtropical climate. Average temperatures range from 50 degrees in January to the mid-90s in July and August. While the summer is hot, with daily temperatures above 90 degrees over 80% of the time, San Antonio only experiences an average of eight days a year with over 100 degrees. Mild weather prevails during the winter months, with temperatures below freezing occurring on an average of about 20 days per year. Average yearly long-term rainfall is approximately 32 inches. The extremes vary from 10.11 inches in 1917 to 52.28 inches in 1973.

POPULATION

According to 2018 estimates by the US Census Bureau, the City of San Antonio is the seventh most populous city in the United States and the second most populous city in Texas. From 2017 to 2018, the City of San Antonio had the second largest numeric population growth of any city in the United States with an increase of 20,824 new residents. The San Antonio-New Braunfels Metropolitan Statistical Area (MSA) includes Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Medina, and Wilson counties and was estimated to contain 2.5 million people in 2018. The San Antonio-New Braunfels MSA ranks twenty-fourth among national MSAs and third among those in Texas.

The following table provides the population of the City, Bexar County, and the San Antonio-New Braunfels MSA for the years shown:

Year	City of San Antonio	Bexar County	San Antonio-New Braunfels MSA
2018 (Estimated)	1,532,233	1,986,049	2,518,306
2010	1,327,407	1,714,773	2,142,508
2000	1,144,646	1,392,931	1,711,703
1990	935,933	1,185,394	1,407,745
1980	785,880	988,800	1,154,648
1970	654,153	830,460	951,876
1960	587,718	687,151	796,792
1950	408,442	500,460	603,775
1940	253,854	338,176	437,854
1930	231,542	292,533	389,445
1920	161,379	202,096	289,089

Beginning in 2000, the number of counties in the MSA was increased from four to eight: Atascosa, Bandera, Kendall, and Medina counties were added to Bexar, Comal, Guadalupe, and Wilson counties.

Source: U.S. Census Bureau

EDUCATION

Within 50 miles of San Antonio, 15 colleges and universities offer degrees in all major fields of study and educate over 163,000 students.

Institution	Certified Fall 2017	Certified Fall 2018	Change	Percent Change
Texas State University	38,666	38,644	(22)	-0.06%
University of Texas at San Antonio	30,674	32,101	1,427	4.65%
San Antonio College	19,385	17,573	(1,812)	-9.35%
Northwest Vista College	16,752	16,293	(459)	-2.74%
St. Philip's Collecge	12,050	11,590	(460)	-3.82%
Palo Alto College	9,368	9,852	484	5.17%
University of the Incarnate Word	8,192	7,829	(363)	-4.43%
Texas A&M University-San Antonio	6,460	6,616	156	2.41%
Northeast Lakeview College	3,860	5,510	1,650	42.75%
St. Mary's University	3,625	3,617	(8)	-0.22%
Wayland Baptist University	3,270	3,280	10	0.31%
Univ. of Tex. Health Science Ctr. at San Antonio	3,441	3,208	(233)	-6.77%
Our Lady of the Lake University	3,212	3,149	(63)	-1.96%
Trinity University	2,595	2,635	40	1.54%
Texas Lutheran University	1,391	1,439	48	3.45%
Total	**162,941**	**163,336**	**395**	**0.24%**

Source: Texas Higher Education Coordinating Board

ECONOMY

San Antonio boasts a favorable business environment that supports economic diversification and growth. This diversification can be seen by the large variety of industries that have major operations in the city, including the aerospace, bioscience/healthcare, environmental/green technology, financial services, information technology and cyber security, and manufacturing industries along with the military. All of these industries are supported by the city's commitment to strengthen infrastructure improvements and to invest in a growing and dedicated workforce.

The San Antonio Economic Development Foundation (SAEDF), a private, nonprofit organization that assists business and industry relocating or expanding into the San Antonio area, the Greater San Antonio Chamber of Commerce and the U.S. Bureau of Labor Statistics are the sources of the following information on local industry.

AEROSPACE/AVIATION

The local aerospace industry includes a range of businesses that manufacture aircraft equipment and parts, service and repair aircraft, produce and distribute air transportation equipment and supplies, provide both scheduled and unscheduled air transportation, and operate flight schools. Most of the more than 13,000 jobs provided by this industry are concentrated at the San Antonio International Airport and Port San Antonio, which occupies the facilities formerly operated by the U.S. Air Force as Kelly Air Force Base.

BIOSCIENCE/HEALTHCARE

As one of San Antonio's leading industries, the healthcare and bioscience industry has shown steady growth and innovation over the past two decades. The industry is composed of health services and related industries such as research, pharmaceuticals, and medical device manufacturing. In the Hospitals and Ambulatory Health Care Services employment subsectors alone there are over 102,100 jobs as of the end of August 2019 in the local area. Employment in these two subsectors has increased by over 29.1% since the end of 2010.

FINANCIAL SERVICES

The Financial Services industry in San Antonio includes the following sectors: banking and credit; investment activities; insurance; funds, trusts and other financial vehicles; accounting and bookkeeping. San Antonio's financial sector employs more than 92,800 people as of the end of August 2019. It is one of the city's most stable, promising and significant business sectors and has grown in number of jobs by over 33% since the end of 2010.

INFORMATION TECHNOLOGY/CYBER SECURITY

The Information Technology industry plays a significant role in San Antonio. This steady sector has more than 20,800 jobs in the area as of the end of August 2019. Since the end of 2010, the number of jobs locally in the industry has increased by 13% According to SAEDF, the local information industry products sector includes computer and related component manufacturers, and Internet and software publishing. Information services companies include computer programming and internet service providers, web hosting firms, information technology trainers, and equipment repair services. The services companies now provide nearly 80% of the industry's jobs and a majority of its economic impact.

MANUFACTURING

San Antonio has a large and diverse manufacturing industry, with a representation of every major sector of U.S. manufacturing present in the community, including materials and electricity, equipment and metal, transportation, and diversified products. This sector employs 50,200 people in the San Antonio area as of August 2019.

MILITARY/DEFENSE

The U.S. military has had a significant and historic presence in San Antonio dating back well into the 19th century. The military mainly operates in San Antonio today under the framework known as Joint Base San Antonio (JBSA).

JBSA has a substantial impact on the local economy in San Antonio and in Texas. In fact, JBSA contributes 65% of Texas' total military GDP and generates an annual disposable personal income of approximately $17 billion. With one in eight people in Bexar County associated with JBSA to one degree or another, the area's military employment accounts for 3.4% of the area's total employment.

EMPLOYMENT

The San Antonio economy has experienced robust, sustained growth since the beginning of the current decade. This economic growth coupled with the net in-migration trends experienced in many areas of Texas has resulted in population growth that has exceeded national averages. The annual average rate of Non-Farm job growth since 2010 in the San Antonio MSA (2.52%) has also exceeded that of the nation (1.51%) during the same period. The diversity of the San Antonio economy has provided a measure of stability through up and down economic cycles. Specifically, San Antonio's strategic positions in key employment sectors including government and military, biomedical sciences, medical services, tourism, and hospitality contribute to this stability. San Antonio's favorable economic position relative to the nation is also reflected in the fact that, according to the U.S. Bureau of Labor Statistics, as of August 2019, the San Antonio MSA unemployment rate was 3.2%, while the nation's was 3.8%.

A summary of San Antonio's nonagricultural employment by industry since 2010 is as follows:

San Antonio MSA Non-Farm Employment by Industry (2010 - 2019)
as of December of each year 2010-2018

	2019 *	2018	2017	2016	2015	2014	2013	2012	2011	2010
Natural Resources, Mining and Construction	68,100	63,100	60,700	57,300	58,000	58,000	51,200	47,200	44,100	45,300
Manufacturing	50,200	50,400	50,300	48,200	47,500	47,100	46,400	47,000	46,500	45,400
Trade, Transportation and Utilities	183,300	184,900	186,700	185,800	180,800	174,600	166,300	158,500	153,200	149,000
Information	20,800	20,900	20,800	21,100	21,500	21,800	21,500	20,500	19,700	18,400
Financial Activities	92,800	92,900	90,800	90,000	86,200	82,400	78,600	76,300	71,900	69,800
Professional and Business Services	146,500	144,000	138,200	134,000	127,100	123,000	117,600	114,400	108,500	104,600
Educational and Health Services	170,300	166,100	162,900	161,300	153,900	147,400	142,200	138,700	137,100	131,900
Leisure and Hospitality	145,200	136,500	130,800	127,800	123,000	117,700	114,200	110,800	105,600	101,200
Other Services	39,400	38,100	37,800	37,300	36,100	35,900	35,300	34,500	32,800	33,000
Government	166,000	173,500	173,200	172,300	171,300	168,200	165,700	164,300	163,700	166,200
Total Non-Farm Employment	1,082,600	1,070,400	1,052,200	1,035,100	1,005,400	976,100	939,000	912,200	883,100	864,800

Source: U.S. Bureau of Labor Statistics
** 2019 Preliminary through August 2019*

San Antonio Water System Profile

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SAN ANTONIO WATER SYSTEM PROFILE

HISTORY

SAWS was created in 1992 through the consolidation of three predecessor agencies: the City Water Board (the previous city-owned water supply utility); the City of San Antonio Wastewater Department (a department of the city government responsible for sewage collection and treatment); and the Alamo Water Conservation and Reuse District (an independent city agency created to develop a system for reuse of the city's treated wastewater). In addition, the water resources planning staff of the City Planning Department was realigned to the new agency to provide combined water related services for the San Antonio area.

On January 1, 2017, SAWS completed all legally required steps to fully integrate the operations and customers of the former Bexar Metropolitan Water District (BexarMet) with SAWS. This final step of full integration included the application of consistent rates for both existing SAWS and former BexarMet customers.

GOVERNANCE

San Antonio Water System is a public utility owned by the City of San Antonio. Complete management and control of SAWS is vested in a Board of Trustees consisting of the mayor and six members who are appointed by the San Antonio City Council, and serve staggered four-year terms. The mayor of San Antonio serves as an ex-officio voting member. The general operations of the utility are under the supervision of the President/Chief Executive Officer.

SERVICE AREA

WATER DELIVERY AND WASTEWATER

SAWS' water delivery service area currently extends over approximately 941 square miles, making it the largest water purveyor in Bexar County. The service area includes most of Bexar County, several suburban municipalities and parts of adjacent counties. In addition to serving its own retail customers, SAWS also provides wholesale water to a few smaller utility systems within this area.

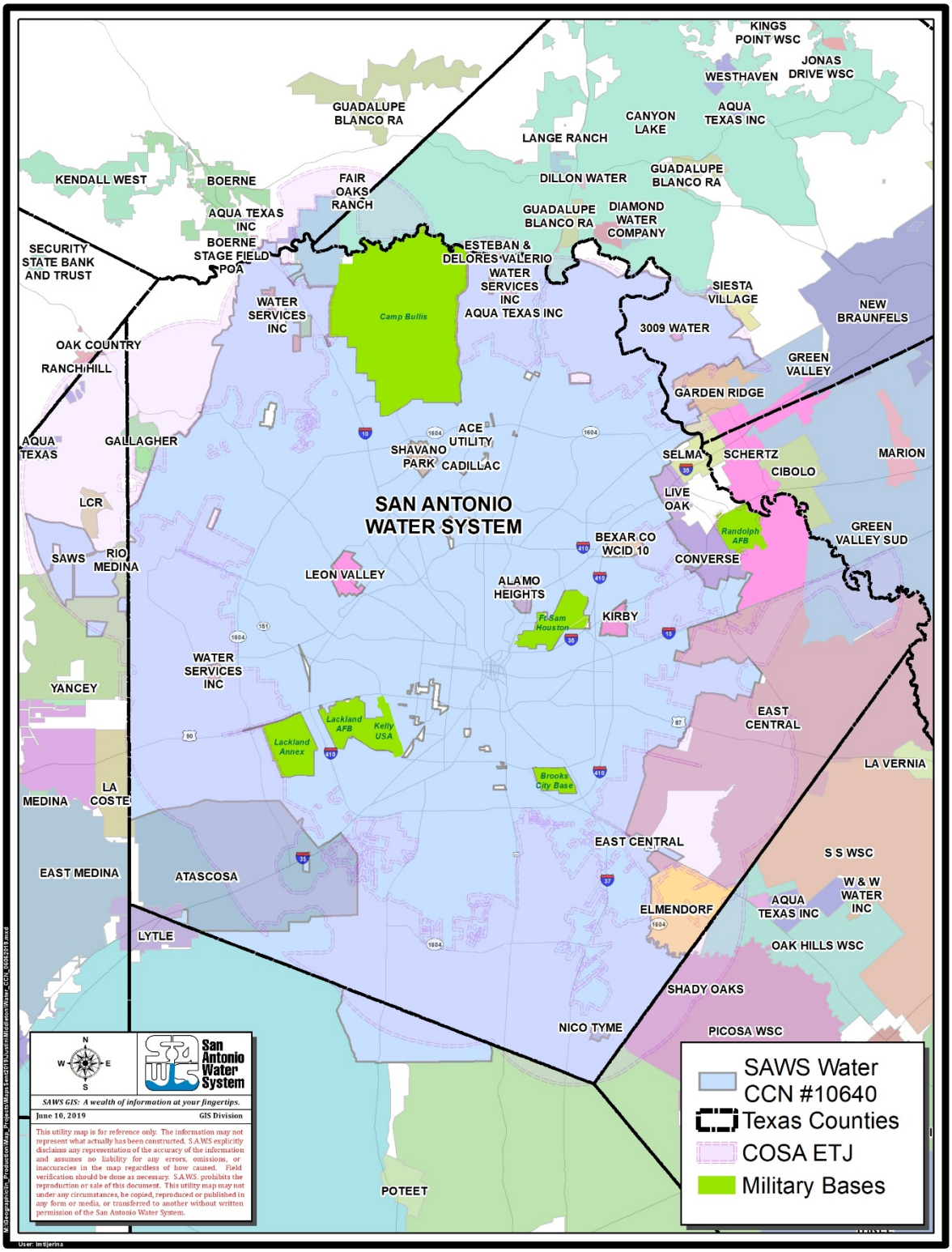
SAWS provides potable water service to residential, commercial, multifamily, industrial and wholesale accounts. As of August 31, 2019, the water delivery system provides potable water service to 513,374 customer connections.

The water delivery system currently utilizes 122 elevated and ground storage tanks with a combined storage capacity of 287.6 million gallons. As of August 31, 2019, SAWS had installed 7,216 miles of distribution mains, ranging in size from 1 inch to 96 inches in diameter and 42,144 fire hydrants were in service.

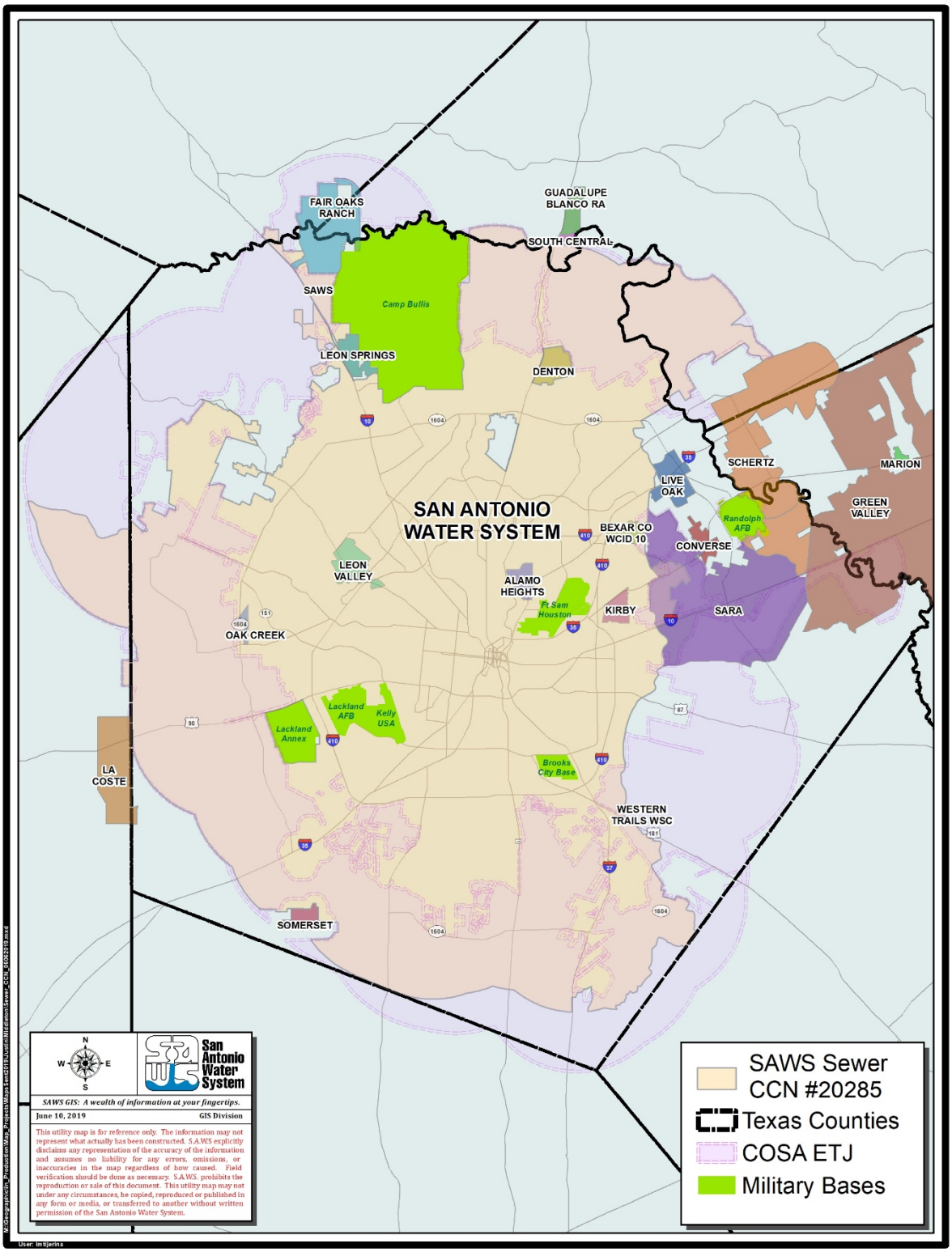
A somewhat different area, following natural watersheds, is defined for wastewater collection and treatment. SAWS is the largest wastewater treatment agency in the San Antonio area. SAWS also provides collection and treatment services by contract to developments outside its defined service area to avoid unnecessary proliferation of state wastewater discharge permits. The wastewater system has certain prescribed boundaries that currently cover an area of approximately 862 square miles. As of August 31, 2019, SAWS provided wastewater services to 459,346 customer connections, including 12 wholesale sewer connections.

Also as of August 31, 2019, the wastewater system is composed of 5,596 miles of mains and three major treatment plants: Steven M. Clouse Water Recycling Center (formerly called Dos Rios), Leon Creek Water Recycling Center and Medio Creek Water Recycling Center.

Water Service Area



WASTEWATER SERVICE AREA

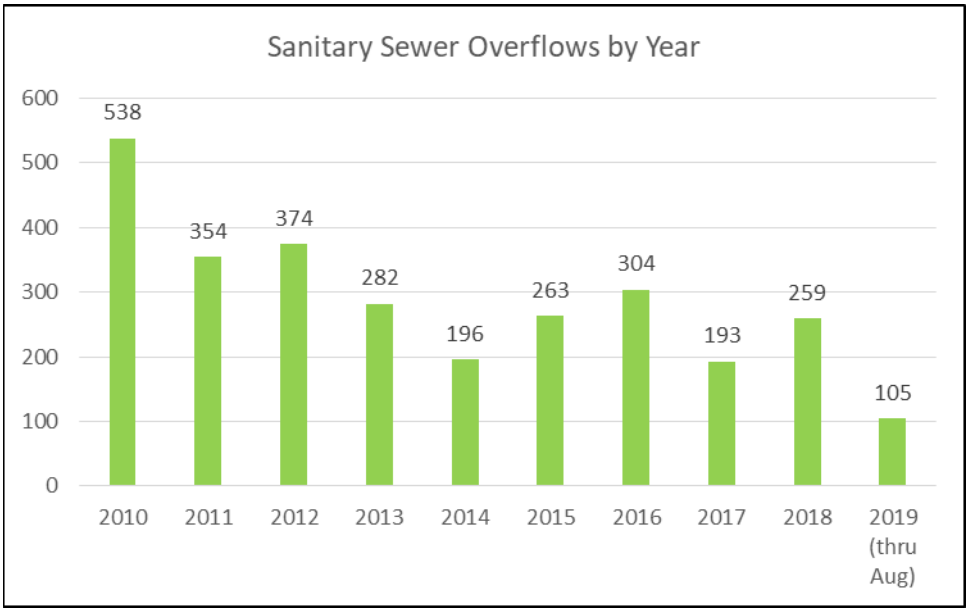


Chilled Water System

SAWS owns, operates, and maintains four thermal energy facilities providing chilled water services to governmental and private entities. Two of the facilities, located in the City's downtown area, provide chilled water to twenty-one customers. They include various City facilities such as the Henry B. Gonzalez Convention Center and the Alamodome, which constitute a large percentage of the downtown system's chilled water annual production requirements. In addition to City facilities, the two central plants also provide chilled water service to a number of major hotels in the downtown area. The other 2 thermal facilities, owned and operated by SAWS, are located at the Port San Antonio industrial area and provide chilled water to 5 large industrial customers. SAWS' chilled water producing capacity places it as one of the largest producers of chilled water in south Texas.

Sewer Management

In June 2013, SAWS approved a settlement with the U.S. Environmental Protection Agency (EPA) that requires additional work over 10 to 12 years to reduce sanitary sewer overflows (SSOs). The work required to comply with the consent decree includes system-wide inspection, cleaning and evaluation of sanitary sewer pipelines. Additionally, increased investment in the replacement and rehabilitation of aging sewer infrastructure is necessary. The targeted replacement and rehabilitation program has been specifically tailored based on extensive condition assessments. SAWS has significantly reduced the number of SSOs as result of efforts made since 2010 to clean and replace sewer pipelines. The following chart shows the number of SSOs since 2010.



The 2020 O&M budget includes $35 million in operating costs related to program management, televising and cleaning sewer mains, capacity assessment activities, and repair of sewer infrastructure. Additionally, $361 million in capital project investments are planned in 2020 to rehabilitate aging sewer infrastructure and address system capacity issues.

WATER SUPPLY

Historically, San Antonio obtained nearly all of its water from the Edwards Aquifer. In 1993, the Texas Legislature created the Edwards Aquifer Authority (EAA) as a conservation and reclamation district. The EAA has broad powers to manage, conserve, preserve, and protect the Edwards Aquifer and to increase the recharge of, and limit withdrawals from, the Edwards Aquifer through a permitting system that ensures continuous minimum spring flows of the Comal Springs (in New Braunfels) and the San Marcos Springs are maintained to protect endangered and threatened species.

In 1996, the City Council appointed a 34-member Citizens Committee to develop strategic policies and goals for water resource management. The Citizens Committee on Water Policy report, entitled "A Framework for Progress: Recommended Water Policy Strategy for the San Antonio Area," was unanimously accepted by City Council, becoming the foundation for SAWS' *1998 Water Resource Plan*. In November 1998, the City Council accepted the *1998 Water Resource Plan* "Securing our Water Future Together" as the first comprehensive, widely supported water resource plan for San Antonio. The *1998 Water Resource Plan* established programs for immediate implementation, as well as a process for developing long-term water supplies. In October 2000, the City Council created a permanent funding mechanism, the Water Supply Fee, for water supply development and water quality protection.

The *1998 Water Resource Plan* has been updated periodically. The *2017 Water Management Plan* is the current version of SAWS long range planning efforts. The 2017 Water Management Plan charts the path that SAWS plans to pursue to meet the long-term needs of current and future San Antonio residents through 2070 – even during periods of extreme drought.

CURRENT SOURCES OF WATER SUPPLY

The table below provides a summary of the budgeted sources of water supply under non-drought conditions for SAWS:

Available Sources of Water Supply Budgeted for 2020 Under Non-Drought Conditions

Source	Acre-Feet
Edwards Aquifer	271,146
Recycled Water (CPS Energy Power Plants)	50,000
Vista Ridge*	38,002
Recycled Water (Direct Customers)	25,000
Trinity Aquifer	12,062
Regional Carrizo	11,533
Brackish Groundwater Desalination	11,200
Local Carrizo	9,900
Canyon Lake	8,500
Canyon Regional Water Authority	5,300
Medina Surface Water	-
Total	442,643

* Acre-feet amount pro rated since delivery not projected to begin until April 2020

EDWARDS AQUIFER

The largest amount of SAWS water holdings is Edwards Aquifer permitted groundwater withdrawal rights. In 2020, SAWS has budgeted for a total inventory of 271,146 acre-feet per year of EAA-permitted groundwater withdrawal rights. Access to these permitted groundwater withdrawal rights is subject to varying levels of availability (cutbacks) depending on a management system using water levels at key index wells and spring flows. These

cutbacks in any given year may range from 0% to 44%. The following table shows annual average cutbacks for the last five years.

Year	EAA Cutback	J-17 Index Well - Average Level
2015	19.71%	652.9
2016	0.00%	672.3
2017	3.40%	670.4
2018	8.68%	657.5
2019	0.00%	665.6*

* As of August 31, 2019

As of August 31, 2019, the J-17 Index Well was at 665.6 and was holding steady due to periodic rainfall. Based on this level, EAA enforced cutbacks are not anticipated for 2020.

Through SAWS' Aquifer Storage and Recovery facility (ASR), SAWS is able to store Edwards Aquifer water in a portion of the Carrizo Aquifer located in southern Bexar County during wet times or periods of low customer demand. This water can be recovered during periods of drought in order to augment SAWS' available water supplies to meet customer demands. As of August 31, 2019, 174,989 acre-feet of Edwards Aquifer water is currently stored in the ASR.

In connection with the EAA's directive by the Texas Legislature to ensure that continuous minimum spring flows of the Comal Springs and the San Marcos Springs are maintained to protect endangered and threatened species, the Edwards Aquifer Recovery Implementation Program (EARIP) was established in 2007. The EARIP was developed through a consensus-based process that involved input from the U.S. Fish and Wildlife Service (USFWS), other appropriate federal agencies, and all interested stakeholders in the Edwards region. Together, these entities over a four-year period developed and approved a springflow protection and habitat restoration plan, the Edwards Aquifer Habitat Conservation Plan (EAHCP).

The primary parties to the EAHCP include the EAA, SAWS, the City of New Braunfels, the City of San Marcos and Texas State University. The EAHCP was used by the USFWS as the basis for issuing an Incidental Take Permit (ITP) which will protect San Antonio and the region from the threat of future environmental lawsuits and federal control of the aquifer over a 15-year term. This ITP was issued by the USFWS on March 18, 2013.

A major component of the EAHCP includes the use of the SAWS ASR facility in conjunction with other measures to contribute to modeled spring flow protections during severe droughts. After the approval of the EAHCP, SAWS and the EAA entered into an Interlocal Contract in August 2013 that details the implementation of the ASR strategy contributing to springflow protection. The EAA itself, or by use of an agent, acquires Edwards Aquifer groundwater withdrawal rights which are conveyed to SAWS for storage at ASR. An amount commensurate to the water conveyed on behalf of the region will be forborne from SAWS Edwards Aquifer production when specified triggers during a drought similar to Texas' drought of record are met. The contract, and amount of water leased by the EAA and conveyed to SAWS to store, limits the forbearance SAWS is obligated to perform over the term of the ITP. SAWS is reimbursed by the EAA for the incremental cost of storing EAHCP water in ASR and withdrawing that water during drought of record conditions to cover its forbearance requirements under the agreement.

Recycled Water

The San Antonio Water System has the largest recycled water system in the United States and is permitted to sell Type I (high quality) recycled water from its water recycling centers (formerly known as wastewater treatment plants). The water recycling program is designed to provide up to 25,000 acre-feet per year of recycled water to commercial and industrial businesses in the City. This water recycling system was originally comprised of two

transmission lines, running north and south on the eastern and western sides of the city. In 2008, these two major transmission lines were interconnected at the northern end, providing additional flexibility to this valuable water resource. Currently, approximately 125 miles of pipeline deliver highly treated effluent to 140 customer connections. Recycled water is being delivered for industrial processes, cooling towers, and irrigation of golf courses and parks, all of which would otherwise rely on potable-quality water. Aside from supporting the local economy, this water recycling system also releases water into the upper San Antonio River and Salado Creek to sustain river flows. The result has been significant and lasting environmental improvements for the aquatic ecosystems in these streams.

Under a recycled water supply contract, SAWS also provides up to 50,000 acre-feet of water to San Antonio's municipally owned electric and gas utility, CPS Energy. This water is discharged by San Antonio's three Water Recycling Centers and then flows to a downstream location on the San Antonio River where CPS Energy diverts the water into Braunig and Calaveras Lakes to provide cooling water for its nearby power plants.

Regional Carrizo

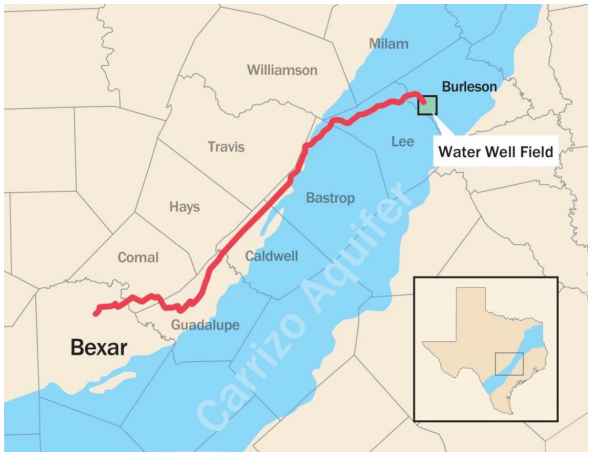
As part of diversifying SAWS' water portfolio, a regional partnership with Schertz-Seguin Local Government Corporation (SSLGC) was formed. The Regional Carrizo project is located in Gonzales County, approximately 50 miles from San Antonio. This project allows SAWS to utilize available capacity in an existing pipeline and water treatment plant owned and operated by SSLGC. In 2020, SAWS has budgeted for 11,533 acre-feet of water from the Regional Carrizo project, including the purchase of an additional 500 acre-feet of water from SSLGC.

Brackish Groundwater Desalination

The Brackish Groundwater Desalination (BGD) plant produces brackish water from the Wilcox Aquifer in southern Bexar County and treats it to drinking water quality standards. Phase I of the plant has the capacity to provide up to 11,200 acre-feet per year of drought-proof desalinated groundwater to San Antonio's taps. Future phases will eventually bring the total supply from this program to 33,600 acre-feet per year. The desalination plant is located at the SAWS H_2Oaks Center in south Bexar County, where three sources of water are managed: Brackish Groundwater, Aquifer Storage and Recovery (ASR) and Local Carrizo. The Center provides research facilities for college/university students to help improve water technology and processes and offers educational tours to the public.

FUTURE SOURCES OF WATER SUPPLY

VISTA RIDGE – REGIONAL WATER SUPPLY



In October 2014, the City Council adopted an ordinance, approving the execution of a Water Transmission and Purchase Agreement (WTPA) between the City, acting by and through SAWS, and Vista Ridge LLC to provide up to 50,000 acre-feet of potable water per year for an initial period of 30 years. The Vista Ridge Pipeline Project represents a significant diversification of SAWS' water sources as the water provided, if delivered at the maximum amount, will account for approximately 20% of the SAWS' current annual usage. In 2015, the City Council approved a series of increases to the water supply fee through 2020 to support the acquisition of new water supplies, including water supplied from this project.

The project achieved financial close in November 2016 and is now nearing completion of the construction phase. During this phase, Vista Ridge LLC has constructed well fields to withdraw water from the Carrizo and Simsboro aquifers in Burleson County, Texas pursuant to currently-held long-term leases with landowners and constructed a 142-mile pipeline from this well field to northern Bexar County. The pipeline has also been connected to the SAWS distribution system at a delivery point in northern Bexar County.

The construction phase is scheduled to be completed in April 2020, which will result in the commencement of the aforementioned 30- year operational phase, during which period SAWS is obligated to pay for water (up to 50,000 acre-feet annually) made available by Vista Ridge LLC. The first year operating and maintenance costs of the project are listed in the table below. Specifically, a total of $80.7 million is budgeted to make contractually required payments for water transmitted via the Vista Ridge Pipeline, to provide for the operation and maintenance of the pipeline, to support the operation of the new Agua Vista Station, which will receive and treat Vista Ridge water for transmission into the SAWS distribution system, and to provide for the added utility expenses associated with the pipeline and the Agua Vista Station.

Vista Ridge Pipeline Water Delivery First Year Operating & Maintenance Costs	
	$ in Millions
Vista Ridge Water Payment	$ 61.0
Vista Ridge Ops. & Maint. Payment	7.8
Vista Ridge Utilities Costs	8.0
Agua Vista Station Chemical Cost	1.5
Agua Vista Station Utilities, Materials and Other Costs	1.8
Agua Vista Station Staffing (6 New Positions)	0.6
	$ 80.7

In May 2016, SAWS exercised its contractual right to fix the Capital and Raw Groundwater Unit Price under the Agreement based on the methodology provided for therein. This action served to lock in the price of the water component of SAWS annual payment requirement at $1,606 per acre foot for the entire 30 year term of the WTPA. In addition to the Capital and Raw Groundwater Unit Price, SAWS will pay operations and maintenance costs as a direct pass through under the Agreement and electricity cost. It is estimated that the water will initially cost $2,000 to $2,200 per acre foot, depending on eventual electrical and O&M costs, resulting in an estimated initial annual cost of approximately $100 -$110 million for 50,000 acre feet of delivered water.

At the end of the WTPA, the well fields, pipeline and related infrastructure will transfer to SAWS at no additional cost. Under an agreement with Blue Water Vista Ridge, LLC, the owner of the groundwater leases, SAWS will have the ability to continue production for an additional 30 year term, with the cost of the water at the end of the WTPA being tied to the costs of then-prevailing two-year Edwards Aquifer water leases.

CONSERVATION

The cost of developing and acquiring additional water supplies to meet the increased water demands of San Antonio's projected future population is high. SAWS recognizes that efforts to promote conservation are a cost-efficient approach to minimizing the increase in demand for water caused by population growth. Beginning in 1994, SAWS implemented progressive water conservation programs aimed at reducing the number of gallons of water used. These programs target both indoor and outdoor residential, commercial and industrial uses. SAWS' conservation efforts over time have had a dramatic impact on water usage per customer and helped to avoid the need to develop even more water supplies to support the city's population growth over the last 20 years. Continued reductions in customer demand as a result of these programs is an important component of SAWS water planning efforts. The 2017 Water Management Plan assumes that conservation efforts will reduce customer demand from 117 gallons per capital per day (GPCD) to 88 GPCD by 2070.

INTEGRATION

Western Pipeline
The Western Pipeline was designed to provide the ability to integrate water produced from the various sources at the H_2Oaks Center and deliver that water to western Bexar County. Phase I of the pipeline was completed in 2016 and includes 28 miles of large capacity water transmission pipeline and new pump stations at the H_2Oaks facility and the Old Pearsall Pump Station. Phase II will extend the pipeline 17 miles to Anderson Pump Station at Hwy 151 and Loop 1604. This project is planned to be operational by 2022. With the addition of the Anderson Pump Station facility as a water integration point, the rated capacity of both phases of the pipeline will be up to 75 MGD.

Central Water Integration Pipeline
The Central Water Integration Pipeline (CWIP) project is constructing the facilities and pipelines necessary for receipt and conveyance of the Vista Ridge water throughout the SAWS water transmission and distribution system. Among the facilities being constructed under CWIP is the Agua Vista Station in the Stone Oak area of San Antonio. Agua Vista will have tanks to receive up to 50,000 acre-feet per year of water from the Vista Ridge Pipeline Project as well as a treatment plant to condition the received water for seamless transmission and distribution through SAWS pipelines. The anticipated capital cost of the CWIP program, including all engineering, construction, and easement acquisition, is approximately $220 million.

Completion of the CWIP project includes a number of benefits, including the automation of many existing water distribution facilities, rehabilitation of existing facilities to improve system reliability, and elimination of outdated former BexarMet facilities in need of major renovations.

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FINANCIAL POLICIES

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FINANCIAL POLICIES

BASIS OF ACCOUNTING

SAWS' financial statements are prepared using the accrual basis of accounting with the economic resources measurement focus as prescribed by the Governmental Accounting Standards Board (GASB). SAWS operates as an enterprise fund and applies all applicable GASB pronouncements and presents its financial statements in accordance with the GASB Codification of Governmental Accounting and Financial Reporting Standards. Under this approach, all assets, deferred outflows of resources, liabilities and deferred inflows of resources of SAWS are reported in the statement of net position, revenues are recorded when earned and expenses are recorded at the time liabilities are incurred.

RECOGNITION OF REVENUES

Revenues are recognized as goods or services are provided. Customers' water meters are read and bills are prepared monthly based on billing cycles. SAWS uses historical information to estimate and record earned revenue not yet billed at the end of the year.

REVENUE AND EXPENSE CLASSIFICATION

Enterprise funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services in connection with an enterprise fund's principal ongoing operations. The principal operating revenues of SAWS are charges to customers for water supply, water delivery, wastewater and chilled water services. Operating expenses include costs of service, administrative expenses and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

ANNUAL BUDGET

Approximately sixty days prior to the beginning of each fiscal year, SAWS presents to the SAWS Board of Trustees an annual budget prepared on an accrual basis to serve as a tool in controlling and administering the management and operation of the organization. The annual budget reflects an estimate of gross revenues and disposition of these revenues in accordance with the flow of funds required by Ordinance No. 75686. The annual budget is also submitted to the City Council for review and consultation.

The annual budget should be a balanced budget that projects Gross Revenues sufficient to fund estimated financial requirements. The annual budget is prepared on a comprehensive basis and includes all water supply, water delivery, wastewater and chilled water operations as well as a capital improvement program. The Board of Trustees may subsequently modify its approved budget by giving notice thereof to the City.

The basis of budgeting used is the same as the basis of accounting, with the exception of budgeting for employee benefits, capital asset impairments and the Vista Ridge Pipeline Project. Contributions to employee retirement plans, both pension and post-retirement medical, are budgeted on a cash basis, rather than accrual basis. Periodically SAWS reviews its capital assets for possible impairment. Employee benefit expenses, which do not require a current outlay of cash and capital asset write-offs do not meet the definition of Operations and Maintenance Expense in accordance with Ordinance No. 76586, as they do not require current period expenditures of cash. The Vista Ridge Pipeline Project water payment, along with the operations and maintenance and utility costs are budgeted as Operations and Maintenance Expenses due to the fact that SAWS is only required to pay for water made available at the delivery point in north Bexar County. However, for accounting purposes, a significant portion of the water payment will be treated as financing the purchase of the infrastructure.

Encumbrances are not formally recorded in the accounting system, however, SAWS monitors and controls spending by utilizing budget variance reports for each accounting unit, which are periodically reviewed by the CFO and the Executive Management Team.

All funds are appropriated in the 2020 Proposed Operating Budget. Capital Improvement Program financial projections are not appropriated. Any amendments to the Proposed Operating Budget which are expected to reduce the annual unrestricted transfer to the Renewal and Replacement Fund must be approved by the Board of Trustees.

Core Businesses

SAWS' operations are segregated into four core businesses as follows:

- Water Delivery – the functions of distributing water to the customer
- Water Supply – the functions related to the development and provision of additional water resources
- Wastewater – the functions of collecting and treating wastewater from the user customer
- Chilled Water – the functions related to providing chilled water service to specific customers of SAWS

Restricted Resources

When an expenditure is made for purposes for which both restricted and unrestricted resources are available, it is SAWS policy to choose the appropriate resource based on the availability of resources and funding goals established by management for those expenditures.

Cash Equivalents

SAWS considers investments with an original maturity of three months or less at the time of purchase to be cash equivalents.

Investments

City Ordinance No. 75686, SAWS' Investment Policy, and Texas state law allow SAWS to invest in direct obligations of the United States or its agencies and instrumentalities. Other allowable investments include direct obligations of the State of Texas or its agencies and instrumentalities; secured certificates of deposit issued by depository institutions that have their main office or a branch office in the State of Texas; defined bankers acceptances and commercial paper; collateralized direct repurchase agreements, reverse repurchase agreements; no-load money market mutual funds; investment pools; municipal bonds; and other types of secured or guaranteed investments. These investments are subject to market risk, interest rate risk, and credit risk which may affect the value at which these investments are recorded. Under the provisions of GASB Statement No. 31, money market investments, including US Treasury and agency obligations, with a remaining maturity at time of purchase of one year or less are reported at amortized cost. All other investments are reported at fair value.

Accounts Receivable

Accounts receivable are recorded at the invoiced amounts plus an estimate of unbilled revenue receivable. The allowance for uncollectible accounts is management's best estimate of the amount of probable credit losses based on account delinquencies and historical write-off experience. Account balances are written off against the allowance when it is probable the receivable will not be recovered. A provision to increase the allowance for uncollectible accounts is recorded as an offset to operating revenue.

Inventory

Inventories are valued at the lower of weighted average cost or market. Inventories are reported in the Statements of Net Position in Other Current Assets.

Restricted Assets

Assets restricted by City Ordinance (which incorporates the bond indentures) to pay current liabilities are reported as current assets in the Statement of Net Position, regardless of their relative liquidity. Assets restricted for the acquisition of capital assets or to pay noncurrent liabilities are reported as noncurrent assets in the Statement of Net Position.

Capital Assets

Assets in service are capitalized when the unit cost is greater than or equal to $5,000. Utility plant additions are recorded at cost, which includes materials, labor and direct internal costs. As of 2019, however, interest expense during the construction period is no longer capitalized as part of the cost of capital assets. Included in capital assets are intangible assets, which consist of purchased water rights, land easements, costs associated with acquiring additional Certificates of Convenience and Necessity (CCN) related to new service areas, and development costs for internally generated computer software. Assets acquired through capital leases are recorded on the cost basis and included in utility plant in service. Assets acquired through contributions, such as those from developers, are recorded at estimated acquisition value at date of acceptance. Maintenance, repairs, and minor renewals are charged to operating expense; major plant replacements are capitalized. Capital assets are depreciated on the straight-line method. This method is applied to all individual assets except distribution mains and intangible assets. Groups of mains are depreciated on the straight-line method over an estimated average useful life of 50 years. Mains are included in the Distribution and Transmission System asset category. Intangible assets not considered to have indefinite useful lives are amortized over their estimated useful life. Capital assets are tested for impairment when a significant unexpected decline in its service utility occurs.

Capital Contributions

Capital Contributions consist of plant contributions from developers, capital recovery fees, contribution in aid of construction and grant proceeds received from governmental agencies for facility expansion. Capital Contributions are recognized in the Statement of Revenues, Expenses, and Changes in Net Position, after non-operating revenues (expenses), when eligibility requirements are met.

Capital recovery fees are charged to customers to connect to the water or wastewater system. By Texas law, these fees are to be used for capital expenditures that expand infrastructure capacity or to reimburse SAWS for the cost associated with existing excess infrastructure capacity. In certain instances, infrastructure that facilitates expansion of SAWS' service capacity is contributed by developers. In these instances, SAWS records the donated infrastructure as plant contributions and abates future capital recovery fees due from the developer equal to the acquisition value of the excess capacity of the infrastructure contributed. These abatements are conditional based on the type of development and in certain instances, time requirements and geographic restrictions.

Contributions in aid of construction are funds advanced by developers to SAWS for the construction of certain water, sewer or other assets for the benefit of the developer.

Compensated Absences

It is SAWS' policy to accrue earned but unused employee vacation pay as well as the employer portion of Social Security taxes and required employer pension contributions related to the accrued vacation pay. Sick leave is not accrued since a terminating employee is not paid for accumulated sick leave.

Self-Insurance

SAWS is self-insured for a portion of workers' compensation, employee's health, employer's liability, public officials' liability, property damage, and certain elements of general liability. A liability is recorded for the estimated amount of eventual loss which will be incurred on claims arising prior to the end of the period including incurred but not reported claims.

Rates and Charges

In accordance with City of San Antonio, Texas Ordinance No. 75686 requirements, SAWS must establish and maintain rates and charges to produce sufficient Gross Revenues in each fiscal year to:

A. Pay Operations and Maintenance Expenses;
B. Produce Pledged Revenues sufficient to pay:
    1) 1.25 times the senior lien annual debt service requirements and
    2) The amounts required to be deposited in any reserve fund created for the payment and security of senior lien obligations;
C. Pay outstanding debt service obligations;
D. Fund payments to the City of San Antonio; and
E. Pay any other debt payable from the net revenues.

Funds Flow

City Ordinance No. 75686 adopted April 30, 1992 requires that Gross Revenues of the System be applied in sequence to:

1. Pay Operations and Maintenance Expenses, including a two-month operating reserve
2. Deposit into Debt Service fund the amount required for:
    a. Senior Lien debt obligations and Reserve Fund obligations
    b. Junior Lien debt obligations
    c. Subordinate Lien debt obligations
    d. Inferior Lien debt obligations
3. Equal payments to the City of San Antonio's General Fund and to SAWS Renewal and Replacement Fund

Payments to the City of San Antonio General Fund

City Ordinance No. 75686 requires SAWS to make payments to the City each month after making all other payments required by the City Ordinance. The amount of the payment is determined by City Council from time to time and cannot exceed 5% of Gross Revenues. Since the inception of SAWS in 1992, the transfer to the City had been set at 2.7% of Gross Revenues. After consultation with SAWS, the City increased the percentage to 4.0% in late 2019. Payments to the City are reported as non-operating expense in the Statement of Revenues, Expenses and Changes in Net Position.

Fund Structure

Within SAWS' enterprise fund accounts, separate self-balancing sub-funds are maintained to account for resources for various purposes, thereby distinguishing balances restricted by City Ordinance or other enabling legislation from unrestricted resources.

System Fund

All Gross Revenues shall be credited to this fund upon receipt, unless otherwise provided in City Ordinance No. 75686. All current expenses of operations and maintenance shall be paid from this fund as a first charge against the gross revenues so credited. Before making any deposits to other funds required to be made from the System Fund, the Board of Trustees shall retain in the System Fund at all times an amount at least equal to two months of the amount budgeted for the current fiscal year for current operations and maintenance expenses.

Debt Service Fund

The sole purpose of this fund is for the payment of principal and interest on all bonds which are payable from pledged revenues.

Reserve Fund

This fund shall be used to pay the principal and interest on any bonds when and to the extent the amounts in the Debt Service Fund are insufficient for such purpose, and may be used for the purpose of finally retiring the last of any bonds.

Project Fund

This fund shall be used to account for the proceeds of debt obligations and investment earnings thereon. Funds may only be used to pay for capital improvements in accordance with bond agreements and Internal Revenue Service regulations related to tax-exempt borrowings.

Renewal and Replacement Fund

This fund shall be used for the purpose of

1. Paying the costs of improvements, enlargements, extensions, additions, replacements, or other capital expenditures, or
2. Paying the costs of unexpected extraordinary repairs or replacements for which System Funds are not available
3. Paying unexpected or extraordinary expenses of operations and maintenance for which System Funds are not otherwise available
4. Depositing any funds received by SAWS pursuant to the CPS Energy contract
5. Paying bonds or other SAWS' obligations for which other System revenues are not available
6. Making up any shortfall in the Payment to the City of San Antonio General Fund as required by Section 17 of Ordinance 75686 and
7. For any other lawful purpose.

Debt Management

Capital Planning

A five-year Capital Improvement Program is developed and updated annually, including anticipated funding sources. During the annual budgeting process, the current year's proposed capital improvement projects are reviewed and prioritized to ensure consistency with SAWS' goals and objectives.

Capital Financing

Capital financing will typically include two types of funding – pay-as-you-go and debt financing.

1. Pay-as-you-go financing is an integral part of the overall capital-financing plan. Pay-as-you-go financing is defined as all sources of funding other than debt issuance and includes unrestricted resources, capital recovery/impact fees, investment earnings, contributions in aid of construction and certain grant proceeds.
2. The use of debt financing will be based, in part, on SAWS' long-term needs and the amount of funds available for pay-as-you-go financing. The following criteria will be used to evaluate pay-as-you-go versus debt financing:
    - Factors which favor pay-as-you-go financing:
        - Current revenues and adequate liquidity are available
        - Debt levels would adversely affect SAWS' credit rating or market conditions are unstable or present difficulties in marketing debt.
    - Factors which favor debt financing include:
        - Revenues available for debt service are considered sufficient and reliable so that debt financing can be marketed with the appropriate credit rating
        - Market conditions present favorable interest rates and demand for municipal financings
        - Federal or state subsidized debt is available to finance specific capital improvements

DEBT LIMIT

There is no statutory debt limitation on the issuance of revenue indebtedness by the San Antonio Water System, acting on behalf of the City of San Antonio, Texas. SAWS has established its own policies regarding the utilization of debt instruments.

The currently outstanding bond ordinances impose conditions precedent on the issuance of additional revenue bonds and require Net Revenues of 125% of maximum annual debt service in order to issue senior lien revenue bonds and 100% of average annual debt service in order to issue junior lien revenue bonds in a public offering.

DEBT POLICY

- Debt financing should only be used to fund capital improvements and should not be used for operating purposes.
- SAWS shall maintain rates and charges sufficient to ensure that Net Revenues equal or exceed 1.25 times the Annual Debt Service Requirements for the current fiscal year on SAWS' outstanding Senior Lien Obligations as required by the bond indenture. SAWS currently targets to maintain Net Revenues equal to at least 2.00 times Annual Senior Lien Debt Service and 1.70 to 1.75 times Total Annual Debt Service to ensure the required debt coverage in times of revenue fluctuations.
- SAWS shall analyze each new debt issue to ensure compliance with SAWS' debt policies and determine the impact of the new debt issue on SAWS' overall debt capacity.
- SAWS shall move toward a goal of funding approximately 50% of capital expenditures with non-debt sources.
- SAWS may maintain a variable rate component of debt of no more than 30% of its outstanding debt.
- SAWS shall employ an interest rate mitigation strategy to mitigate interest rate risk associated with variable rate debt.
- SAWS seeks to maintain or improve its current credit rating to ensure continued access to capital markets and minimize borrowing cost.
- The term of debt issued should not exceed the expected useful life of the capital improvements being financed.

RESERVE POLICIES

- As required by ordinance, an operating reserve shall be maintained in the SAWS System Fund consisting of a two-month reserve of the current year's budgeted maintenance and operation expenses.
- SAWS' target is to maintain unrestricted Days Cash on Hand of approximately 300 days.
- The Debt Service Fund will be funded with revenues sufficient to pay the principal and interest of SAWS' bonded debt as it becomes payable.
- Deposits shall be made to the Renewal and Replacement Fund in amounts equal to the amount payable to the City of San Antonio pursuant to the bond indenture. These funds will typically be used to fund capital improvements.
- Deposits shall be made to the Reserve Fund pursuant to SAWS bond indentures. These deposits will be made with proceeds from bonds issued or with unrestricted resources. SAWS may provide surety policies in amounts equal to all or part of the required reserve amount in lieu of depositing cash into the Reserve Fund.

Financial Planning Process

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FINANCIAL PLANNING PROCESS

LONG RANGE FINANCIAL PLANNING

Long-range financial planning is critical for SAWS to accomplish its mission. The overriding goal of financial planning, analysis and strategy development is to improve SAWS financial position in order to meet its short-term and long-term operational and strategic objectives. In developing the SAWS financial plan, concerns of all stakeholders are considered with various scenarios and potential risks evaluated by executive management in reaching the optimum balance of limited resources with organizational needs and stakeholder concerns.

The financial plan is organized into two distinct planning horizons in order to facilitate management of the system: Short-term of five years in length, and long-term of five to twenty years in length. The planning horizons play a key role in prioritizing SAWS' strategic, operational and financial needs and resources.

The short-term planning horizon is the basis for implementing, through the formalized budget, short-term goals and objectives in support of the strategic plan. The long-term planning process sets the course of the overall direction of financial, operational and capital resource allocation priorities of the system.

Major strategic policy guidelines emphasized are long-term water supply needs and infrastructure replacement goals. Strategic priorities include, but are not limited to, water supply, system expansion, environmental sustainability, system reliability and service consistency, innovation and technology, financial strength, and human resource development. All priorities are planned through operational, capital, and financial resource assessment and allocation.

A crucial component of SAWS' financial management strategy is the comprehensive 20-year Multi-Year Financial Plan (MYFP). The MYFP serves as a foundation supporting SAWS' strategic, operational, investment, and financial planning functions. Through analyses of cash flow probabilities and risk, investment and financing opportunities and constraints, and strategic plan goals and targets, financial forecasts are made in the MYFP to assist executive management in the allocation of SAWS' resources.

The MYFP provides a critical planning platform to perform statistical risk and resource allocation analyses through scenario, simulation and constraint modeling on revenues, operations and maintenance expense, capital expenditures, capital financing, including cash and debt financing and rate requirements. Resource utilization analyses and planning help identify factors affecting SAWS' strategic outcomes and provide opportunities for new strategies and program development to allocate resource costs for various growth and replacement scenarios.

The fundamental structure of the MYFP is the calculation of the flow of funds and rate adjustment requirements based on SAWS enabling Ordinance 75686, adopted on April 30, 1992. This ordinance outlines important financial requirements and calculations that SAWS uses in the MYFP to calculate rates and charges, flow of funds, pledged revenues toward debt service, debt coverage ratios and fund requirements. The MYFP incorporates forecasts and requirements by each of SAWS' core businesses: Water Supply, Water Delivery, Wastewater and Chilled Water.

Annual Budget Process

The annual budget process begins with updating the MYFP. As part of this process, Business Planning staff review SAWS' financial activity, levels of service provided, customer growth and consumption patterns, weather trends and financial market trends. In addition, the following variables are also evaluated:

- Available funding
- Financial risk
- Regulatory requirements
- Level of services that can be sustained
- Capital investment requirements
- Future commitments and resource demands
- Other variables that could cause a change in the level of revenue

Business Planning staff and executive management review the resulting financial forecasts and plans to ensure that forecasted revenues are sufficient to meet projected financial needs. If it becomes evident that forecasted revenues are not sufficient to address forecasted operations, maintenance, infrastructure and water supply needs, then staff evaluates rate scenarios to calculate the optimum rate adjustment that will balance affordable and competitive rates with the need to continue providing necessary services.

All potential pricing adjustments are evaluated in the context of customer affordability measures and key financial statistics. The affordability of customer bills is evaluated relative to the income of SAWS' customers and price competitiveness with other utilities. Key financial statistics include: debt coverage ratios for total debt, percentage of capital financed with cash and overall level of cash balances.

2020 Budget Process

The 2020 budget process began with identifying SAWS' short-term priorities. The focus of the 2020-2024 financial forecast included the following objectives:

- New water supply sources are integrated
- Employee pay and benefits are fair and competitive
- Retirement obligations are valued appropriately and adequately funded
- Infrastructure is adequately maintained to ensure reliability of service and compliance with regulatory requirements
- Technology advancements are implemented in order to increase productivity and enhance customer interactions
- Strong financial metrics and debt ratings are maintained

Revenue Forecast

One of the key elements of the financial planning process is the assessment of risk and impact of errors in forecasted revenues. Errors in the revenue forecast will cause inefficiencies to the system. The value of these inefficiencies will be evident once management has to take corrective action due to the forecast error. Overestimating revenues causes excess allocation of capital resources. Adjusting these resources or changing to alternative resources can be time intensive and costly. On the other hand, underestimating revenues results in underutilization of resources in the current period. However, these resources can be put to use in subsequent planning periods. The risk to the system from overestimating revenues are assumed to be of greater significance than the risk to the system from underestimating revenues. The following table includes a sample of the issues driving the 2020 revenue forecast.

Revenue Source	Drivers
Operating Revenues	Mitigate impacts of sustained periods of above normal rainfall
	Effect of conservation programs and tiered water rates on customer usage
Non-operating Revenues	Anticipated decline in short-term interest rates
Capital Recovery Fees	Utilized for capital funding - dependent upon development activity; projected to remain strong

Operations and Maintenance Budget

Current Services Level

The 2020 budget process involved a calculation of the Current Services Level budget, which was an estimate of the cost required to maintain the current level of services in 2020. The Current Services Level budget served as the baseline for all subsequent 2020 budget changes and was developed from the following components:

- Current employee wage and benefit costs
- Estimated 2020 utility costs, including a provision for any electric and gas utility rate increases
- Estimated 2020 fuel costs
- Elimination of one-time 2019 budgeted expenses

Improvements and/or Mandates

Departments requiring additional funding for improvements or newly identified mandates that exceeded the 2020 Current Services Level were required to submit decision packages to include detailed justification for each specific request.

Budget Development and Review

- Vice presidents/department directors reviewed current programs, activities and current levels of service provided to their customers. Additionally, they evaluated and prioritized new departmental needs.
- During individual departmental reviews, current spending levels were compared to current and proposed budget spending levels, with appropriate adjustments being made.
- The Executive Management Team (EMT) conducted a comprehensive review of decision packages submitted. During this review, all requests for additional funding were prioritized and were approved or denied based on this prioritization. This review by the EMT further ensured that departmental budgets were aligned with corporate goals and objectives.

Capital Improvement Program

The 2020 CIP was developed using a project prioritization process. Projects were generated by the CIP stakeholder groups from SAWS Treatment, Production, Master Planning, Facilities Engineering, Operations, and Distribution and Collection departments. The CIP Planning Group, consisting of vice presidents, directors and managers from SAWS Engineering and Operations groups reviewed and evaluated the projects. The evaluation and prioritization process addressed the business risk exposure, independent of available funds by prioritizing the projects as either Mandatory, Critical or High priority.

Mandatory	Critical	High
• Loss of life or limb	• Risk of Injury	• Corporate initiatives
• Legal/Regulatory requirements	• Legal/Regulatory implications	• City or State conflicts
• High Customer dissatisfaction	• Customer dissatisfaction	• Customer dissatisfaction
• Significant mission disruption	• Mission delay	• Needed system improvements

The CIP projects were developed using recent cost estimates; SAWS overhead and an inflation factor of 2.8% per year were added to develop the programmed costs for 2020 and future years. Projects were totaled by dollar amount and compared to the long term funding strategy. The 2020 and 5-year CIP project lists were reviewed in detail, final selection was made by SAWS' Executive Management Team.

The 2020 CIP projects were collected, reviewed and summarized in the SAWS Capital Project Management System (CPMS), which was brought online in mid-2015. This system streamlines the CIP into an enterprise project management system that increases the efficiency and visibility of the overall program.

2020 Budget Timeline

Action		2019 Jan - Mar	2019 Apr - Jun	2019 Jul - Sep	2019 Oct - Dec	2020 Jan
Develop Multi-Year Financial Plan	Review financial outlook					
	Compile assumptions for Multi Year Financial Plan (MYFP)					
	Review budget and rates plan with key internal stakeholders					
	Management review and approval of MYFP					
	Develop revenue forecast					
Establish Executive Directives	Review policy and guideline statements					
	Provide guidance on employee compensation issues					
	Establish O&M and CIP expectations					
Budget Development	Review and update CIP needs					
	Develop workforce budget from current workforce data					
	Develop Current Services Level Budget					
	Develop departmental budgets					
Rate Development	Review authorized rate adjustments					
Review and Analysis	Review of O&M and CIP budgets by Business Planning staff					
	Review of O&M and CIP budgets by Executive Mgt.					
Develop Budget Documents	Prepare Budget / Rates presentation					
	Develop Proposed Budget document					
	Develop Adopted Budget document					
Board Review and Approval	Budget briefings for Board of Trustees					
	Formal Board approval of 2020 annual budget					
	Submit Budget to City Council for review and consultation					
Implementation	2020 rates become effective					
	2020 Annual Operating Budget and Capital Improvement Program become effective					

SHORT-TERM FIVE YEAR FORECAST

The current projection of SAWS sources and uses of funds for the period 2020 – 2024 is shown in the table below.

$ in Millions	2020 Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast
Sources of Funds					
Revenue, incl. prior adjustments	$ 725.0	$ 816.0	$ 820.8	$ 861.0	$ 905.1
Rate Adjustment, incremental	82.1	-	35.4	38.7	52.6
Nonoperating Revenues	22.0	19.0	19.5	17.0	17.0
Capital Recovery Fees	100.1	100.1	100.1	100.1	100.1
Total Sources of Funds	**$ 929.2**	**$ 935.1**	**$ 975.8**	**$ 1,016.8**	**$ 1,074.8**
Uses of Funds					
Operations and Maintenance	$ 436.0	$ 460.3	$ 466.9	$ 475.3	$ 484.0
Debt Service & Expenses	235.9	242.8	258.2	276.6	304.4
Transfer to City of San Antonio	31.7	31.8	33.6	35.2	37.5
Available for R&R Restricted	108.1	103.7	104.1	103.8	103.8
Available for R&R Unrestricted	117.5	96.5	113.0	125.9	145.1
Total Uses of Funds	**$ 929.2**	**$ 935.1**	**$ 975.8**	**$ 1,016.8**	**$ 1,074.8**

The sources of funds primarily include revenues from metered customers, with anticipated adjustments to the metered revenues required to fund the projected operational and capital needs of the system. A discussion of the drivers of the revenues, growth in customers, and changes in use per customer are discussed in the revenue section of this book.

Projected increases in operations and maintenance costs over the forecast period are driven by inflationary pressures as well as operating costs associated with the acquisition of new water supplies. SAWS will begin receiving water from the Vista Ridge Pipeline Project in April 2020, contributing to the increases in operations and maintenance expenses in 2020 and 2021.

The growth in debt service reflects the allocation of capital resources toward major strategic priorities of water resources, infrastructure replacement, system growth, and sustainability. The five year 2020 – 2024 capital improvement program is projected at $2.6 billion as shown below. A significant priority includes wastewater capital replacement projects associated with the wastewater Sanitary Sewer Overflow Reduction Program (SSORP).

$ in millions	2020	2021	2022	2023	2024	Total 2020-2024
Water Delivery	$ 94.8	$ 144.5	$ 160.2	$ 174.2	$ 224.6	$ 798.3
Wastewater	412.7	318.9	268.1	237.8	283.0	1,520.5
Water Supply	100.1	60.6	40.7	64.0	41.7	307.1
Chilled Water	1.3	0.1	0.1	0.1	0.1	1.7
Total	**$ 608.9**	**$ 524.1**	**$ 469.1**	**$ 476.1**	**$ 549.4**	**$ 2,627.6**

Funding for the five year capital improvement program is projected to come from a mixture of renewal and replacement funds, impact fees, investment income, and bond proceeds. While SAWS long term goal is for approximately 50% of capital improvements to be funded from non-debt sources, during the 2020-2024 five year forecast, the percentage of the capital improvements funded with non-debt sources is currently projected to average 41.9%.

Capital Improvement Program					
	2020	**2021**	**2022**	**2023**	**2024**
CIP Budget (in millions)	$ 608.9	$ 524.1	$ 469.1	$ 476.1	$ 549.4
Capital Improvement Program Funding					
Revenue/Renewal & Replacement	35.4%	28.9%	18.7%	25.3%	21.1%
Capital Recovery Fees	14.6%	21.9%	14.9%	15.1%	11.9%
Bonds/Commercial Paper	50.0%	49.2%	66.4%	59.6%	67.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Cash Funding (in millions)	$ 304.5	$ 266.2	$ 157.4	$ 192.2	$ 181.3
Debt Funding (in millions)	$ 304.4	$ 257.9	$ 311.7	$ 283.9	$ 368.1

The forecasted amounts for 2020-2024 will continue to be analyzed and adjusted as additional efficiencies are identified, circumstances change or priorities shift.

Annual Operating Budget

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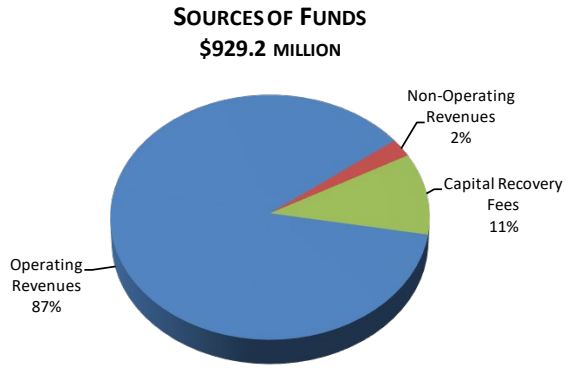
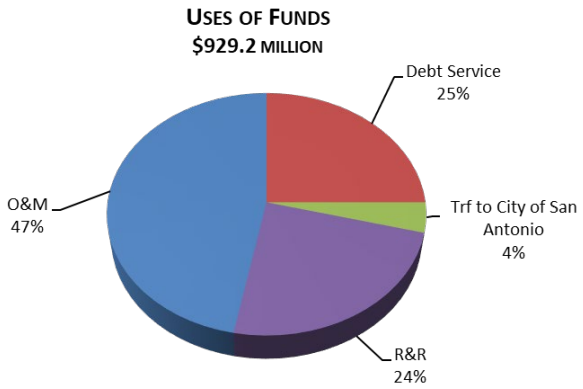
ANNUAL OPERATING BUDGET

FINANCIAL PLAN SUMMARY

The following table summarizes the consolidated Sources and Uses of Funds that comprise the SAWS Proposed Operating Budget.

(dollars in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
SOURCES OF FUNDS				
Operating Revenues				
Sewer Service Charges	$ 246,174	$ 255,097	$ 270,210	$ 271,040
Metered Water Sales	207,329	223,460	230,890	231,537
Water Supply Fee	152,030	153,602	169,784	246,360
EAA Fee	23,530	22,574	23,761	23,616
Chilled Water Sales	11,368	10,849	10,415	10,415
Conservation	11,012	11,561	10,818	10,718
Industrial Waste Surcharge	6,259	6,245	6,114	6,114
Recycled Water System	5,616	5,530	5,771	6,259
Stormwater	5,108	4,891	5,204	5,204
Recovery of TCEQ Fees	1,855	2,148	2,332	2,360
Reduction for Affordability Program	(3,530)	(4,911)	(5,909)	(6,543)
Total Operating Revenues	**666,751**	**691,046**	**729,390**	**807,080**
Nonoperating Revenues	6,813	17,866	21,150	20,000
Build America Bonds Subsidy	3,595	3,546	3,496	2,035
Total Revenues	**677,159**	**712,458**	**754,036**	**829,115**
Capital Recovery Fees	72,846	79,794	72,878	100,075
Contributions in Aid of Construction	7,926	6,434		
Draw on Equity	1,541	1,400	1,400	-
Total Sources of Funds	**$ 759,472**	**$ 800,086**	**$ 828,314**	**$ 929,190**
USES OF FUNDS				
Operations and Maintenance	$ 318,320	$ 330,235	$ 350,447	$ 435,982
Revenue Bond Debt Requirement	195,893	201,288	230,249	225,327
Other Debt Service Requirement	4,115	3,921	10,330	10,574
Transfer to the City of San Antonio	17,277	18,287	19,349	31,681
Balance Available for:				
Renewal and Replacement Fund (Restricted)	83,919	90,992	88,759	108,083
Renewal and Replacement Fund (Unrestricted)	139,948	155,363	129,180	117,543
Total Uses of Funds	**$ 759,472**	**$ 800,086**	**$ 828,314**	**$ 929,190**





FINANCIAL PLAN SUMMARY BY CORE BUSINESS

The San Antonio Water System consists of four core businesses. Each core business generates revenues that are designed to recover their respective cost of service. The core businesses are Water Supply, Water Delivery, Wastewater, and Chilled Water.

The following schedule reflects the 2020 budget for Sources and Uses of Funds by core business:

(dollars in thousands)	Water Supply	Water Delivery	Wastewater	Chilled Water	Total
SOURCES OF FUNDS					
Operating Revenues					
Sewer Service Charges	$ -	$ -	$ 271,040	$ -	$ 271,040
Metered Water Sales		231,537			231,537
Water Supply Fee	246,360				246,360
EAA Fee	23,616				23,616
Chilled Water Sales				10,415	10,415
Conservation	10,718				10,718
Industrial Waste Surcharge			6,114		6,114
Recycled Water System	6,259				6,259
Stormwater	5,204				5,204
Recovery of TCEQ Fees		1,822	538		2,360
Reduction for Affordability Program	(1,796)	(1,440)	(3,307)		(6,543)
Intercompany Reallocations	5,630	(5,630)			-
Total Operating Revenues	**295,991**	**226,289**	**274,385**	**10,415**	**807,080**
Nonoperating Revenues	6,000	6,000	8,000	-	20,000
Build America Bonds Subsidy	637	583	815	-	2,035
Total Revenues	**302,628**	**232,872**	**283,200**	**10,415**	**829,115**
Capital Recovery Fees	38,363	30,100	31,612	-	100,075
Draw on Equity	-	-	-	-	-
Total Sources of Funds	**$ 340,991**	**$ 262,972**	**$ 314,812**	**$ 10,415**	**$ 929,190**
USES OF FUNDS					
Operations and Maintenance	$ 208,556	$ 94,372	$ 125,618	$ 7,436	$ 435,982
Revenue Bond Debt Requirement	42,499	77,222	102,462	3,145	225,327
Other Debt Service Requirement	1,175	4,340	4,905	154	10,574
Transfer to the City of San Antonio	10,762	9,255	11,247	417	31,681
Balance Available for:					
Renewal and Replacement Fund (Restricted)	44,048	31,084	32,951	-	108,083
Renewal and Replacement Fund (Unrestricted)	33,951	46,699	37,629	(737)	117,543
Total Uses of Funds	**$ 340,991**	**$ 262,972**	**$ 314,812**	**$ 10,415**	**$ 929,190**

WATER SUPPLY CORE BUSINESS

The Water Supply core business is responsible for all functions related to the development and provision of additional water resources, including recycled water. In order to support the cost associated with these initiatives, SAWS implemented the Water Supply Fee in 2001, which is a separate funding mechanism for water supply development and water quality protection. The Water Supply core business also strives to extend SAWS' existing water supplies by promoting water conservation practices.

(dollars in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
SOURCES OF FUNDS				
Operating Revenues				
Water Supply Fee	$ 152,030	$ 153,602	$ 169,785	$ 246,360
EAA Fee	23,530	22,574	23,761	23,616
Conservation	11,012	11,561	10,818	10,718
Recycled Water System	5,616	5,530	5,771	6,259
Stormwater	5,108	4,891	5,204	5,204
Reduction for Affordability Program	(783)	(1,114)	(1,374)	(1,796)
Intercompany Reallocations	5,630	5,630	5,630	5,630
Total Operating Revenues	**202,143**	**202,674**	**219,595**	**295,991**
Nonoperating Revenues	2,069	6,090	6,345	6,000
Build America Bonds Subsidy	938	922	906	637
Total Revenues	**205,150**	**209,686**	**226,846**	**302,628**
Capital Recovery Fees	28,335	32,163	27,463	38,363
Contributions in Aid of Construction	-	510	-	-
Draw on Equity	1,400	1,400	1,400	-
Total Sources of Funds	**$ 234,885**	**$ 243,759**	**$ 255,709**	**$ 340,991**
USES OF FUNDS				
Operations and Maintenance	$ 117,103	$ 124,203	$ 131,647	$ 208,556
Revenue Bond Debt Requirement	50,061	50,622	48,895	42,499
Other Debt Service Requirement	877	1,068	1,660	1,175
Transfer to the City of San Antonio	4,645	4,812	5,206	10,762
Balance Available for:				
Renewal and Replacement Fund (Restricted)	29,994	34,083	42,287	44,048
Renewal and Replacement Fund (Unrestricted)	32,205	28,971	26,014	33,951
Total Uses of Funds	**$ 234,885**	**$ 243,759**	**$ 255,709**	**$ 340,991**

WATER DELIVERY CORE BUSINESS

The Water Delivery core business is responsible for the actual distribution of water from the source to the customers' premises. SAWS delivers potable water service to residential, commercial, multifamily, industrial and wholesale customers. Another primary function of this core business is the maintenance of the water system infrastructure.

(dollars in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
SOURCES OF FUNDS				
Operating Revenues				
Metered Water Sales	$ 207,329	$ 223,460	$ 230,890	$ 231,537
Recovery of TCEQ Fees	1,420	1,683	1,800	1,822
Reduction for Affordability Program	(855)	(1,114)	(1,378)	(1,440)
Intercompany Reallocations	(5,630)	(5,630)	(5,630)	(5,630)
Total Operating Revenues	**202,264**	**218,399**	**225,682**	**226,289**
Nonoperating Revenues	1,930	4,988	6,345	6,000
Build America Bonds Subsidy	1,103	1,089	1,075	583
Total Revenues	**205,297**	**224,476**	**233,102**	**232,872**
Capital Recovery Fees	19,967	20,824	20,596	30,100
Contributions in Aid of Construction	7,926	4,721	-	-
Draw on Equity	141	-	-	-
Total Sources of Funds	**$ 233,331**	**$ 250,021**	**$ 253,698**	**$ 262,972**
USES OF FUNDS				
Operations and Maintenance	$ 85,787	$ 90,374	$ 95,085	$ 94,372
Revenue Bond Debt Requirement	64,291	67,827	77,098	77,222
Other Debt Service Requirement	2,374	1,938	4,495	4,340
Transfer to the City of San Antonio	5,501	6,027	6,256	9,255
Balance Available for:				
Renewal and Replacement Fund (Restricted)	28,614	26,802	20,933	31,084
Renewal and Replacement Fund (Unrestricted)	46,764	57,053	49,831	46,699
Total Uses of Funds	**$ 233,331**	**$ 250,021**	**$ 253,698**	**$ 262,972**

WASTEWATER CORE BUSINESS

The Wastewater core business's primary function is the collection and treatment of wastewater. The functions also extend to monitoring wastewater discharged by large industries into the sewer collection system.

(dollars in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
SOURCES OF FUNDS				
Operating Revenues				
Sewer Service Charges	$ 246,174	$ 255,097	$ 270,210	$ 271,040
Industrial Waste Surcharge	6,259	6,245	6,114	6,114
Recovery of TCEQ Fees	435	465	531	538
Reduction for Affordability Program	(1,892)	(2,683)	(3,157)	(3,307)
Total Operating Revenues	250,976	259,124	273,698	274,385
Nonoperating Revenues	2,674	6,622	8,460	8,000
Build America Bonds Subsidy	1,554	1,535	1,515	815
Total Revenues	255,204	267,281	283,673	283,200
Capital Recovery Fees	24,544	26,807	24,819	31,612
Contributions in Aid of Construction	-	1,203	-	-
Draw on Equity	-	-	-	-
Total Sources of Funds	**$ 279,748**	**$ 295,291**	**$ 308,492**	**$ 314,812**
USES OF FUNDS				
Operations and Maintenance	$ 107,799	$ 108,188	$ 116,416	$ 125,618
Revenue Bond Debt Requirement	78,992	79,954	101,186	102,462
Other Debt Service Requirement	755	819	4,021	4,905
Transfer to the City of San Antonio	6,820	7,151	7,606	11,247
Balance Available for:				
Renewal and Replacement Fund (Restricted)	25,249	30,150	25,520	32,951
Renewal and Replacement Fund (Unrestricted)	60,133	69,029	53,743	37,629
Total Uses of Funds	**$ 279,748**	**$ 295,291**	**$ 308,492**	**$ 314,812**

CHILLED WATER CORE BUSINESS

The Chilled Water core business provides cooling services to SAWS customers, including various downtown hotels, the City of San Antonio Convention Center, Hemisfair Plaza, Alamodome, and Port San Antonio tenants.

(dollars in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
SOURCES OF FUNDS				
Operating Revenues				
Chilled Water Sales	$ 11,368	$ 10,849	$ 10,415	$ 10,415
Total Operating Revenues	11,368	10,849	10,415	10,415
Nonoperating Revenues	140	166	-	-
Build America Bonds Subsidy	-	-	-	-
Total Revenues	11,508	11,015	10,415	10,415
Capital Recovery Fees	-	-	-	-
Draw on Equity	-	-	-	-
Total Sources of Funds	**$ 11,508**	**$ 11,015**	**$ 10,415**	**$ 10,415**
USES OF FUNDS				
Operations and Maintenance	$ 7,631	$ 7,470	$ 7,299	$ 7,436
Revenue Bond Debt Requirement	2,549	2,885	3,070	3,145
Other Debt Service Requirement	109	96	154	154
Transfer to the City of San Antonio	311	297	281	417
Balance Available for:				
Renewal and Replacement Fund (Restricted)	62	(43)	19	-
Renewal and Replacement Fund (Unrestricted)	846	310	(408)	(737)
Total Uses of Funds	**$ 11,508**	**$ 11,015**	**$ 10,415**	**$ 10,415**

NET POSITION

Net Position is the difference between the assets and liabilities of SAWS as reflected on the statement of net position and is a key indicator of financial condition. It is the measure of financial resources available for future use after payment of all obligations.

The largest portion of SAWS' net position reflects its net investment in capital assets. SAWS' net investment in capital assets represents the carrying value of capital assets and capital related deferred outflows of resources, less capital related borrowings. The primary reasons for an increase in the net investment in capital assets are capital assets acquired with non-debt resources, including assets contributed by developers, and repayments of debt. Depreciation expense serves to decrease the net investment in capital assets.

Funds that have been restricted for a specific purpose by legally enforceable legislation and bond covenants are classified as restricted net position. In accordance with City of San Antonio Ordinance 75686, SAWS must maintain an operating reserve equal to two months of the annual maintenance and operations budget. SAWS is also required to make monthly transfers to a Debt Service Fund sufficient to make the semi-annual debt service payments on outstanding bonds. Cash and investments restricted for construction purposes, net of any related liabilities, are also reflected in these totals. Finally, SAWS must accumulate and maintain a Debt Service Reserve equal to 100% of the maximum annual debt service requirements for senior lien debt obligations plus the average annual debt service on all junior lien debt obligations secured by the Debt Service Reserve. SAWS may provide surety policies equal to all or part of the required debt service reserve.

The remaining balance of SAWS' net position is unrestricted and may be used for any allowable purpose as outlined in Ordinance 75686.

SAWS is an enterprise fund and has no governmental funds. The following schedule reflects the components of projected Net Position at December 31, 2019 and 2020, for the entity as a whole.

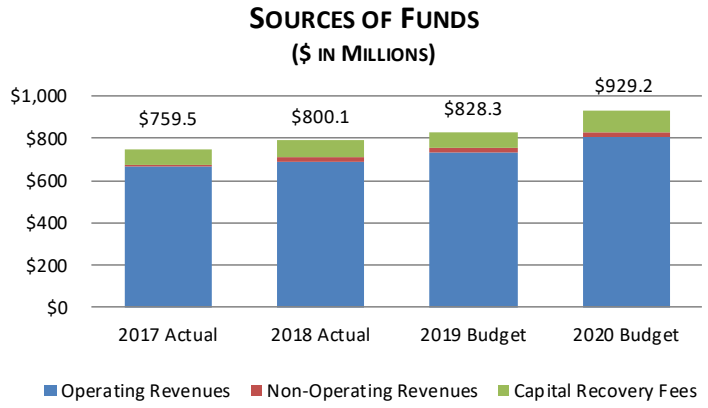
(dollars in thousands)	Net Investment in Capital Assets	Restricted Operating Reserve	Restricted Debt Service	Restricted Debt Service Reserve[1]	Restricted Construction	Unrestricted	Projected Net Position
Projected Net Position, beginning of year	**$ 2,780,478**	**$ 70,785**	**$ 66,230**	**$ 17,616**	**$ 157,908**	**$ 322,912**	**$ 3,415,929**
Operating income						371,098	371,098
Depreciation	(157,195)						(157,195)
Net non-operating income/(expense)				-		(121,386)	(121,386)
Capital Recovery Fees collected					100,075		100,075
Plant contributions	60,000						60,000
Transfer to Operating Reserve		5,009				(5,009)	-
Required debt service transfers	7,498		205,327	(7,498)		(205,327)	-
Projected debt service payments	100,842		(202,008)			101,167	-
Non-debt funding of capital improvements	220,368				(105,597)	(114,771)	-
Projected Net Position, end of year	**$ 3,011,991**	**$ 75,794**	**$ 69,549**	**$ 10,118**	**$ 152,386**	**$ 348,684**	**$ 3,668,522**
% Change in Net Position	**8.3%**	**7.1%**	**5.0%**	**-42.6%**	**-3.5%**	**8.0%**	**7.4%**

[1]The Debt Service Reserve decrease expected in 2020 is due to the anticipated refunding of outstanding senior lien debt obligations with junior lien obligations, which will not require a Debt Service Reserve component.

SOURCES OF FUNDS

The following table summarizes the 2020 budgeted Sources of Funds for all core businesses.

(dollars in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
SOURCES OF FUNDS				
Operating Revenues				
Sewer Service Charges	$ 246,174	$ 255,097	$ 270,210	$ 271,040
Metered Water Sales	207,329	223,460	230,890	231,537
Water Supply Fee	152,030	153,602	169,784	246,360
EAA Fee	23,530	22,574	23,761	23,616
Chilled Water Sales	11,368	10,849	10,415	10,415
Conservation	11,012	11,561	10,818	10,718
Industrial Waste Surcharge	6,259	6,245	6,114	6,114
Stormwater	5,108	4,891	5,204	5,204
Recycled Water System	5,616	5,530	5,771	6,259
Recovery of TCEQ Fees	1,855	2,148	2,332	2,360
Reduction for Affordability Program	(3,530)	(4,911)	(5,909)	(6,543)
Total Operating Revenues	**666,751**	**691,046**	**729,390**	**807,080**
Nonoperating Revenues	6,813	17,866	21,150	20,000
Build America Bonds Subsidy	3,595	3,546	3,496	2,035
Total Revenues	**677,159**	**712,458**	**754,036**	**829,115**
Capital Recovery Fees	72,846	79,794	72,878	100,075
Contributions in Aid of Construction	7,926	6,434	-	-
Draw on Equity	1,541	1,400	1,400	-
Total Sources of Funds	**$ 759,472**	**$ 800,086**	**$ 828,314**	**$ 929,190**



REVENUES

Sources of funds include operating revenues, non-operating revenues, Build America Bonds subsidy, and capital recovery fees. Operating revenues consist primarily of revenues generated through metered billings for potable water, recycled water, wastewater and chilled water services. Additional operating revenues include special services fees designed to recover costs associated with providing services that typically benefit a particular customer or type of service. These services include various permit, sampling or laboratory fees, and account services.

WATER AND WASTEWATER CUSTOMER AND USAGE TRENDS

Over 95% of SAWS operating revenues come from the Water Supply Fee, Metered Water Sales, Sewer Service Charges, and the EEA fee, which all vary based on customer's metered water usage. Fluctuations in system wide metered water usage are primarily tied to changes in:

- the number of customer connections
- the average use per customer

In the budget process, customer connections and usage data statistics and trends are tracked by each rate block to generate multiple revenue forecast projections, including:

- each rate class of SAWS (residential, general, wholesale and irrigation)
- each rate block
- inside and outside city limit customers

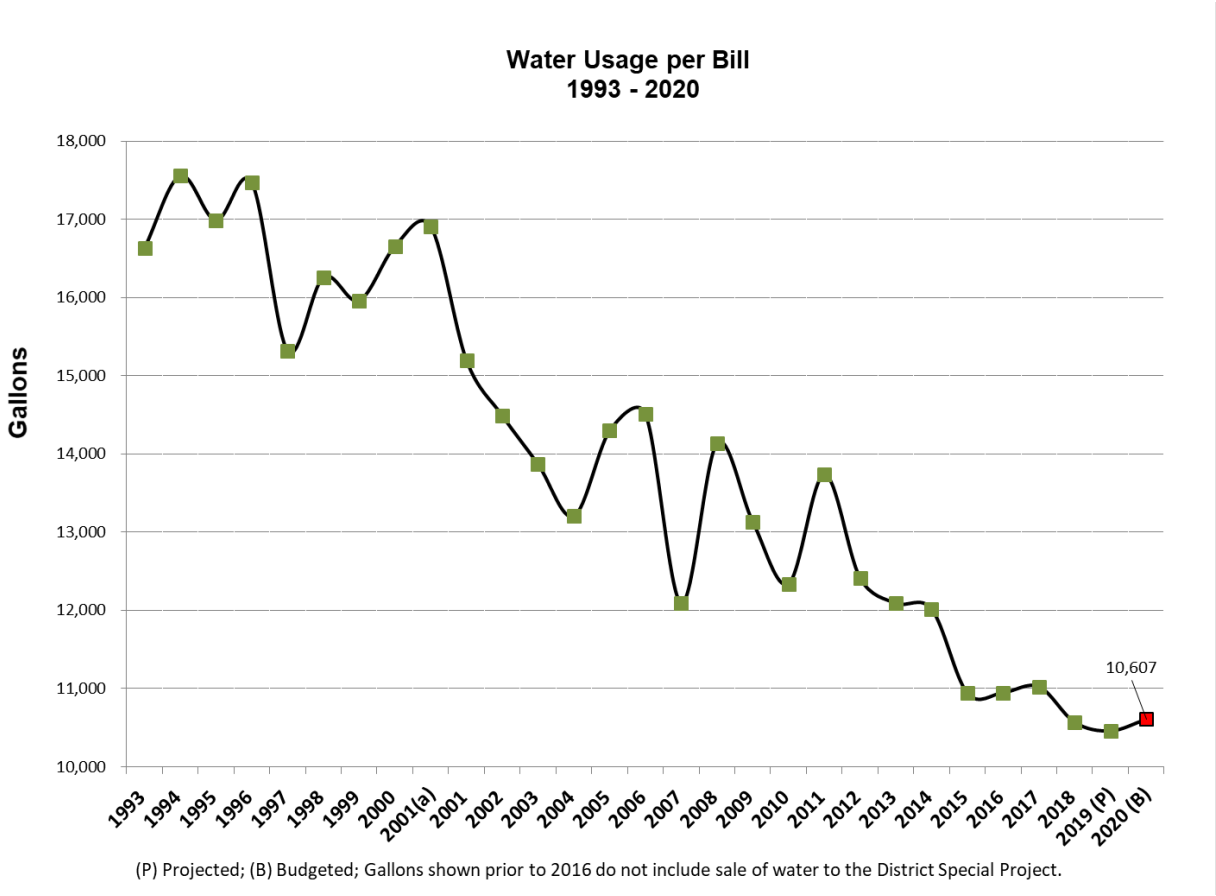
Through this systematic and comprehensive approach to forecasting metered revenues, SAWS has been able to identify developing shifts in usage patterns and underlying trends in customers' water usage. These customer connections and usage forecasts are aggregated to develop a comprehensive forecast for water and wastewater revenues of the system.

In recent years, the growth in wastewater customers has exhibited slightly higher growth than customers in the SAWS water service area. This trend is expected to moderate, and 2020 total combined water and wastewater customer growth is forecasted at 1.5% with approximately equal growth in both water and wastewater customers.

Average usage per customer is typically affected by weather (temperature and precipitation), seasonality, price elasticity, conservation, and drought restriction variables. Therefore the modeling of the average usage per customer incorporates statistical forecasting to incorporate these variables.

The following chart shows the average monthly water usage for all customers by year since 1993. Beginning in 2016, the average usage includes water usage for customers in the former SAWS DSP service area. The average usage for these customers is substantially less than the historical average usage for SAWS customers. Other noticeable effects on average usage include:

- A significant, persistent downward trend through the whole data series
- Volatility in the trend after 2004 due to weather variations
- Impacts of ongoing drought restrictions from 2013 through 2015



(P) Projected; (B) Budgeted; Gallons shown prior to 2016 do not include sale of water to the District Special Project.

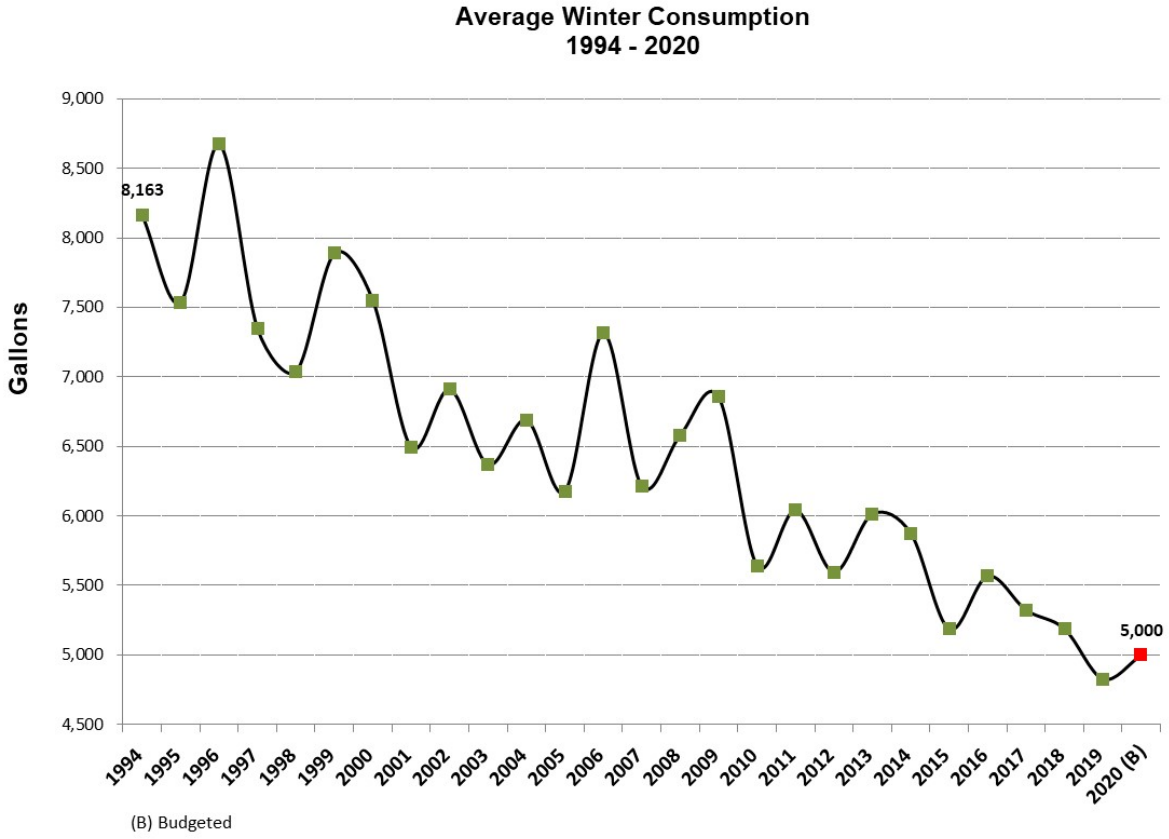
Weather fluctuations, from very rainy periods to drought conditions and related drought restrictions, factor into future water usage forecasts.

- The drought that began in 2011 lasted into 2015. The resulting drought restrictions during that period, brought customer usage levels in 2013 and 2014 to what was up until then historically low usage levels.
- Extremely wet weather conditions during 2015 served to end the drought but also dampened average customer demand to a new historic low level of 10,940 gallons.
- 2016 was another very wet year. This, combined with the consolidation of the SAWS DSP service areas, resulted in average customer usage of 10,948 gallons for 2016.
- Average customer usage increased to 11,024 gallons in 2017 as the year was drier than 2015 or 2016.
- Increased precipitation in 2018 over 2017 levels reduced the use per bill to 10,567 gallons.
- Based on actual usage totals through August, 2019 is projected to be somewhat lower than 2018, around 10,459 gallons, as use per bill continues to trend downward.

In order to minimize the financial risk to the system of overestimating revenues, 2020 budgeted revenues assume average customer use per bill of 10,607 gallons. This forecast allows for the possibility of either recurring wet conditions or drought restrictions as well as accounts for impacts of continuing conservation efforts. Consequently, the total budgeted water usage for 2020 is 65.9 billion gallons - the same level budgeted in 2019 - which allows for both customer growth and reduced usage per customer bill.

Wastewater volumetric revenues are based on contributed flow estimated through water usage. For the commercial class, all water usage with the exception of water used for irrigation is subject to wastewater charges. For the residential class, the contributed flow is estimated through the average winter consumption (AWC), which is the average water usage during three consecutive billing periods beginning after November 15 and ending on or about March 15 of each year.

The AWC, as shown in the following chart, has declined persistently since 1994 as a result of indoor conservation efforts and increasing public awareness about the winter averaging method and measurement period. Due to higher than normal precipitation experienced during the end of 2018 and the first quarter of 2019, the 2019 AWC fell below 5,000 to 4,828 gallons for the first time since AWC has been tracked. Since the 2019 AWC is due to anomalous conditions, it is projected that the AWC will level off at 5,000 gallons in 2020, consistent with a gradually slowing annual rate of decline.



Operating Revenues

The 2020 revenue budget includes a rate adjustment of 9.9% on an average residential bill (*7,092 gallons water; 5,668 wastewater assumed*). Details of the rate adjustment are as follows:

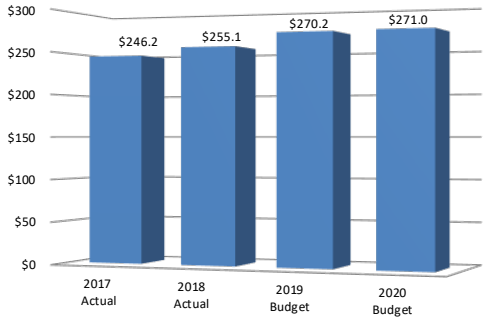
- 52.4% Water Supply Fee, 0.0% water delivery, and 0.0% wastewater rate adjustments
- Rate increases are effective for usage beginning on or about January 1, 2020
- Rate adjustments are projected to result in additional operating revenue of $82.1 million in 2020

Wastewater Operating Revenues

Wastewater operating revenues recover the costs associated with the collection and treatment of wastewater. Sewer service charges consist of a fixed monthly service availability fee and volumetric charges based on each customer's contributed wastewater flow. Residential contributed wastewater flow is estimated based upon a customer's water usage during three consecutive billing periods between November 15th and March 15th. For all other customers, actual monthly water usage, excluding any amount used for irrigation (metered or assumed), is used to calculate contributed wastewater flow.

Wastewater operating revenues for 2020 consist primarily of $271.0 million in sewer service charges and $6.1 million in sewer surcharge revenues. Total metered wastewater revenues are projected to remain flat in 2020, reflecting unchanged rates and decreasing per-customer usage offsetting growth in new accounts.

Sewer Service Charges
($ in Millions)

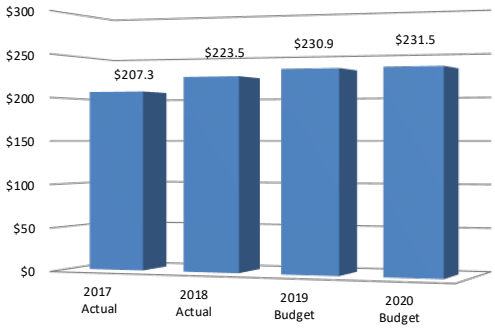


Water Delivery Operating Revenues

Water delivery operating revenues recover the costs associated with the production, transmission and distribution of potable water to the customer primarily through monthly fixed and volumetric charges on each customer's metered water usage. Total metered water sales are forecasted at $231.5 million in 2020.

The 2020 revenue forecast assumes that water sales will total 65.9 billion gallons, which reflects no change from the consumption forecasted for the 2019 SAWS annual budget. The flat trend in assumed usage reflects increased customer growth offset by declining per-customer usage.

Metered Water Sales
($ in Millions)

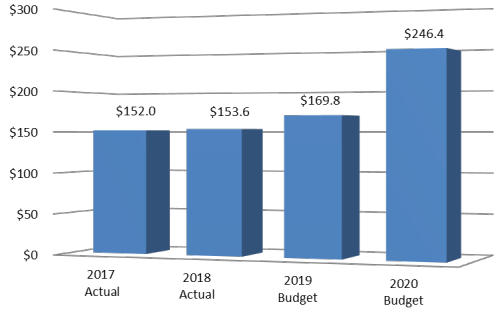


Water Supply Operating Revenues

Water supply operating revenues consist primarily of revenues from: the Water Supply Fee, Edwards Aquifer Authority pass-through fees and recycled water charges. Additionally, SAWS allocates a portion of water delivery charges to the water supply core business to fund conservation programs and receives fees from the City of San Antonio to provide services related to the City's storm water program.

The Water Supply Fee was implemented in 2001 to support one of SAWS fundamental responsibilities: developing and procuring additional water supplies. The Water Supply Fees consists of volumetric charges assessed on customers' meter water usage.

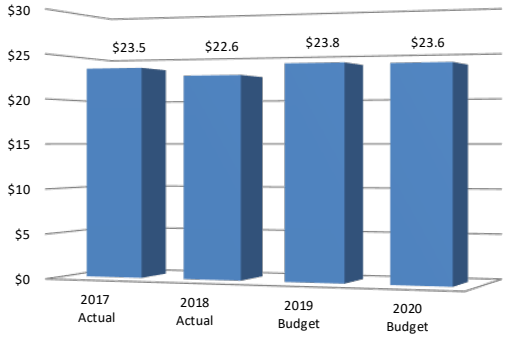
Water Supply Fee Revenues
($ in Millions)



Water Supply Fee revenues in 2020 are projected to be $246.4 million, which includes a declining per-customer usage and a 52.4% rate adjustment forecasted to generate $82.1 million in additional revenue for this core business.

The Edwards Aquifer Authority (EAA) is statutorily empowered to impose an annual permit fee on all parties permitted to pump water from the Edwards Aquifer. The annual permit fee charged to SAWS is based on the number of acre-feet per year that SAWS is permitted to pump from the Edwards Aquifer and is recovered by SAWS through the assessment of a pass-through volumetric charge to its customers; the EAA Fee. The 2020 EAA Fee budgeted revenue is $23.6 million.

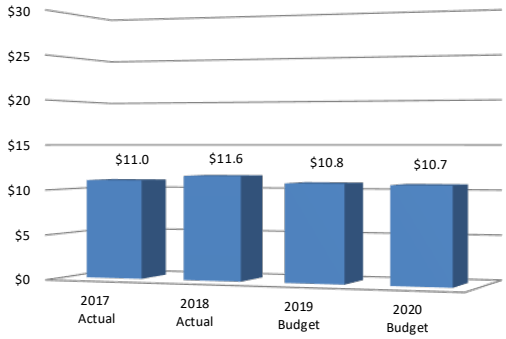
EDWARDS AQUIFER AUTHORITY FEE
($ IN MILLIONS)



Recycled water revenues are budgeted to be $6.2 million in 2020, including a 19.2% rate adjustment on all metered recycle water sales not including the CPS Energy contract. The forecasted receipt of $3.2 million from the CPS Energy contract is projected to contribute 51.5% of recycled water revenues.

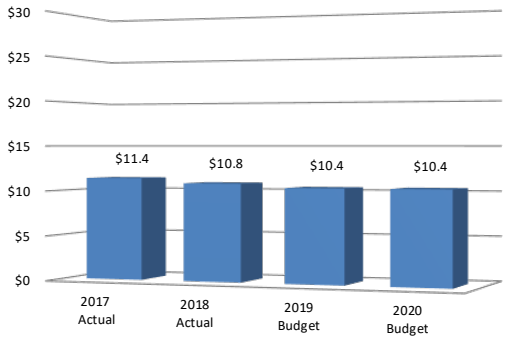
Conservation revenues are used to fund residential and commercial conservation programs. Conservation revenues for 2020 will be recovered from a portion of the residential water charges for monthly usage in excess of 7,481 gallons, a portion of non-residential monthly meter charges, and a portion of the irrigation revenues from all usage blocks. For 2020, conservation revenues are budgeted at $10.7 million or 3.6% of total Water Supply operating revenues.

CONSERVATION
($ IN MILLIONS)



SAWS bills storm water charges to customers and provides certain other services related to the City of San Antonio's Storm Water Program. The City of San Antonio will provide an estimated reimbursement to SAWS of $5.2 million in 2020 to offset the cost of providing those services.

CHILLED WATER
($ IN MILLIONS)



CHILLED WATER OPERATING REVENUES

SAWS provides chilled water for cooling purposes primarily to commercial customers located in downtown San Antonio and Port San Antonio. 2020 revenues are projected at $10.4 million, the same as budgeted in 2019. Chilled water services comprise approximately 1.3% of total operating revenues.

NON-OPERATING REVENUE

2020 non-operating revenues, budgeted at $22.0 million, are comprised of $20.0 million in interest earnings on investments and a $2.0 million federal subsidy to be received on previously issued Build America Bonds. Non-operating revenues account for 2.4% of the total sources of funds for 2020.

The average investment base is assumed to be $1 billion and the yield on those investments is estimated to be 2.0% in 2020.

CAPITAL RECOVERY FEES

Capital recovery fees, also referred to as impact fees, are codified in Chapter 395 of the Texas Local Government Code and provide for the collection of fees to recover capital improvement costs necessary to serve new development. Through the city ordinances that formed SAWS, capital recovery fees are not considered to be included in Gross Revenues in the flow of funds. Instead, these fees are treated as capital contributions dedicated to fund eligible projects in the capital improvement program.

The collection of capital recovery fees varies from year to year based on the number of new customer connections and the fees charged. SAWS typically performs an impact fee study every five years. The most recent impact fee study was completed in May 2019. The $100 million budgeted for capital recovery fees in 2020 reflects the changes in the fees as well as the projected customer growth levels that resulted from the recently completed study.

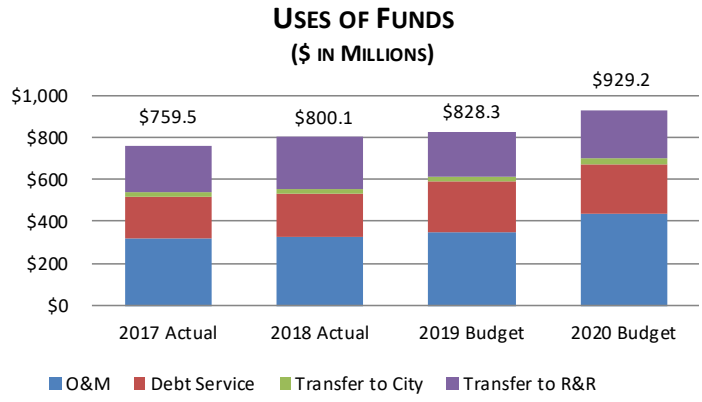
USES OF FUNDS

City of San Antonio, Texas Ordinance No. 75686 requires that Gross Revenues be pledged and appropriated to the extent required for the following uses and in the order of priority shown:

1. **Operations & Maintenance**
2. **Debt Service & Reserve Fund Requirements**
3. **Transfer to the City**
4. **Any Surplus Transferred to R&R (provides cash for current year debt coverage as well as funding for capital programs)**

Uses of funds are summarized in the following table and chart:

(dollars in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
USES OF FUNDS				
Operations and Maintenance	$ 318,320	$ 330,235	$ 350,447	$ 435,982
Revenue Bond Debt Requirement	195,893	201,288	230,249	225,327
Other Debt Service Requirement	4,115	3,921	10,330	10,574
Transfer to the City of San Antonio	17,277	18,287	19,349	31,681
Balance Available for:				
Renewal and Replacement Fund (Restricted)	83,919	90,992	88,759	108,083
Renewal and Replacement Fund (Unrestricted)	139,948	155,363	129,180	117,543
Total Uses of Funds	**$ 759,472**	**$ 800,086**	**$ 828,314**	**$ 929,190**



Operations and Maintenance Expense

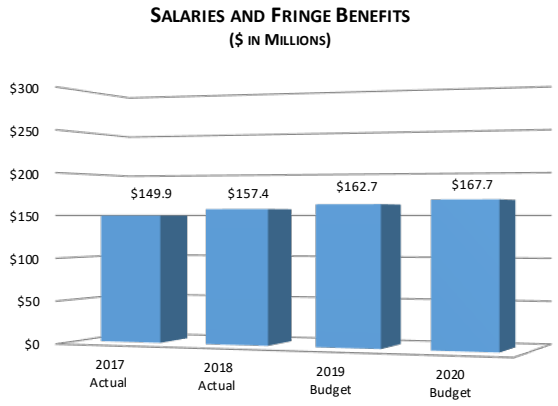
The cost to operate and maintain the system on a daily basis comprises the largest single use of SAWS' revenues. Approximately 54% of SAWS operating revenues are dedicated to supporting ongoing operations and maintenance. The 2020 budget for Operations and Maintenance (O&M) is $436 million, which is an increase of 24.4% from the 2019 budget. As discussed previously, this increase is primarily attributable to the anticipated commencement of the operational phase of the Vista Ridge Pipeline in April 2020. For further discussion of the financial treatment of the Vista Ridge Pipeline Project, please refer to the Financial Policies section of this report.

SAWS operation and maintenance expenses are categorized into four major expenditure types: Salaries and Fringe Benefits, Contractual Services, Materials and Supplies, and Other Charges. Additionally, a portion of these costs are capitalized in direct support of SAWS Capital Improvement Program.

($ in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 149,874	$ 157,374	$ 162,683	$ 167,672
Contractual Services	168,350	171,032	181,764	262,857
Materials and Supplies	23,159	23,485	23,779	24,974
Other Charges	9,156	9,956	11,624	11,979
O&M Before Capitalized Cost Total	**$ 350,539**	**$ 361,846**	**$ 379,850**	**$ 467,482**
Capitalized Cost	(32,219)	(31,612)	(29,403)	(31,500)
Total O&M	**$ 318,320**	**$ 330,235**	**$ 350,447**	**$ 435,982**
	-	-	-	-
Capital Outlay	**$ 10,395**	**$ 10,908**	**$ 9,684**	**$ 11,646**

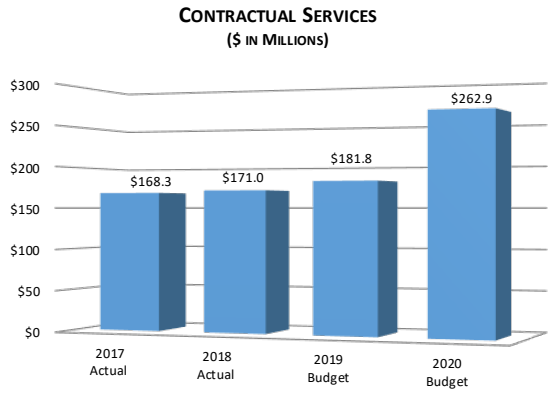
Salaries and Fringe Benefits

Salaries and fringe benefits include wages and benefits for all full-time and part-time employees including: overtime, on-call pay, employees' insurance and retirement benefits, and contributions to a trust established to provide other post-employment benefits (OPEB). Total salary and fringe benefit costs for 2020 are estimated at $167.7 million, or 35.9% of gross operation and maintenance expenditures (before capitalization) and reflect a 3.1% increase from prior year budget. The increased salary and fringe benefits are the result of projected performance pay adjustments, medical insurance costs and the addition of 11 new positions to meet operational requirements.



Contractual Services

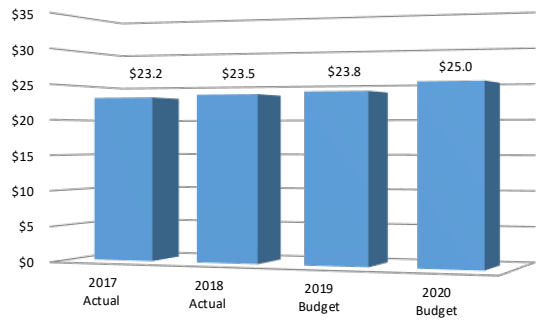
Contractual Services expenditures represent operating services that are obtained through express or implied contracts. Total Contractual Services for 2020 are budgeted at $262.9 million, which is 56.2% of the gross operation and maintenance expenditures (before capitalization) and reflect an increase of $81.1 million (44.6%) over the 2019 budget. Of this increase, $77 million can be attributed to the contract payments and utility costs associated with the commencement of water delivery from the Vista Ridge Pipeline Project in April 2020.



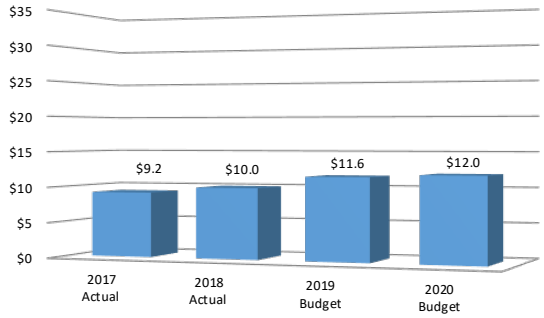
Materials and Supplies

The Materials and Supplies budget of $25.0 million is 5.3% of gross operation and maintenance expenditures and reflects an increase of 5.0% compared to the 2019 budget. The projected change is driven entirely by the $1.5 million cost of stocking the new Agua Vista Station with sufficient treatment chemicals to allow it to receive and treat water received from the Vista Ridge Pipeline Project beginning in 2020.

Materials and Supplies
($ in Millions)



Other Charges
($ in Millions)



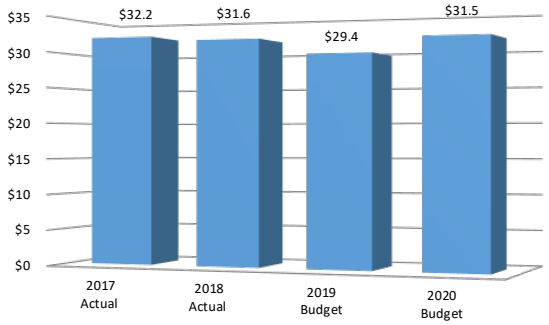
Other Charges

The Other Charges category includes property, casualty and workers' compensation costs, retirees' healthcare costs, and bank charges. The 2020 costs are estimated at $12.0 million, or 2.6% of gross operation and maintenance expenditures, and reflect a 3.1% increase from the 2019 budget due to a projected increase in employees' and retirees' healthcare costs in 2020.

Capitalized Costs

Operating and maintenance costs that support functions directly related to capital improvements are reflected as reductions to the gross Operations and Maintenance costs and are funded as part of SAWS' Capital Improvement Program (CIP). In 2020, Capitalized Costs are estimated at $31.5 million, or 6.7% of gross operation and maintenance expenditures.

Capitalized Costs
($ in Millions)



OPERATION AND MAINTENANCE SUMMARY BY EXPENSE CLASSIFICATION

($ in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Salaries and Fringe Benefits				
511100 Salaries	$ 96,782	$ 99,819	$ 107,238	$ 110,690
511140 Overtime Pay	6,373	7,797	5,486	5,758
511150 On-Call Pay	663	686	639	678
511160 Employee Insurance	15,392	18,751	17,047	17,507
511162 Retirement	20,707	20,763	22,492	23,258
511164 Unused Sick Leave Buyback	17	18	70	70
511166 Personal Leave Buyback	929	966	950	950
511168 Accrued Vacation leave	1,412	1,075	1,200	1,200
511170 Incentive Pay	99	-	61	61
511175 Other Post Employment Benefits	7,500	7,500	7,500	7,500
Salaries and Fringe Benefits Total	**149,874**	**157,375**	**162,683**	**167,672**
Contractual Services				
511210 Operating Expense	2,446	2,302	1,969	1,531
511211 Rental of Facilities	368	279	351	275
511212 Alarm and Security	1,868	1,786	1,939	1,939
511214 Uniforms and Shoe Allowance	357	415	432	442
511216 Catering Svcs and Luncheons	140	130	109	123
511218 Project Agua Assistance	-	-	-	400
511219 Program Rebates	1,588	3,327	3,642	3,625
511220 Maintenance Expense	17,824	19,566	21,909	20,291
511221 Street Cut Permit Admin Fee	596	873	851	841
511222 St Pave/Repair Fee	1,535	1,223	1,800	1,801
511223 Preventive Maintenance	135	-	140	-
511224 Auto and Equip. Maintenance Parts	1,334	1,876	1,350	1,563
511225 Damage Repair	191	142	179	150
511230 Equipment Rental Charges	321	477	305	308
511240 Travel	146	132	208	224
511245 Training	642	596	733	668
511247 Conferences	44	56	99	108
511250 Memberships and Subscriptions	388	577	438	500
511260 Utilities	29,882	30,113	31,444	39,672
511261 Water Options	43,158	37,937	44,169	110,945
511265 Ground Water District Pay	24,339	23,659	24,407	23,298
511270 Mail and Parcel Post	2,161	2,008	2,289	2,288
511310 Educational Assistance	114	81	76	77
511312 Contractual Prof Svcs	27,341	30,023	28,727	37,245
511313 Inspect and Assessment Fees	1,920	2,117	2,286	2,469
511315 Temporary Employees	1,259	1,599	545	740
511320 Legal Services	1,355	2,093	3,390	2,274
511370 Communications	1,449	1,808	1,623	1,674
511381 Software and Hardware Maintenance	5,449	5,836	6,354	7,386
Contractual Services Total	**168,350**	**171,031**	**181,764**	**262,857**

OPERATION AND MAINTENANCE SUMMARY BY EXPENSE CLASSIFICATION *(continued)*

($ in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Materials and Supplies				
511410 Small Tools	814	740	680	688
511417 Copy and Printing Expense	21	24	24	23
511420 Operating Materials	2,377	2,288	2,297	2,421
511421 Heating Fuel	13	14	15	15
511422 Chemicals	6,418	6,968	7,557	8,931
511425 Education of School Children	31	30	30	30
511426 Public Awareness-WQEE	-	-	1	1
511427 Enforcement	-	1	5	5
511430 Maintenance Materials	9,540	9,273	8,951	8,889
511440 Safety Materials and Supplies	766	922	858	869
511441 Inventory Variances	(24)	(60)	15	-
511450 Tires and Tubes	854	563	703	550
511451 Motor Fuel and Lubricants	2,349	2,722	2,643	2,552
Materials and Supplies Total	**23,159**	**23,485**	**23,779**	**24,974**
Other Charges				
511510 Judgements and Claims	118	(459)	725	725
511511 AL/GL Claims - Cont. Liab.	(251)	292	330	330
511520 Bank Charges	-	7	10	125
511525 Cash Short/(Over)	(1)	(3)	-	-
511530 Employee Relations	162	151	198	209
511540 Retiree Insurance	7,026	7,808	8,011	8,241
511570 Casualty Insurance	1,054	855	1,140	1,139
511580 Unemployment Compensation	88	78	80	80
511590 Workers Comp Medical	960	1,227	1,130	1,130
Other Charges Total	**9,156**	**9,956**	**11,624**	**11,979**
O&M Before Capitalized Cost Total	**350,539**	**361,847**	**379,850**	**467,482**
Capitalized Cost	(32,219)	(31,612)	(29,403)	(31,500)
Grand Total	**$ 318,320**	**$ 330,235**	**$ 350,447**	**$ 435,982**

Revenue Bond Debt Service Requirement

The bonded debt service requirement is comprised of bond interest costs and the retirement of a certain portion of bond principal. This requirement is projected based on maturity schedules of existing debt and 30-year level debt service on new debt necessary to support the capital program. The 2020 debt service schedules assume the issuance of an additional $269.2 million of bonds in 2020 to provide funds for the 2020 CIP. The amount necessary to fulfill total bonded debt service requirements in 2020 on existing and new bonded debt is projected to be $235.9 million, which is 1.9% less than the 2019 budgeted level. Additional discussion of SAWS debt program is included in the Debt Service section of this report.

Other Debt Expense

SAWS expects to pay approximately $10.6 million in debt related expenses in 2020. These expenses include interest on commercial paper and the following fees: remarketing agent, credit liquidity facility, rating agency, and paying agent. Remarketing agents are investment-banking firms responsible for the marketing and remarketing of variable rate obligations to investors as they mature. The credit liquidity facility provider commits to purchasing the maturing variable rate obligations should the remarketing agent be unable to remarket the variable rate obligations.

Transfer to the City of San Antonio

Pursuant to City Ordinance No. 75686, SAWS is required to transfer to the General Fund of the City up to 5% of the gross revenues as defined by ordinance. Certain revenues are exempt from gross revenues for purposes of calculating the transfer. The actual percentage contributed is determined by City Council. Since the inception of SAWS in 1992, the transfer to the City had been set at 2.7% of non-exempt gross revenues. After consultation with SAWS, the City increased this percentage to 4.0% in late 2019. $31.7 million has been budgeted for this transfer in 2020 reflecting the increased amount, which is $12.4 million higher than the $19.3 million budgeted in 2019. SAWS plans to fund 2.7% of the transfer to the City with ongoing operating revenues while 1.3% of the transfer will be paid with existing Renewal and Replacement funds.

Balance Available for Transfer to Renewal and Replacement Fund

After meeting all other requirements of system revenues including operations and maintenance expenses, debt service, and transfer to the City's General Fund, $225.6 million is estimated to be available for transfer to the Renewal and Replacement Fund (R&R) of which $108.1 million is restricted primarily for use associated with SAWS Capital Improvement Program. Unrestricted R&R can be used for the purpose of funding improvements, extensions, additions, replacements, or other capital expenditures (including capital outlay) related to the System and for any other lawful purpose. At a minimum, SAWS is required to transfer to this fund an amount equal to the amount that is transferred to the City's General Fund each year.

Capital Outlay consists of expenditures for certain capital assets not included in SAWS Capital Improvement Program. These assets have an individual cost of $5,000 or more and a useful life greater than one year but less than fifteen years. This includes machinery and equipment, computer hardware, software systems, laboratory equipment, vehicles, heavy equipment, and miscellaneous equipment. The Capital Outlay program is based on priorities established by executive management. The capital outlay program for 2020 consists of $11.6 million in planned capital expenditures meeting the above criteria.

The following table summarizes the planned expenditures in 2020 for the capital outlay program:

($ in thousands)	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Structures and Improvements	$ 400	$ 264	$ -	$ -
Pumping Equipment	280	191	-	-
Machinery and Equipment	3,332	-	250	250
Computer Equipment	1,360	2,183	2,104	2,100
Software Systems	529	149	35	285
Lab Equipment	174	160	200	200
Field Equipment	928	1,076	1,833	3,423
Automobiles and Trucks	2,841	3,781	2,916	2,916
Heavy Equipment	551	3,084	2,347	2,347
Light Equipment	-	21	-	125
Grand	**$ 10,396**	**$ 10,908**	**$ 9,685**	**$ 11,646**

After funding of $11.6 million for 2020 capital outlay expenditures, $105.9 million in unrestricted funds is expected to be added to the R&R Fund in 2020. These unrestricted funds are expected to be utilized to provide pay-as-you-go funding to support the SAWS Capital Improvement Program in 2021 and beyond.

DEBT SERVICE

San Antonio Water System utilizes both long-term and short-term debt to finance the Capital Improvements Program (CIP). SAWS' currently outstanding revenue bonds consist of fixed-rate and variable rate obligations. Commercial paper provides SAWS with flexibility and efficiency in the timing and amount of debt issued. The commercial paper program and variable rate debt provides a hedge to partially offset the variable rate nature of SAWS' investment portfolio.

REVENUE BONDS

As of December 31, 2019, SAWS will have Senior and Junior Lien Water System Revenue Bonds outstanding.

- **Senior Lien Water System Revenue Bonds -** comprised of Series 2009B, Series 2010B, Series 2011, Series 2011A, Series 2012, and Series 2012A outstanding in the amount of $466,260,000 as of December 31, 2019 and collateralized by a senior lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the System and maintaining an operating reserve for operating and maintenance expenses.

- **Junior Lien Water System Revenue Bonds** - comprised of Series 2009A, Series 2010A, Series 2011, Series 2011A, Series 2012 (NO RESERVE FUND), Series 2012, Series 2013A, Series 2013B (NO RESERVE FUND), Series 2013C, Series 2013D, Series 2013E (NO RESERVE FUND), Series 2014A (NO RESERVE FUND), Series 2014C, Series 2014D, Series 2015A, Series 2015B (NO RESERVE FUND), Series 2106A (NO RESERVE FUND), Taxable Series 2016B (NO RESERVE FUND), Series 2016C (NO RESERVE FUND), Series 2016D, Series 2016E, Series 2017A (NO RESERVE FUND), Series 2018A (NO RESERVE FUND), and Series 2018B outstanding in the amount of $1,602,065,000 as of December 31, 2019 and collateralized by a junior lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the System, maintaining an operating reserve for operating and maintenance expenses, and paying the debt service on senior lien debt.

- **Junior Lien Water System Variable Rate Revenue Bonds** – comprised of the Series 2013F (NO RESERVE FUND) Bonds (the "Series 2013F Bonds"), the Series 2014B (NO RESERVE FUND) Bonds (the "Series 2014B Bonds"), and the Series 2019A (NO RESERVE FUND) Bonds (the "Series 2019A Bonds") (together the "Bonds"). The Bonds were issued as multi-modal variable rate bonds, with the Series 2013F Bonds and Series 2014B Bonds initially issued in a Securities Industry and Financial Markets Association (SIFMA) Index

Mode for a three-year term. The Series 2013 F Bonds and Series 2014B Bonds have been remarketed into a Term Mode for a five year period. The Series 2013F Bonds were remarketed at a fixed interest rate of 2.00%, yielding 1.63% for a five year period ending October 31, 2021 and the Series 2014B Bonds were remarketed at a fixed interest rate of 2.00%, yielding 1.80% for a five year period ending October 31, 2022. The Series 2019A Bonds were issued in a Term Mode at a fixed interest rate of 2.65%, yielding 2.45% for through April 30, 2024. Total Junior Lien Variable Rate Revenue Bonds outstanding as of December 31, 2019 was $364,865,000. The debt service for the variable rate bonds is collateralized by a junior lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the System, maintaining an operating reserve for operating and maintenance expenses, and paying the debt service on senior lien debt.

- **Subordinate Lien Revenue and Refunding Bonds - Interest Rate Hedge Agreement (Swap) -** In 2003, $122.5 million of "City of San Antonio, Texas Water System Subordinate Lien Revenue and Refunding Bonds, Series 2003-A and 2003-B" (the "Subordinate Lien Obligations") were issued in a weekly interest rate mode. To hedge against changes in interest expenses, the City of San Antonio, through SAWS, entered into an interest rate hedge agreement (the "Swap Agreement") under which SAWS must pay a fixed rate of 4.18% and receive a variable rate which corresponds to the Municipal Swap Index published by SIFMA. The rates are applied to a specified notional amount which matches the amortization schedule of the principal amount of the Subordinate Lien Obligations. The payments under this obligation are collateralized by a subordinate lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the system, maintaining an operating reserve for operating and maintenance expenses, and paying debt service on senior lien and junior lien debt.

  In 2008, SAWS issued a Notice of Partial Redemption for $110.6 million of the Subordinate Lien Obligations due to unfavorable market conditions relating to variable rate demand obligations, resulting in the related interest rate hedge agreement not providing an effective hedge against short term interest rate movements applicable to the related obligations. The Subordinate Lien Obligations were redeemed with commercial paper notes. At December 31, 2019, $77,115,000 of the commercial paper notes outstanding are hedged by the Swap Agreement.

SAWS still considers the Swap Agreement to be a valuable variable rate management tool within its debt portfolio. The obligation to pay the fixed rate of 4.18% on the notional amount outstanding remains and is included in the 2020 budgeted debt service requirements of SAWS at the original principal amortization of the Subordinate Lien Obligations. Principal amortization calls for $4,055,000 of the commercial paper notes associated with the Subordinate Lien Obligations be redeemed on May 1, 2020, bringing the outstanding balance to $73,060,000.

Reserve Fund Requirement

SAWS' bond ordinance requires the maintenance of a reserve fund for the payment of senior lien and junior lien debt obligations in an amount equal to 100% of the maximum annual debt service requirement for the senior lien obligations and 100% of the average annual debt service requirement for the junior lien obligations requiring a reserve fund. The ordinance provides for the use of cash, debt, and surety policies or a combination thereof, to satisfy the reserve fund requirement. The debt service schedules for the bonds anticipated to be issued in 2020 assumes any required increase in the reserve fund will be funded with proceeds from bonds issued.

Commercial Paper

SAWS also maintains a commercial paper program that is used to provide funds for the interim financing of a portion of the capital improvements program. The San Antonio City Council has authorized a commercial paper program of up to $500 million (the "CP Program"). The CP Program provides for the issuance of subseries of notes, currently designated as Subseries A-1, Subseries A-2, and Series B. The CP Program is supported by two revolving credit agreements, one with JPMorgan Chase Bank, N.A. (the "Series A Agreement"), and the other with Wells Fargo Bank, N.A (the "Series B Agreement"). JPMorgan Chase Banks, N.A. currently supports $400 million of Series A CP notes which extends through October 4, 2023, and Wells Fargo Bank, N.A. currently supports $100 million of

Series B CP notes through January 15, 2021. The Subseries A-1 and Series B CP notes are publicly marketed with the Subseries A-2 Notes placed directly with JPMorgan Chase Bank, N.A. under a note purchase agreement.

The 2020 Budget assumes approximately $436 million of commercial paper is outstanding relating to the funding of capital improvement projects by the end of 2020. As stated in the "Interest Rate Hedge Agreement (Swap)" section herein, by the end of 2020, $73.1 million of the commercial paper program is attributable to the redemption of the Subordinate Lien Obligations. The 2020 Budget assumes that the interest to be paid on the TECP attributable to the redemption of the Subordinate Lien Obligations will be offset in its entirety by the amount to be received under the variable rate leg of the Swap. SAWS' capital financing plan provides for the refunding of commercial paper as the outstanding balance trends toward the upper limit of the Agreement to ensure the outstanding balance does not exceed the revolving line of credit amount.

BOND AND COMMERCIAL PAPER RATINGS

In September 2019, SAWS' senior lien and junior lien revenue bond credit ratings were reaffirmed by the three major rating agencies. The Series A ratings under the CP Program were reviewed by the rating agencies in September 2018 due to the substitution of the revolving credit agreement with JPMorgan Chase Bank, N.A. Fitch Ratings upgraded the Series A-1 notes to F1+ from F1 and Moody's Investors Service and S&P Global Ratings affirmed the rating of P-1 and A-1+ respectively. SAWS' credit ratings are as follows:

			Commercial Paper	
	Senior Lien	**Junior Lien**	**Subseries A-1**	**Series B**
Fitch Ratings	AA+	AA	F1+	F1+
Moody's Investors Service, Inc.	Aa1	Aa2	P-1	P-1
S&P Global Ratings	AA+	AA	A-1+	A-1+

The high quality ratings reflects SAWS' large, diverse and growing service area, sound financial performance, long term planning in water supply and infrastructure needs, and competitive water and sewer rates.

DEBT COVERAGE

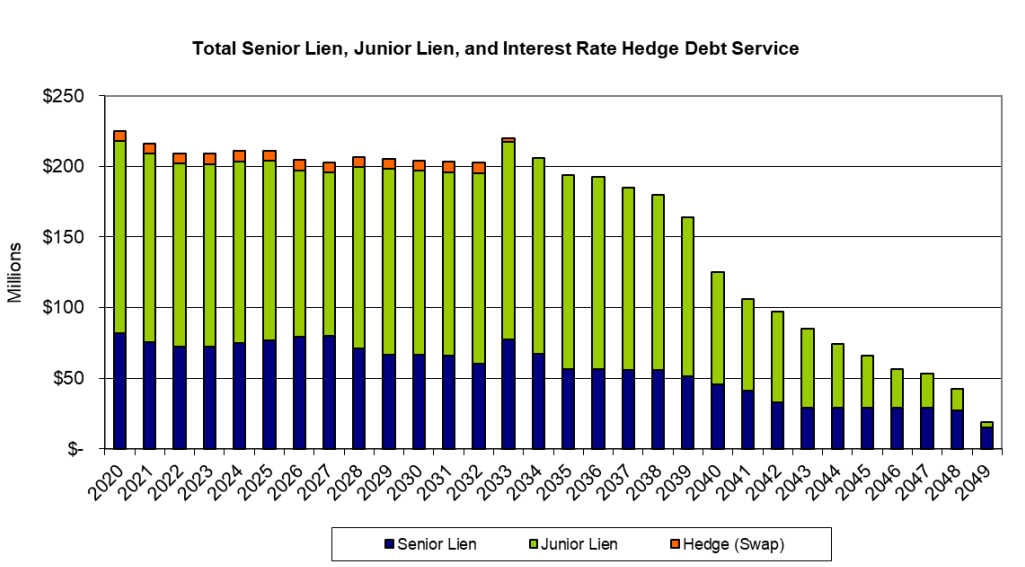
SAWS is required by ordinance to maintain a debt coverage ratio of 1.25 times the annual debt service on outstanding senior lien debt. The 2020 Proposed Operating Budget projects an estimated 2020 Senior Lien Debt Coverage ratio of 4.72 times and 2020 Total Debt Coverage ratio of 1.72 times.

DEBT COVERAGE CALCULATION *($ in thousands)*	
Total Sources of Funds	**$929,190**
Less Revenues from:	
CPS Energy Contract	3,223
Capital Recovery Fees	100,075
Transfer from Renewal & Replacement Fund	-
Interest on Project Funds	3,000
Gross Revenues as defined by Ordinance No. 75686	**$ 822,892**
Less: Operations & Maintenance	435,982
Pledged Revenues as defined by Ordinance No. 75686	**$ 386,910**
2020 Senior Lien Debt Service Requirement	$ 82,004
2020 Senior Lien Debt Coverage Ratio	**4.72** x
Maximum Senior Lien Debt Service Requirement (Year 2020)	$ 82,004
Maximum Senior Lien Debt Coverage Ratio	**4.72** x
2020 Total Debt Service Requirement	$ 225,327
2020 Total Debt Coverage Ratio	**1.72** x
Maximum Total Debt Service Requirement (Year 2020)	$ 225,327
Maximum Total Debt Coverage Ratio	**1.72** x

BUDGETED REVENUE AND REFUNDING BONDS DEBT SERVICE SCHEDULES

Fiscal Year December 31,	Senior Lien	Junior Lien	Interest Rate Hedge (Swap)	Total Bonded Service
2020	$ 82,004,103	$ 136,034,281	$ 7,288,741	$ 225,327,125
2021	75,282,146	133,734,221	7,305,753	216,322,121
2022	72,081,683	129,761,470	7,324,754	209,167,907
2023	72,306,447	129,298,151	7,341,992	208,946,590
2024	74,794,113	128,881,213	7,358,854	211,034,180
2025	76,799,382	127,131,988	7,379,994	211,311,363
2026	79,331,433	117,726,625	7,396,519	204,454,577
2027	80,164,085	115,480,577	7,416,555	203,061,217
2028	71,063,194	128,411,221	7,439,543	206,913,958
2029	66,489,297	131,563,478	7,461,594	205,514,370
2030	66,378,608	130,378,432	7,485,623	204,242,663
2031	66,240,445	129,545,480	7,509,405	203,295,330
2032	60,421,982	134,643,474	7,534,120	202,599,577
2033	77,725,584	139,564,645	2,514,211	219,804,439
2034	67,099,238	139,137,273	-	206,236,511
2035	56,508,562	137,382,318	-	193,890,880
2036	56,328,171	136,120,588	-	192,448,759
2037	56,141,263	128,959,140	-	185,100,402
2038	55,955,828	123,782,332	-	179,738,160
2039	51,549,815	112,480,886	-	164,030,701
2040	45,482,327	79,794,173	-	125,276,500
2041	40,944,136	65,167,258	-	106,111,395
2042	32,803,524	64,293,489	-	97,097,013
2043	29,367,188	55,714,308	-	85,081,496
2044	29,368,713	45,137,440	-	74,506,152
2045	29,367,800	36,856,859	-	66,224,659
2046	29,362,763	27,387,280	-	56,750,042
2047	29,366,600	23,923,716	-	53,290,316
2048	27,500,350	14,989,076	-	42,489,426
2049	15,402,000	3,496,850	-	18,898,850
	$ 1,673,630,778	$ 3,006,778,242	$ 98,757,659	$ 4,779,166,679

Amounts represent transfers to the Debt Service Fund for existing and proposed debt, including obligations under the 2003 swap agreement.



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Organization and Staffing

ORGANIZATION AND STAFFING

OPERATIONS AND MAINTENANCE SUMMARY BY DEPARTMENT

($ in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Board of Trustees and Pres/CEO Group				
Office of the President-CEO	$ 1,164	$ 1,138	$ 1,149	$ 1,122
Board of Trustees	61	61	64	64
Board of Trustees Support	251	298	323	335
Internal Audit	425	565	582	592
Board of Trustees and Pres/CEO Group Total	**1,901**	**2,062**	**2,118**	**2,113**
Engineering and Construction				
Office of the VP - Engineering and Construction	935	1,207	1,261	1,227
Construction	6,140	6,015	6,563	6,907
Development	4,365	3,890	4,958	6,858
Pipelines	3,802	3,795	4,123	4,340
Plants and Major Projects	1,876	1,846	1,823	1,919
Vista Ridge Integration Project	203	378	618	624
Engineering and Construction Total	**17,321**	**17,131**	**19,346**	**21,875**
Water Resources and Governmental Relations				
Environmental Laboratory Services	2,210	2,284	2,205	2,566
Governmental Relations	1,011	2,273	1,910	2,168
Resource Protection & Compliance	8,303	8,861	8,580	9,045
Vista Ridge	1,059	6,562	2,299	77,738
Water Resources	71,000	63,680	69,993	66,597
Water Resources and Governmental Relations Total	**83,583**	**83,660**	**84,987**	**158,114**
Operations				
Ofc of Chief Operating Officer	840	980	881	931
Operations Total	**840**	**980**	**881**	**931**
Distribution and Collection				
Office of the VP - Distribution and Collection	591	637	616	1,133
Construction and Maintenance	26,181	25,022	25,159	27,287
Distribution and Collection Support Services	1,567	3,632	3,531	7,496
Eastern Service Centers	10,332	10,800	11,031	10,915
Western Service Centers	10,009	10,974	9,933	9,861
Distribution and Collection Total	**48,680**	**51,065**	**50,270**	**56,692**
Production and Treatment				
Office of the VP - Production and Treatment	347	540	486	454
Ofc of Director - Production and Treatment	396	279	262	67
Chilled Water	6,322	6,007	5,942	5,866
Energy Management	283	291	281	279
Facilities	6,778	7,363	6,913	7,158
Fleet Management	8,634	9,804	9,321	9,351
Production	34,577	35,819	40,763	42,625
Security	3,458	3,329	3,486	4,436
Treatment Maintenance Management	13,236	14,046	14,958	15,346
Treatment Operations Management	21,105	21,231	21,253	21,374
Production and Treatment Total	**95,136**	**98,709**	**103,665**	**106,956**
Sewer System Improvements				
Capacity Assessment	1,402	1,321	1,010	1,010
Capacity Mgt O&M (CMOM)	4,277	2,870	4,300	4,510
Program Administration	6,737	5,833	3,892	3,406
Structural Sewer Assessment	2,289	957	3,594	3,910
Sewer System Improvements Total	**14,705**	**10,981**	**12,796**	**12,836**

OPERATIONS AND MAINTENANCE SUMMARY BY DEPARTMENT

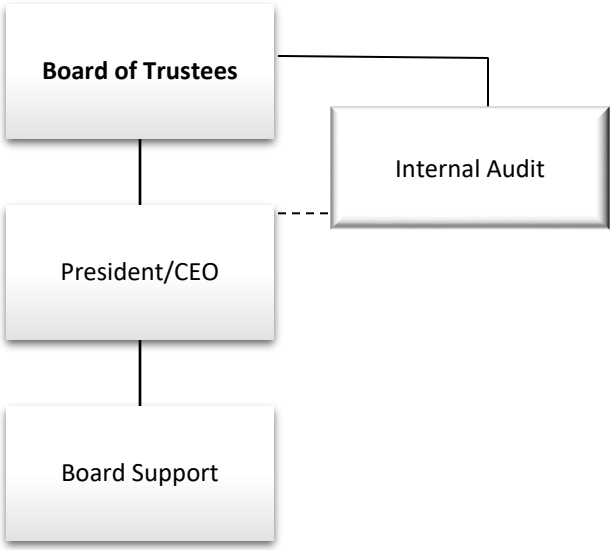
($ in thousands)	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Financial Services				
Office of the CFO	410	432	413	456
Accounting and Business Planning	2,677	2,706	2,624	3,195
Continuous Improvement and Innovation	544	510	735	440
Purchasing and Supply	1,766	1,782	1,961	1,986
Treasury	953	829	988	1,083
Financial Services Total	**6,350**	**6,259**	**6,721**	**7,160**
Information Systems				
Office of the CIO	698	1,194	1,987	2,058
Enterprise Solutions	5,291	6,516	7,475	8,575
IT Infrastructure & Operations	7,204	7,158	7,558	8,474
Program Mgmt - IT Support	1,607	1,440	-	-
Shared Services	5,997	6,350	6,869	6,688
Information Systems Total	**20,797**	**22,658**	**23,889**	**25,795**
Customer Experience and Strategic Initiatives				
Customer Service Administration	562	646	485	540
Automated Metering Infra. (AMI)	293	13	219	613
Billing and Customer Care	7,137	7,127	7,392	7,432
Emergency Operations Center	1,295	1,327	1,449	1,453
Field Operations	6,217	6,338	6,386	6,677
Performance Analysis and Training	461	604	560	468
Quality and Revenue Protection	649	573	643	644
Customer Experience and Strategic Initiatives Total	**16,614**	**16,628**	**17,134**	**17,827**
Legal				
Contracting	1,409	1,468	1,536	1,687
Corporate Real Estate	567	545	587	590
Legal	3,657	4,552	5,889	4,640
Legal Total	**5,633**	**6,565**	**8,012**	**6,917**
Human Resources				
Human Resources	4,025	4,168	4,755	4,743
Risk Management	2,844	2,593	2,956	2,253
Safety and Environmental Health	-	-	-	1,076
Human Resources Total	**6,869**	**6,761**	**7,711**	**8,072**
Communications and External Affairs				
Communications Administration	551	617	593	621
Communications	1,280	1,466	1,566	1,601
Conservation	3,453	5,401	5,700	5,793
External Relations	1,457	2,091	2,038	2,277
Communications and External Affairs Total	**6,741**	**9,575**	**9,897**	**10,292**
Other Requirements	**25,369**	**28,813**	**32,423**	**31,902**
Total O&M before Capitalized Costs	**350,539**	**361,847**	**379,850**	**467,482**
Capitalized Cost	(32,219)	(31,612)	(29,403)	(31,500)
Grand Total	**$ 318,320**	**$ 330,235**	**$ 350,447**	**$ 435,982**

OPERATIONS AND MAINTENANCE SUMMARIES BY GROUP

BOARD OF TRUSTEES AND PRESIDENT/CEO

The Board of Trustees and President /CEO Group provide the overall leadership, management, direction and policy implementation for the San Antonio Water System. It consists of the Board of Trustees, Office of the President/CEO, Board support functions, and the Internal Audit function.

- **Board of Trustees** – SAWS is governed by the San Antonio Water System Board of Trustees. The Board consists of the Mayor and six members appointed by the City Council. The Board of Trustees is responsible for setting the overall policy direction of the system.
- **President/CEO** – The President/CEO is responsible and accountable for leading and managing the San Antonio Water System, including the implementation of the policy goals set by the Board of Trustees and City Council. The President/CEO sets the vision and works alongside employees to achieve SAWS' mission and goals.
- **Internal Audit** – The Internal Audit Office provides independent and objective assurance and consulting services designed to add value and improve SAWS' operations. Internal Audit administratively reports to the President/CEO and functionally reports to the Board of Trustees.



BOARD OF TRUSTEES AND PRESIDENT/CEO

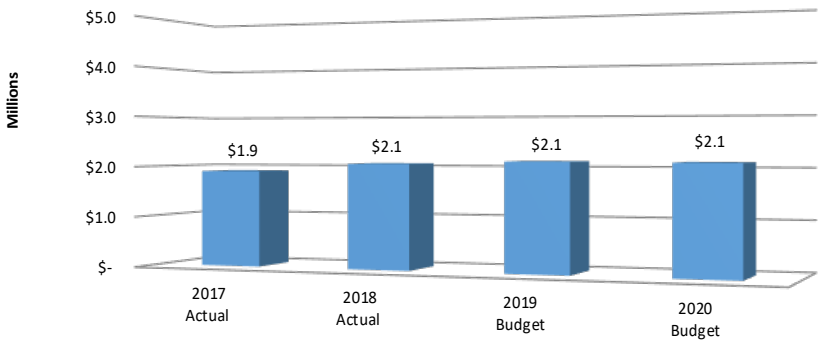
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 1,710	$ 1,819	$ 1,870	$ 1,865
Contractual Services	185	236	238	239
Materials and Supplies	6	7	10	9
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 1,901**	**$ 2,062**	**$ 2,118**	**$ 2,113**
Capitalized Cost	-	-	-	-
Total O&M	**$ 1,901**	**$ 2,062**	**$ 2,118**	**$ 2,113**
	-	-	-	-
Capital Outlay	**$ 1**	**$ -**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Office of the President-CEO	$ 1,164	$ 1,138	$ 1,149	$ 1,122
Board of Trustees	61	61	64	64
Board of Trustees Support	251	298	323	335
Internal Audit	425	565	582	592
O&M Before Capitalized Cost Total	**$ 1,901**	**$ 2,062**	**$ 2,118**	**$ 2,113**
Capitalized Cost	-	-	-	-
Grand Total	**$ 1,901**	**$ 2,062**	**$ 2,118**	**$ 2,113**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Office of the President-CEO	5.0	4.0	4.0	3.0
Board of Trustees	-	-	-	-
Board of Trustees Support	1.0	2.0	2.0	2.0
Internal Audit	4.0	4.0	4.0	4.0
Total Full-Time Equivalent Positions	**10.0**	**10.0**	**10.0**	**9.0**

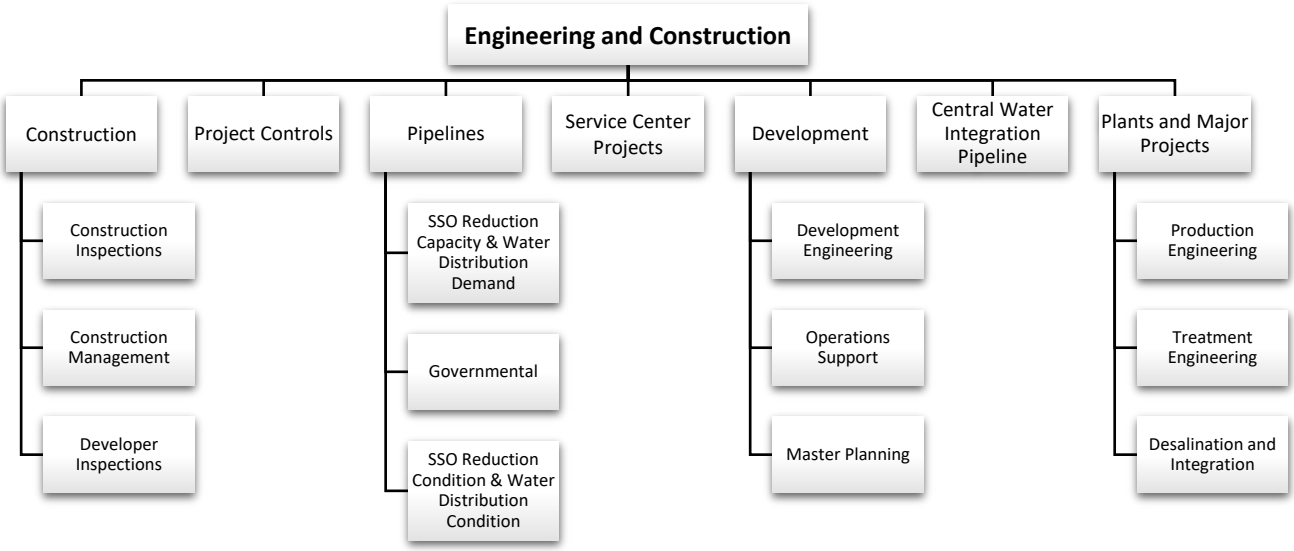
BOARD OF TRUSTEES AND PRESIDENT/CEO



ENGINEERING AND CONSTRUCTION

The Engineering and Construction Group coordinates the development and execution of SAWS Capital Improvements Program (CIP). The group performs engineering analysis of existing facilities and plans new infrastructure to meet the increasing water and wastewater demands of the growing community. The group also manages the design and construction of new and replacement water and wastewater infrastructure. The Engineering and Construction group is comprised of the following departments:

- **Construction** – Inspects water delivery, sewer, and water supply infrastructure construction projects.
- **Project Controls** – Oversees the CIP and supports Sanitary Sewer Overflow Reduction Program (SSORP) compliance through project execution. Project Controls focuses on cost, schedule, document and data management, quality control and compliance audits.
- **Pipelines** – Plans and coordinates design activities, and manages construction for new and rehabilitation water distribution and wastewater collection system projects. Coordinates the adjustments of SAWS facilities within public right of way (TxDOT, County and City) in accordance with the Governmental program.
- **Service Center Projects** – Manages the design and construction of new operation centers.
- **Development** – Manages impact fee program, develops water and wastewater master plans, coordinates infrastructure necessary for new development, and provides engineering support to Distribution & Collection and Production & Treatment groups.
- **Central Water Integration Pipeline** – Manages the design and construction of system improvements necessary to effectively integrate water from the Vista Ridge Pipeline Project into the existing SAWS system during all demand conditions.
- **Plants and Major Projects** – Plans and coordinates design activities for water supply integration projects, new water supply development, potable and recycled water production facilities, and wastewater treatment plants.



ENGINEERING AND CONSTRUCTION

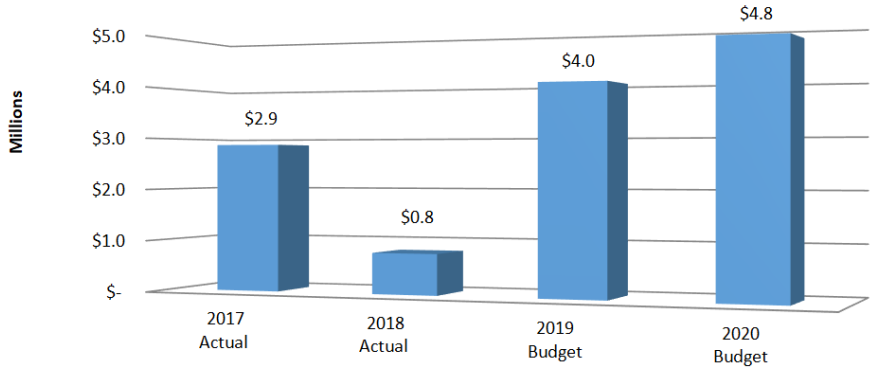
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 16,009	$ 16,337	$ 17,733	$ 18,544
Contractual Services	1,232	723	1,544	3,263
Materials and Supplies	80	71	69	68
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 17,321**	**$ 17,131**	**$ 19,346**	**$ 21,875**
Capitalized Cost	(14,458)	(16,348)	(15,329)	(17,074)
Total O&M	**$ 2,863**	**$ 783**	**$ 4,017**	**$ 4,801**
	-	-	-	-
Capital Outlay	**$ 9**	**$ 8**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Office of the VP - Engineering and Construction	$ 935	$ 1,207	$ 1,261	$ 1,227
Construction	6,140	6,015	6,563	6,907
Development	4,365	3,890	4,958	6,858
Pipelines	3,802	3,795	4,123	4,340
Plants and Major Projects	1,876	1,846	1,823	1,919
Vista Ridge Integration Project	203	378	618	624
O&M Before Capitalized Cost Total	**$ 17,321**	**$ 17,131**	**$ 19,346**	**$ 21,875**
Capitalized Cost	(14,458)	(16,348)	(15,329)	(17,074)
Grand Total	**$ 2,863**	**$ 783**	**$ 4,017**	**$ 4,801**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Construction	72.0	75.0	74.0	75.0
Development	43.0	45.0	44.5	44.5
Office of the VP - Engineering and Construction	3.0	7.0	11.5	10.5
Pipelines	38.0	48.0	45.0	45.0
Plants and Major Projects	22.5	18.5	17.5	17.5
Vista Ridge Integration Project	-	4.0	5.0	5.0
Total Full-Time Equivalent Positions	**178.5**	**197.5**	**197.5**	**197.5**

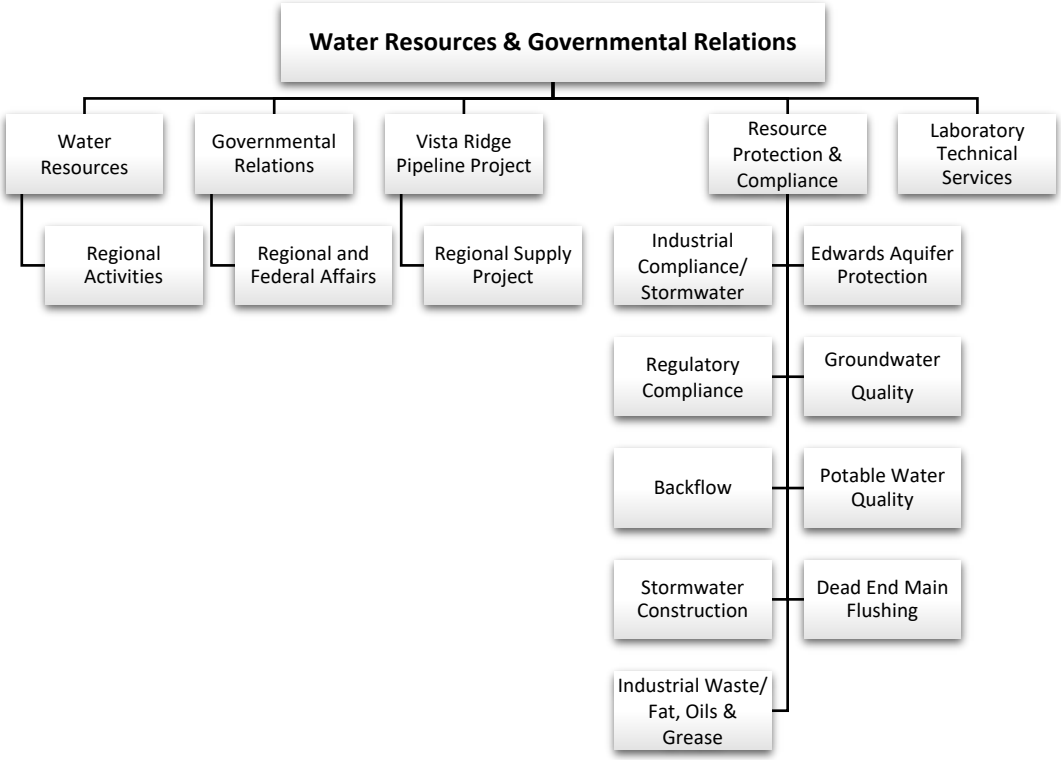
ENGINEERING AND CONSTRUCTION



WATER RESOURCES AND GOVERNMENTAL RELATIONS

The Water Resources and Governmental Relations Group is primarily responsible for development and management of water supplies, drought management and water rights acquisitions, as well as management of the Mitchell Lake Expanded Wetlands. The group consists of the following departments:

- **Water Resources** – Implements the SAWS' long-range Water Management Plan, through proactively managing existing supplies to ensure customer needs are met and leading efforts in the planning and development of new water supply opportunities to meet the city's population growth. Water Resources is also responsible for the marketing of the direct recycled water program as well as directing efforts to minimize non-revenue water and ensuring efficient use of water supplies.
- **Governmental Relations** – Identifies and manages critical issues that have public impact and require the attention of Executive Management. Manages key strategic policy issues and relationships with elected officials and agencies at the regional, state and federal levels.
- **Vista Ridge** – Manages SAWS' obligations and interests in a Public Private Partnership (P_3) contract with the Vista Ridge LLC for the annual supply of 50,000 acre-feet of a new, non-Edwards Aquifer source of water for San Antonio. SAWS staff monitors activities during the Construction and Operations phases of the contract.
- **Resource Protection & Compliance** – Ensures water quality of all sources are protected; enforces the regulatory requirements established to protect regional water quality; monitors best management practices at construction sites; utilizes an extensive sampling and monitoring network for compliance purposes and oversees the dead end main flushing and backflow testing activities.
- **Laboratory Technical Services** – The Lab is responsible for providing analytical services for all of SAWS water quality needs. The laboratory performs a wide variety of routine environmental tests to support the SAWS' water and wastewater activities. The Lab is accredited by the Texas Commission on Environmental Quality (TCEQ) under the National Environmental Laboratory Accreditation Program.



WATER RESOURCES AND GOVERNMENTAL RELATIONS

($ in thousands)

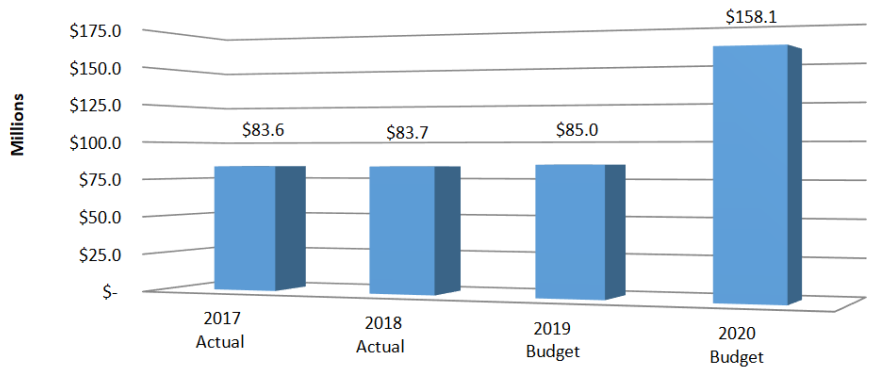
Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 10,358	$ 10,568	$ 10,942	$ 11,286
Contractual Services	72,538	72,560	73,527	146,222
State Lobbying Contracts*			191	189
Materials and Supplies	687	533	518	605
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 83,583**	**$ 83,660**	**$ 84,987**	**$ 158,114**
Capitalized Cost	(3)	(9)	-	-
Total O&M	**$ 83,580**	**$ 83,651**	**$ 84,987**	**$ 158,114**
	-	-	-	-
Capital Outlay	**$ 199**	**$ 169**	**$ 200**	**$ 200**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Environmental Laboratory Services	2,210	2,284	2,205	2,566
Governmental Relations	1,011	2,273	1,902	2,159
Resource Protection & Compliance	8,303	8,861	8,580	9,045
Vista Ridge	1,059	6,562	2,299	77,738
Water Resources Department	71,000	63,680	69,993	66,597
O&M Before Capitalized Cost Total	**$ 83,583**	**$ 83,660**	**$ 84,987**	**$ 158,114**
Capitalized Cost	(3)	(9)	-	-
Grand Total	**$ 83,580**	**$ 83,651**	**$ 84,987**	**$ 158,114**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Environmental Laboratory Services	20.0	20.0	20.0	23.0
Governmental Relations	6.0	5.0	5.0	5.0
Resource Protection & Compliance	93.0	91.0	91.0	91.0
Vista Ridge	4.0	5.0	5.0	4.0
Water Resources Department	9.00	10.00	10.00	7.00
Total Full-Time Equivalent Positions	**132.0**	**131.0**	**131.0**	**130.0**

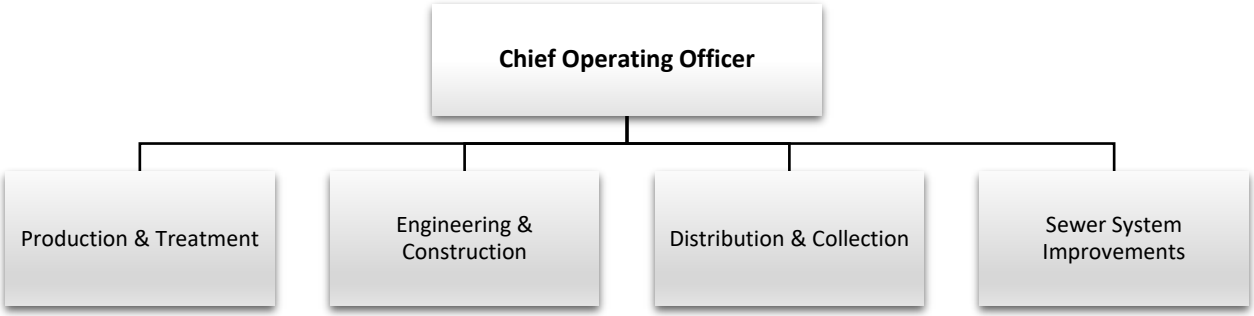
*In accordance with 86R House Bill 1495

WATER RESOURCES AND GOVERNMENTAL RELATIONS



OPERATIONS

The Operations Group is managed by the Sr. Vice President and Chief Operating Officer (COO). The COO oversees the Engineering & Construction, Distribution & Collection, Production & Treatment, and Sewer System Improvement Groups. The area is responsible for managing the operation and maintenance of the water distribution and wastewater collection systems, and the water and wastewater plants.



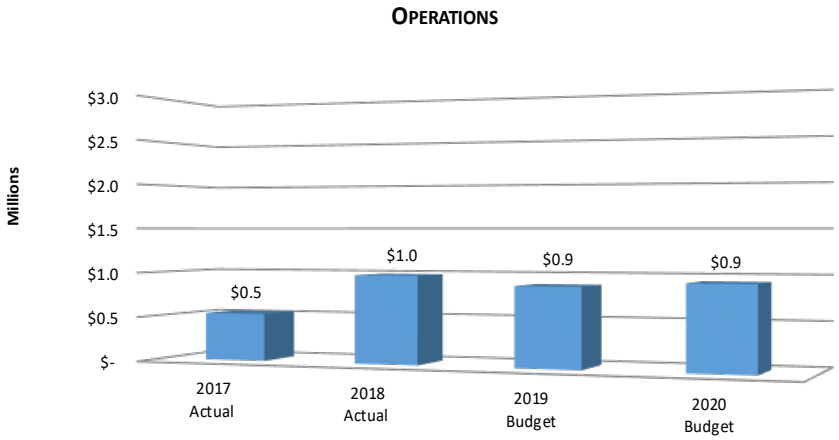
OPERATIONS

($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 740	$ 909	$ 870	$ 870
Contractual Services	97	67	10	60
Materials and Supplies	3	4	1	1
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 840**	**$ 980**	**$ 881**	**$ 931**
Capitalized Cost	(310)	-	-	-
Total O&M	**$ 530**	**$ 980**	**$ 881**	**$ 931**
	-	-	-	-
Capital Outlay	**$ -**	**$ -**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Ofc of Chief Operating Officer	$ 840	$ 980	$ 881	$ 931
O&M Before Capitalized Cost Total	**$ 840**	**$ 980**	**$ 881**	**$ 931**
Capitalized Cost	(310)	-	-	-
Grand Total	**$ 530**	**$ 980**	**$ 881**	**$ 931**

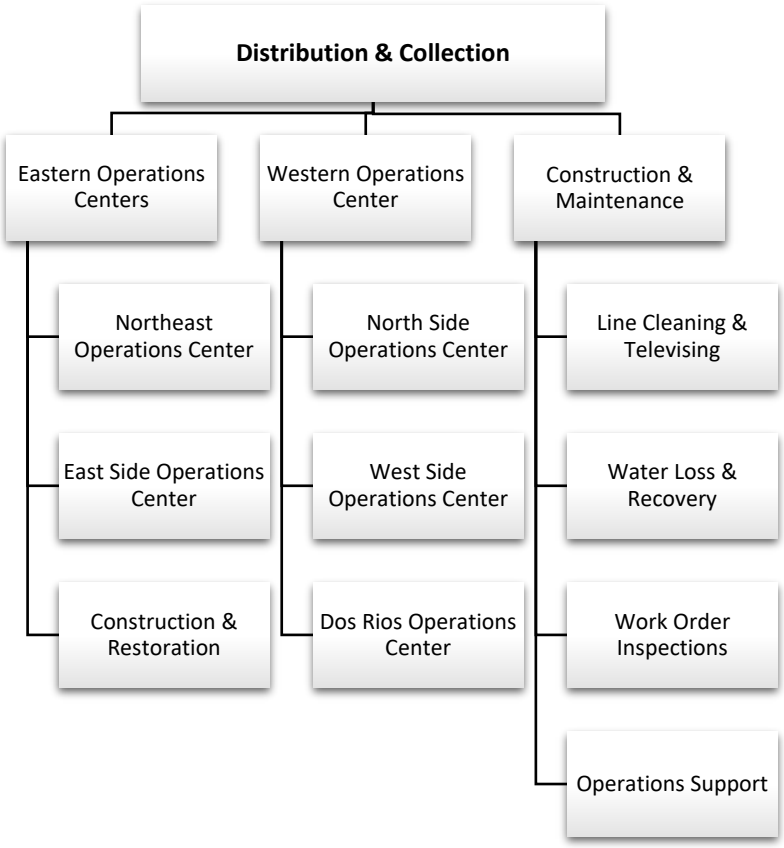
Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Ofc of Chief Operating Officer	5.0	4.0	6.0	6.0
Total Full-Time Equivalent Positions	**5.0**	**4.0**	**6.0**	**6.0**



DISTRIBUTION AND COLLECTION

The Distribution and Collection Group operates, maintains and repairs over 12,500 miles of water and sewer mains, approximately 120 miles of recycled water distribution lines, and 9 miles of chilled water lines ensuring our customers receive uninterrupted, quality water and associated services. This is accomplished by the following departments:

- **Operations Centers –** SAWS utility crews are mobilized from five strategically located operations centers throughout the city: Northeast, East Side, North Side, West Side, and Steven M. Clouse Water Recycling Center (South Side). SAWS operations centers are staffed with the necessary resources to properly repair and maintain underground water, wastewater, recycled water, and chilled water infrastructure throughout the SAWS service area.
- **Construction & Maintenance** – Repairs and proactively maintains the wastewater collection system, including line cleaning and televising to verify sewer infrastructure condition and pinpoint defects. Performs flowable fill backfills and concrete / asphalt restoration following pipeline repairs. Water Loss & Recovery oversees all meter repair resources and the proactive leak detection, valve assessment, and fire hydrant maintenance programs. Operations Support provides administrative support to departments within the group, including invoice processing, data management, service contract management, materials acquisition and notification services for maintenance crews. Operations Support also performs emergency and routine field investigations including utility locate services.



DISTRIBUTION AND COLLECTION

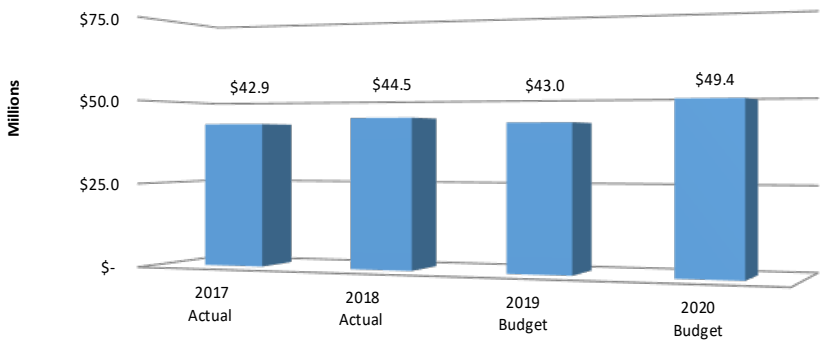
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 31,270	$ 33,627	$ 32,090	$ 33,060
Contractual Services	11,548	11,133	11,849	17,502
Materials and Supplies	5,862	6,305	6,331	6,130
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 48,680**	**$ 51,065**	**$ 50,270**	**$ 56,692**
Capitalized Cost	(5,807)	(6,517)	(7,253)	(7,267)
Total O&M	**$ 42,873**	**$ 44,548**	**$ 43,017**	**$ 49,425**
	-	-	-	-
Capital Outlay	**$ 59**	**$ 322**	**$ 125**	**$ 1,715**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Office of the VP - Distribution and Collection	$ 591	$ 637	$ 616	$ 1,133
Construction and Maintenance	26,181	25,022	25,159	27,287
Distribution and Collection Support Services	1,567	3,632	3,531	7,496
Eastern Service Centers	10,332	10,800	11,031	10,915
Western Service Centers	10,009	10,974	9,933	9,861
O&M Before Capitalized Cost Total	**$ 48,680**	**$ 51,065**	**$ 50,270**	**$ 56,692**
Capitalized Cost	(5,807)	(6,517)	(7,253)	(7,267)
Grand Total	**$ 42,873**	**$ 44,548**	**$ 43,017**	**$ 49,425**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Office of the VP - Distribution and Collection	5.0	4.0	4.0	7.0
Construction and Maintenance	206.0	217.0	216.0	211.0
Distribution and Collection Support Services	6.0	18.0	34.0	41.0
Eastern Service Centers	153.0	138.0	133.0	131.0
Western Service Centers	143.0	141.0	132.0	130.0
Total Full-Time Equivalent Positions	**513.0**	**518.0**	**519.0**	**520.0**

DISTRIBUTION AND COLLECTION

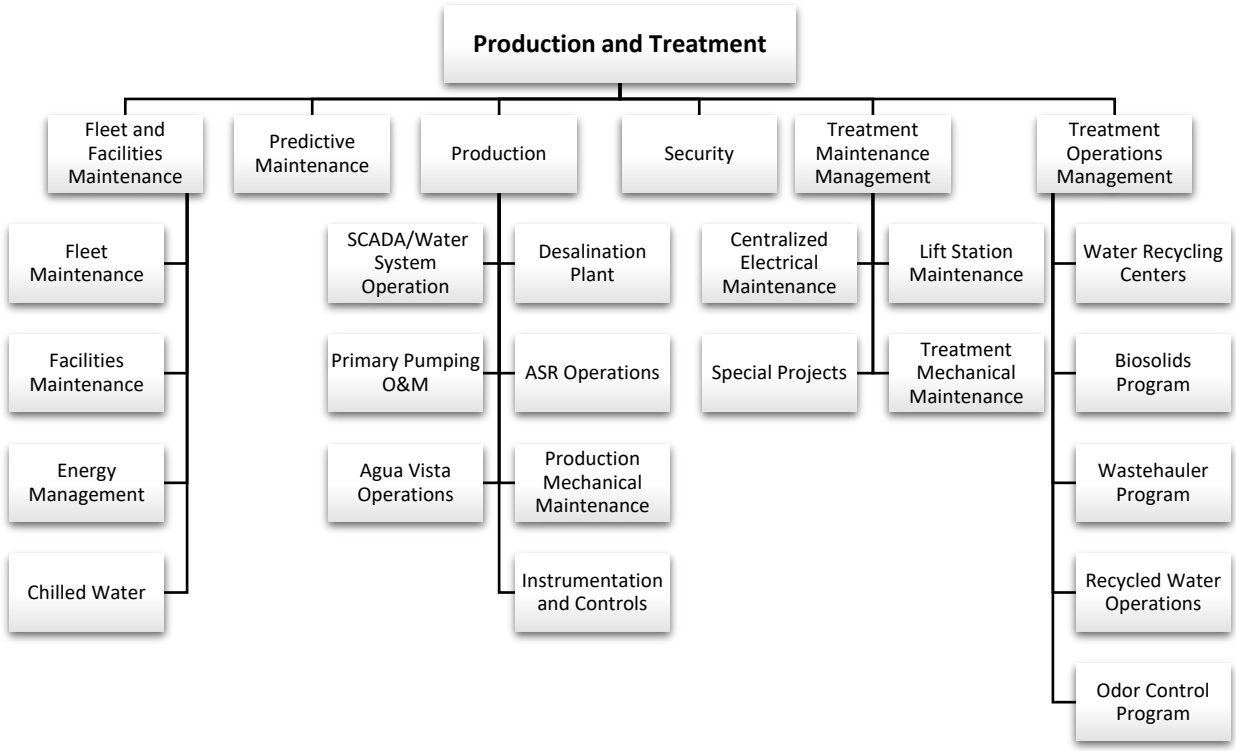


PRODUCTION AND TREATMENT

The Production and Treatment Group provides the essential function of managing the 24-hour-a-day operation of the water and wastewater system. The group is responsible for the production of potable water; treatment of wastewater for distribution in the recycle system or discharge; processing of wastewater biosolids for ultimate disposal; distribution of recycled water for reuse purposes; management of city wide odor control program; acquisition and maintenance of fleet vehicles and equipment; management and maintenance of facilities; centralized chilled water operations; and security of facilities and personnel. This group consists of the following departments:

- **Fleet & Facilities Maintenance** – Provides comprehensive maintenance services for all SAWS vehicles and equipment. Fleet also manages vehicle replacement and disposal. Facilities Maintenance provides building maintenance and management services at SAWS facilities. Additionally, Fleet & Facilities manages the Chilled Water plants serving customers downtown and at Port San Antonio. Fleet & Facilities also oversees the Office of Energy Management which manages the process for electric/gas services metering, bill review and payment for all SAWS activities.
- **Predictive Maintenance** – Manages and plans maintenance functions within the Production and Treatment group, as well as performs analysis to reduce critical infrastructure failures and ultimately improve systems.
- **Production** – Manages the production of potable water across SAWS service area. Operates SAWS potable water facilities, recycled water distribution, and H_2Oaks Facility operation, including the Aquifer Storage and Recovery operations. Also manages the Production Mechanical Maintenance unit and associated instrumentation and controls. This group will support the operation of the new Agua Vista Station, which will receive and treat Vista Ridge water for transmission into the SAWS distribution system.
- **Security** – Manages a proactive security program and associated support contracts for all SAWS facilities.
- **Treatment Maintenance Management** – Manages centralized maintenance of mechanical systems, and electrical systems for all SAWS production, treatment and lift station facilities to include the H_2Oaks Facility. The department is also responsible for maintenance of the recycled water outfalls, and special construction and repair projects across the system.
- **Treatment Operations Management –** Oversees all operations of the three water recycling centers, which includes biosolids processing to ensure proper recycling or disposal in compliance with state and federal regulations. Also manages the Waste Hauler program and the odor control program. Additionally, operates recycled water outfalls and environmental flows into rivers.

PRODUCTION AND TREATMENT



PRODUCTION AND TREATMENT

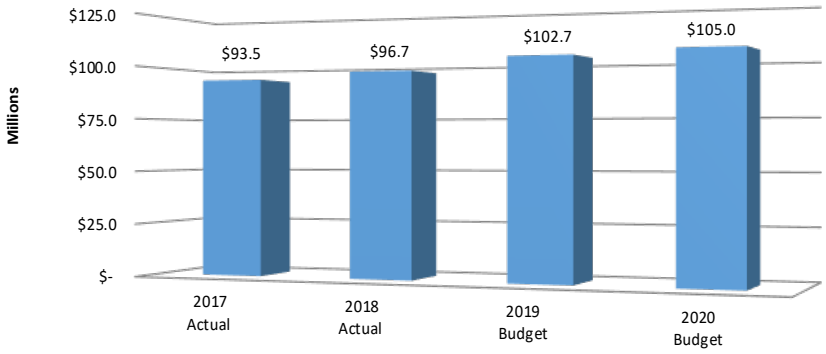
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 28,797	$ 29,609	$ 29,447	$ 31,330
Contractual Services	50,671	53,303	58,299	58,395
Materials and Supplies	15,668	15,797	15,919	17,231
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 95,136**	**$ 98,709**	**$ 103,665**	**$ 106,956**
Capitalized Cost	(1,620)	(1,973)	(941)	(2,000)
Total O&M	**$ 93,516**	**$ 96,736**	**$ 102,724**	**$ 104,956**
	-	-	-	-
Capital Outlay	**$ 8,188**	**$ 7,867**	**$ 6,971**	**$ 7,096**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Office of the VP - Production and Treatment	$ 347	$ 540	$ 486	$ 454
Ofc of Director - Production and Treatment	396	279	262	67
Chilled Water	6,322	6,007	5,942	5,866
Energy Management	283	291	281	279
Facilities	6,778	7,363	6,913	7,158
Fleet Management	8,634	9,804	9,321	9,351
Production	34,577	35,819	40,763	42,625
Security	3,458	3,329	3,486	4,436
Treatment Maintenance Management	13,236	14,046	14,958	15,346
Treatment Operations Management	21,105	21,231	21,253	21,374
O&M Before Capitalized Cost Total	**$ 95,136**	**$ 98,709**	**$ 103,665**	**$ 106,956**
Capitalized Cost	(1,620)	(1,973)	(941)	(2,000)
Grand Total	**$ 93,516**	**$ 96,736**	**$ 102,724**	**$ 104,956**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Office of the VP - Production and Treatment	2.0	2.0	2.0	2.0
Ofc of Director - Production and Treatment	2.0	3.0	2.0	1.0
Chilled Water	10.0	9.0	9.0	9.0
Energy Management	3.0	3.0	3.0	3.0
Facilities	41.0	39.0	38.0	40.0
Fleet Management	43.0	44.0	44.0	44.0
Production Department	91.0	72.0	87.0	95.0
Security	10.5	11.0	11.0	11.0
Treatment Maintenance Management	116.0	114.0	117.0	118.0
Treatment Operations Management	79.0	78.0	75.0	73.0
Total Full-Time Equivalent Positions	**397.5**	**375.0**	**388.0**	**396.0**

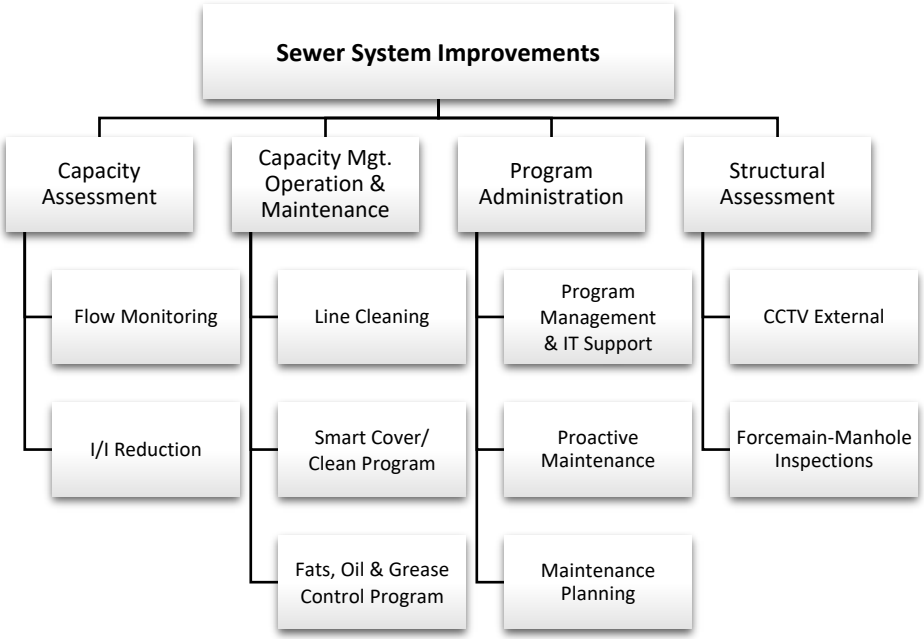
PRODUCTION AND TREATMENT



SEWER SYSTEM IMPROVEMENTS

The Sewer System Improvements Group is responsible for developing, implementing and administering various programs designed to reduce sanitary sewer overflows (SSO) in the wastewater collection and transmission system (WCTS). This is accomplished through the following functions:

- **Capacity Assessment** – Evaluates the capacity of the WCTS through flow monitoring and hydraulic modeling. Directs the Inflow/Infiltration (I/I) Reduction Program implemented to decrease excess flow from entering the WCTS during significant rain events.
- **Capacity Management Operation & Maintenance (CMOM) –** Executes a comprehensive program encompassing activities to optimize the performance of the WCTS, including a system-wide cleaning program, Smart Cover/Clean Program and Fats, Oils, and Grease Control Program.
- **Program Administration** – Directs the comprehensive Sewer System Improvement program activities related to SSO reduction. Provides overall data management to include reporting requirements pertaining to SSOs as well as the operations and maintenance of the WCTS.
- **Structural Sewer Assessment** – Coordinates and executes activities associated with inspecting, assessing and performing remedial measures associated with condition and capacity constraints in the WCTS.



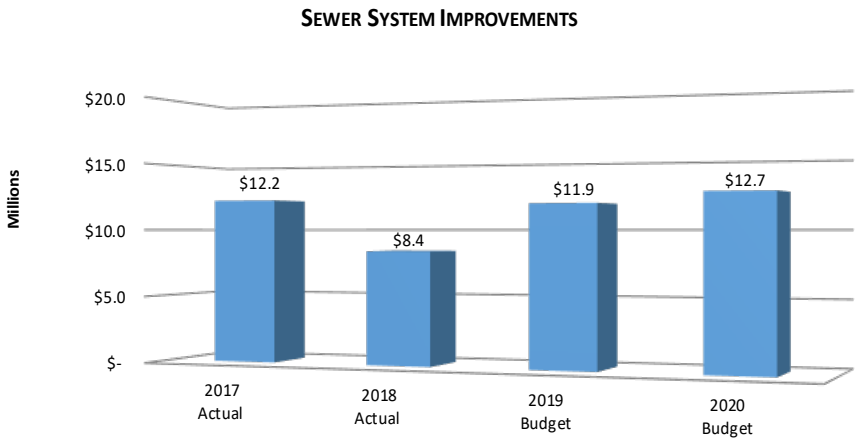
SEWER SYSTEM IMPROVEMENTS

($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 2,781	$ 2,823	$ 2,971	$ 3,125
Contractual Services	11,851	8,074	9,778	9,654
Materials and Supplies	73	84	47	57
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 14,705**	**$ 10,981**	**$ 12,796**	**$ 12,836**
Capitalized Cost	(2,477)	(2,565)	(888)	(150)
Total O&M	**$ 12,228**	**$ 8,416**	**$ 11,908**	**$ 12,686**
	-	-	-	-
Capital Outlay	**$ 4**	**$ 8**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Capacity Assessment	$ 1,402	$ 1,321	$ 1,010	$ 1,010
Capacity Mgt O&M (CMOM)	4,277	2,870	4,300	4,510
Program Administration	6,737	5,833	3,892	3,406
Structural Sewer Assessment	2,289	957	3,594	3,910
O&M Before Capitalized Cost Total	**$ 14,705**	**$ 10,981**	**$ 12,796**	**$ 12,836**
Capitalized Cost	(2,477)	(2,565)	(888)	(150)
Grand Total	**$ 12,228**	**$ 8,416**	**$ 11,908**	**$ 12,686**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Capacity Assessment	-	-	-	-
Capacity Mgt O&M (CMOM)	-	-	-	-
Program Administration	40.0	39.0	37.0	37.0
Structural Sewer Assessment	-	-	-	-
Total Full-Time Equivalent Positions	**40.0**	**39.0**	**37.0**	**37.0**

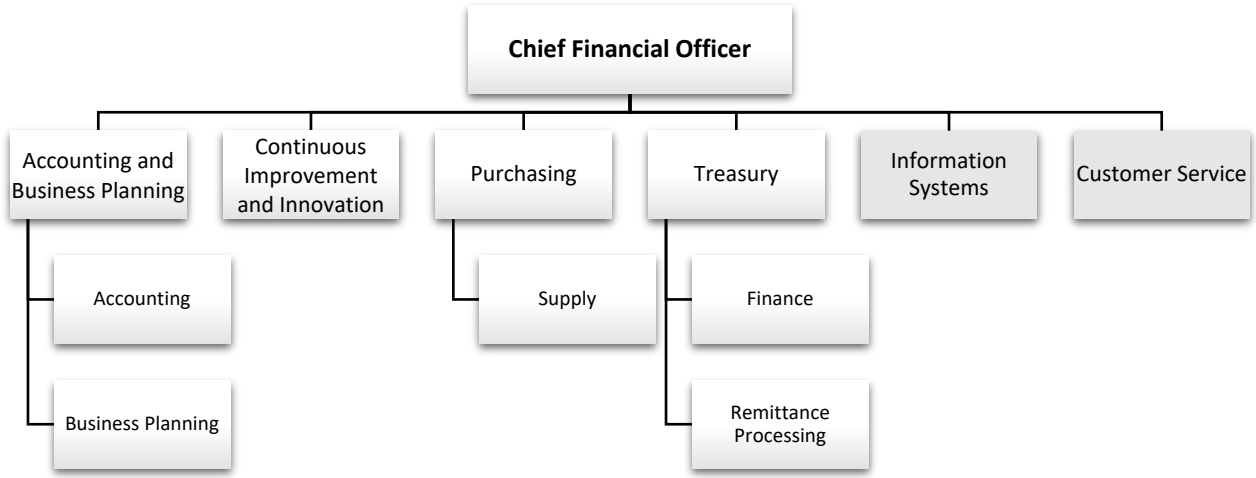


FINANCIAL SERVICES

The Financial Services Group is headed by the Sr. Vice President/Chief Financial Officer (CFO) and ensures the utility's efficient operation by effectively managing and reporting on the corporate financial position, ensuring financial compliance with current legal and regulatory requirements, and providing timely financial support, services and guidance to internal and external stakeholders. This is accomplished through the following functions:

- **Accounting and Business Planning:**
  - *Accounting* – Responsible for accurate and timely accounting and financial reporting through the General Accounting, Property Accounting, Payroll, and Accounts Payable units.
  - *Business Planning* – Ensures that SAWS' strategic objectives are financially supported through short and long range financial planning; annual budget planning and preparation; and rates analysis and development to provide revenues sufficient to support operating activities and capital improvement project implementation.
- **Continuous Improvement and Innovation –** Conducts business performance reviews and process analysis across the organization to streamline operations, maximizes budgetary resources, promotes efficiencies, enhances customer service and implements innovative management practices.
- **Purchasing** – Manages the processing and contracting of all procurement requests for materials, supplies and services. Also manages:
  - *Supply* – Oversees the inventory control process by organizing and managing the flow of materials inventory from their initial purchase to destination.
- **Treasury:**
  - *Finance* – Responsible for banking relationships, investment and debt management
  - *Remittance Processing* – Customer payment processing.

The CFO also oversees the Information Systems and Customer Service groups.



FINANCIAL SERVICES

($ in thousands)

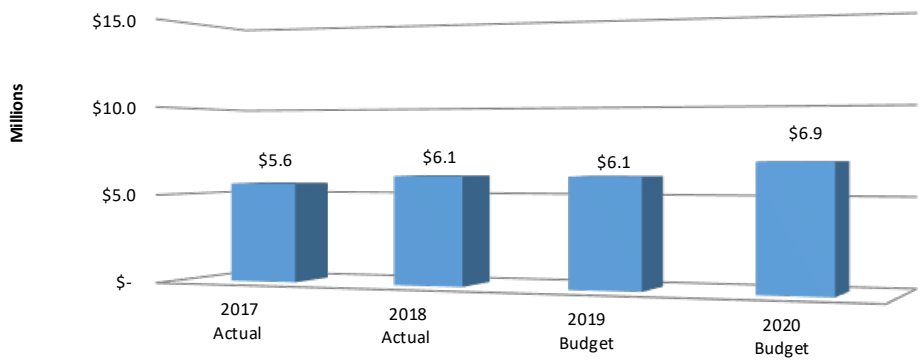
Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 5,834	$ 5,774	$ 6,069	$ 6,163
Contractual Services	499	511	583	828
Newspaper Published Notices*	18	34	15	15
Materials and Supplies	18	(29)	59	44
Other Charges	(1)	3	10	125
O&M Before Capitalized Cost Total	**$ 6,350**	**$ 6,259**	**$ 6,721**	**$ 7,160**
Capitalized Cost	(744)	(174)	(619)	(213)
Total O&M	**$ 5,606**	**$ 6,085**	**$ 6,102**	**$ 6,947**
	-	-	-	-
Capital Outlay	**$ 186**	**$ 271**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Office of the CFO	$ 410	$ 432	$ 413	$ 456
Accounting and Business Planning	2,677	2,706	2,624	3,195
Continuous Improvement and Innovation	544	510	735	440
Purchasing and Supply	1,766	1,782	1,961	1,986
Treasury	953	829	988	1,083
O&M Before Capitalized Cost Total	**$ 6,350**	**$ 6,259**	**$ 6,721**	**$ 7,160**
Capitalized Cost	(744)	(174)	(619)	(213)
Grand Total	**$ 5,606**	**$ 6,085**	**$ 6,102**	**$ 6,947**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Office of the CFO	2.0	2.0	2.0	2.0
Accounting and Business Planning	28.5	29.5	28.0	29.0
Continuous Improvement and Innovation	4.0	4.0	5.5	4.5
Purchasing and Supply	24.0	24.0	24.0	24.0
Treasury	11.0	11.0	11.0	10.0
Total Full-Time Equivalent Positions	**69.5**	**70.5**	**70.5**	**69.5**

*In accordance with 85R Senate Bill 622

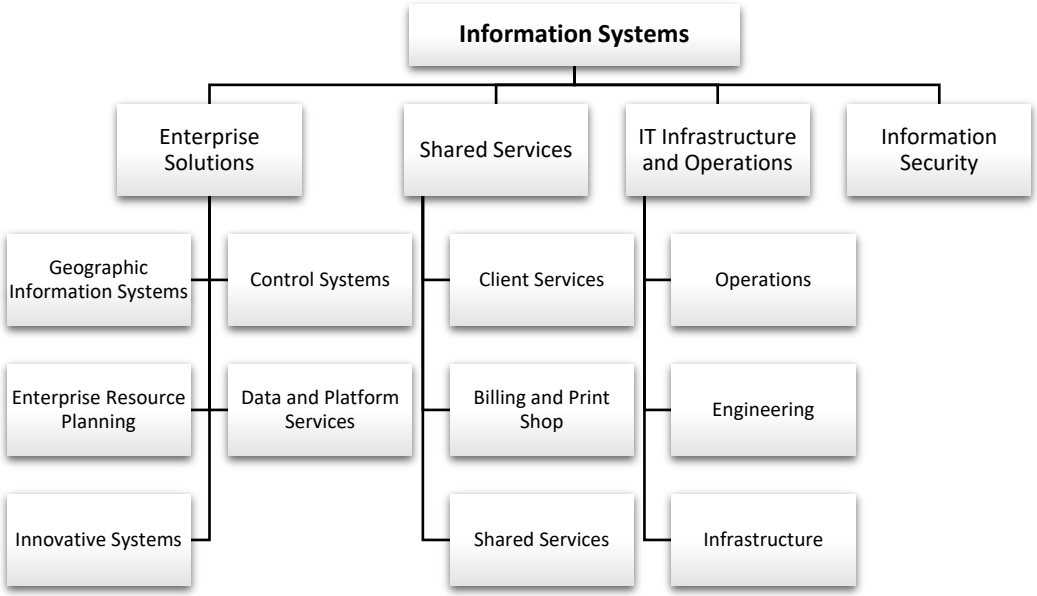
FINANCIAL SERVICES



INFORMATION SYSTEMS

SAWS Information Systems Group delivers quality, secure, cost-effective applications and information technology services, which promote innovation to sustain growth while enabling SAWS to better serve our valued customers. Information Systems teams include:

- **Enterprise Solutions:**
  - *Geographic Information Systems (GIS)* – Develops, analyzes and delivers geographic data and solutions related to SAWS infrastructure and activities.
  - *Control Systems* – Implements, monitors, and maintains supervisory control and data acquisition (SCADA) systems.
  - *Enterprise Resource Planning* – Responsible for the programming, configuration, implementation, support and sustainability for all major business support applications.
  - *Data and Platform Services* - Manages the enterprise data warehouse, business intelligence and GIS platforms to provide SAWS timely information for decision making.
  - *Innovative Systems* – Delivers rapid and effective development of innovative solutions for SAWS with a specific focus on improving customer experience through technology.
- **Shared Services** – Supports SAWS' technology initiatives through project life-cycle management, metrics-based tracking, business process re-engineering, quality control/assurance, and organizational change management.
  - *Client Services* – Supports workstation and related peripheral devices across SAWS, including desktop support services as well as technology, software orders and requisitions.
  - *Billing and Print Shop* – Provides computer operations and bill printing services as well as copy services.
- **IT Infrastructure and Operations:**
  - *Operations* – Manages telecommunication services including internet protocol (IP) telephony, teleconferencing, call center systems, interactive voice response systems, recording systems, digital radio systems and 911 systems.
  - *Engineering* – Provides network and internet services, including all aspects of network architecture and engineering, and wired and wireless network infrastructure for SAWS facilities.
  - *Infrastructure* – Responsible for all aspects of systems administration, database administration, systems software and hardware, the storage area network, backup and disaster recovery.
- **Information Security** – Responsible for developing, monitoring, and maintaining cyber security controls to protect the confidentiality, integrity, and availability of enterprise data and information systems assets.



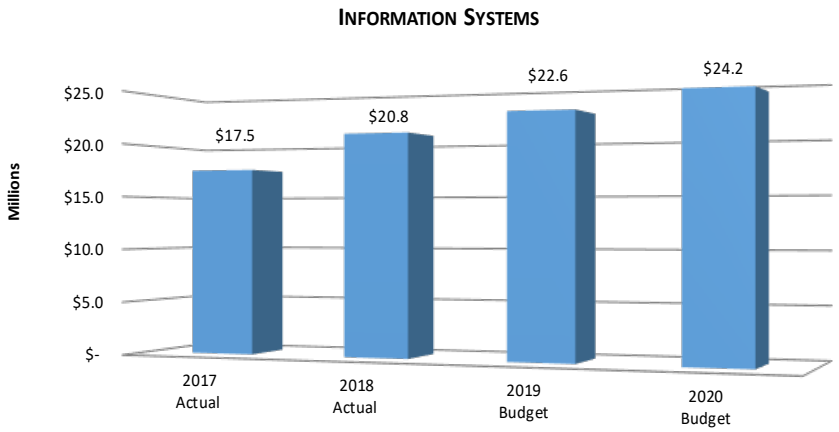
INFORMATION SYSTEMS

($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 9,270	$ 9,542	$ 10,475	$ 11,176
Contractual Services	11,067	12,661	12,881	14,086
Materials and Supplies	460	455	533	533
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 20,797**	**$ 22,658**	**$ 23,889**	**$ 25,795**
Capitalized Cost	(3,256)	(1,852)	(1,335)	(1,622)
Total O&M	**$ 17,541**	**$ 20,806**	**$ 22,554**	**$ 24,173**
	-	-	-	-
Capital Outlay	**$ 1,726**	**$ 2,200**	**$ 2,385**	**$ 2,635**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Office of the CIO	$ 698	$ 1,194	$ 1,987	$ 2,058
Enterprise Solutions	5,291	6,516	7,475	8,575
IT Infrastructure & Operations	7,204	7,158	7,558	8,474
Program Mgmt - IT Support	1,607	1,440	-	-
Shared Services	5,997	6,350	6,869	6,688
O&M Before Capitalized Cost Total	**$ 20,797**	**$ 22,658**	**$ 23,889**	**$ 25,795**
Capitalized Cost	(3,256)	(1,852)	(1,335)	(1,622)
Grand Total	**$ 17,541**	**$ 20,806**	**$ 22,554**	**$ 24,173**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Office of the CIO	3.0	4.0	12.0	12.0
Enterprise Solutions	48.0	41.0	35.0	36.0
IT Infrastructure & Operations	29.0	29.5	27.5	29.5
Program Mgmt - IT Support	5.00	5.00	-	-
Shared Services	23.50	23.00	28.00	28.00
Total Full-Time Equivalent Positions	**108.5**	**102.5**	**102.5**	**105.5**



CUSTOMER EXPERIENCE AND STRATEGIC INITIATIVES

The Customer Experience and Strategic Initiatives Group is responsible for providing the highest level of service to SAWS customers at all times, responding in the most expedient and professional manner possible. This group is also responsible for the accurate and timely billing of SAWS customers and the maintenance of customer accounts.

- **Billing and Customer Care** – Reviews the billing process for accuracy of all SAWS bills printed daily and resolves customer billing issues. Also handles all inbound telephone, electronic and in-person customer inquiries regarding billing, account information, service problems and payments.
- **Emergency Operations Center** – Manages the 24-hour emergency call center and reports/dispatches crews for water leaks, main breaks, and overall tactical responses to problems within the system.
- **Field Operations** – Responsible for meter reading, service turn-on/turn-off requests, and service investigations. Ensures service excellence through random verification of meter reads and reduces revenue loss through theft detection efforts.
- **Performance Analysis and Training** – Responsible for data analytics, training and process improvements throughout Customer Service.

CUSTOMER EXPERIENCE AND STRATEGIC INITIATIVES

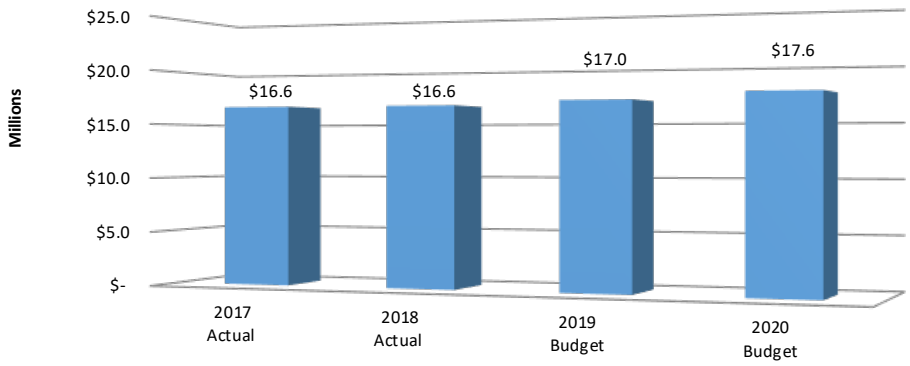
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 13,913	$ 14,353	$ 15,087	$ 15,120
Contractual Services	2,549	2,136	1,898	2,558
Materials and Supplies	150	139	146	145
Other Charges	2	-	3	4
O&M Before Capitalized Cost Total	**$ 16,614**	**$ 16,628**	**$ 17,134**	**$ 17,827**
Capitalized Cost	(3)	(22)	(149)	(225)
Total O&M	**$ 16,611**	**$ 16,606**	**$ 16,985**	**$ 17,602**
	-	-	-	-
Capital Outlay	**$ 15**	**$ 9**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Customer Service Administration	$ 562	$ 646	$ 485	$ 540
Automated Metering Infra. (AMI)	293	13	219	613
Billing and Customer Care	7,137	7,127	7,392	7,432
Emergency Operations Center	1,295	1,327	1,449	1,453
Field Operations	6,217	6,338	6,386	6,677
Performance Analysis and Training	461	604	560	468
Quality and Revenue Protection	649	573	643	644
O&M Before Capitalized Cost Total	**$ 16,614**	**$ 16,628**	**$ 17,134**	**$ 17,827**
Capitalized Cost	(3)	(22)	(149)	(225)
Grand Total	**$ 16,611**	**$ 16,606**	**$ 16,985**	**$ 17,602**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Customer Service Administration	2.0	3.0	2.0	3.0
Automated Metering Infra. (AMI)	-	-	1.0	3.0
Billing and Customer Care	145.5	141.5	139.5	139.5
Emergency Operations Center	17.0	37.0	22.0	22.0
Field Operations	100.0	95.0	95.0	93.0
Performance Analysis and Training	5.0	7.0	7.0	6.0
Quality and Revenue Protection	8.00	11.00	10.00	10.00
Total Full-Time Equivalent Positions	**277.5**	**294.5**	**276.5**	**276.5**

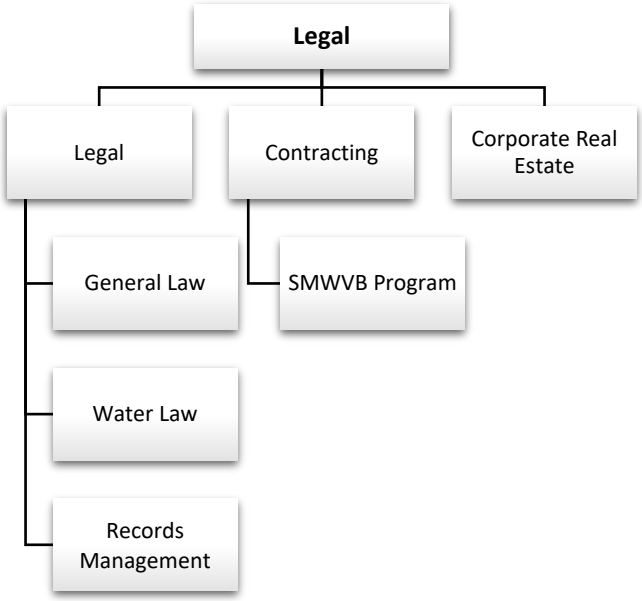
CUSTOMER EXPERIENCE AND STRATEGIC INITIATIVES



LEGAL

The Legal Group consists of the Legal Services Department, the Contracting Department, the Corporate Real Estate Department, and Records Management Department, whose functions are described below:

- **Legal Services** – Provides full service, in-house legal support to the SAWS' Board of Trustees, Executive Management and staff, and manages the activities of outside legal counsel. The range of in-house legal expertise includes water resources, labor and employment, litigation management, real estate, general transactional, environmental and public law.
- **Contracting** – Manages the administration of all construction and professional services contracts and oversees administration of the SAWS Small, Minority and Women and Veteran Owned Business Program (SMWVB).
- **Corporate Real Estate** – Responsible for property acquisitions, dispositions, and lease management activities. Supports all construction and maintenance activities by obtaining all rights of entry and easements.
- **Records Management** – Manages all utility records in compliance with the Texas Local Government Records Act, Texas Public Information Act and best records management practices.



LEGAL

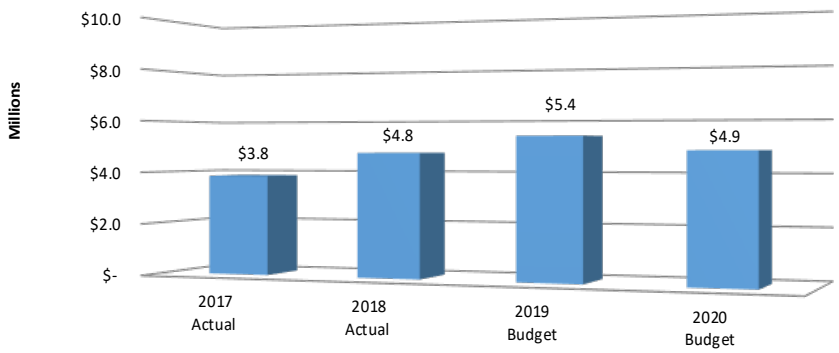
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 4,106	$ 4,274	$ 4,370	$ 4,424
Contractual Services	1,511	2,273	3,617	2,468
Materials and Supplies	16	18	25	25
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	**$ 5,633**	**$ 6,565**	**$ 8,012**	**$ 6,917**
Capitalized Cost	(1,792)	(1,815)	(2,617)	(2,054)
Total O&M	**$ 3,841**	**$ 4,750**	**$ 5,395**	**$ 4,863**
	-	-	-	-
Capital Outlay	**$ 4**	**$ -**	**$ 4**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Contracting	$ 1,409	$ 1,468	$ 1,536	$ 1,687
Corporate Real Estate	567	545	587	590
Legal	3,657	4,552	5,889	4,640
O&M Before Capitalized Cost Total	**$ 5,633**	**$ 6,565**	**$ 8,012**	**$ 6,917**
Capitalized Cost	(1,792)	(1,815)	(2,617)	(2,054)
Grand Total	**$ 3,841**	**$ 4,750**	**$ 5,395**	**$ 4,863**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Contracting Department	17.0	16.0	16.0	16.0
Corporate Real Estate Department	8.0	7.0	6.0	6.0
Legal Department	14.5	15.5	16.5	15.5
Total Full-Time Equivalent Positions	**39.5**	**38.5**	**38.5**	**37.5**

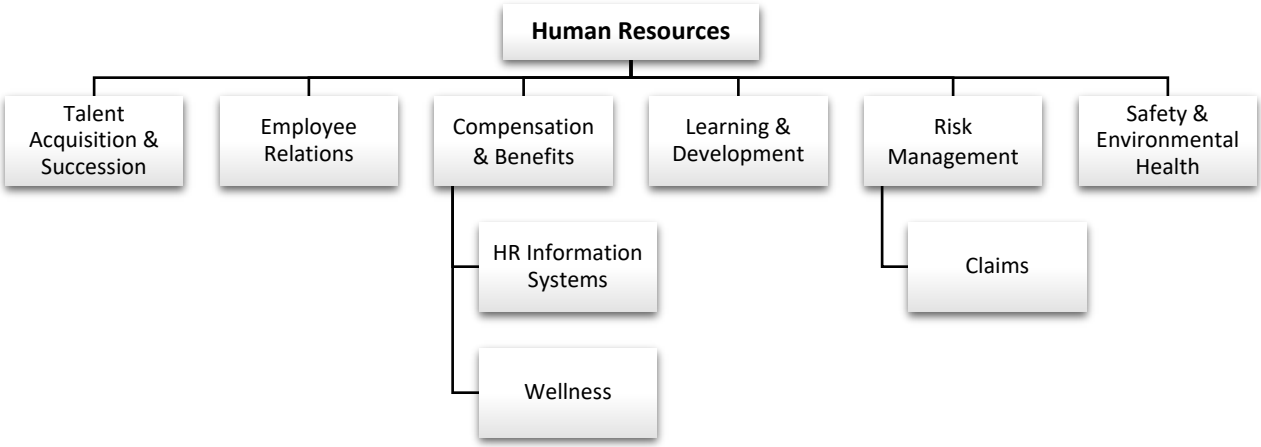
LEGAL



HUMAN RESOURCES

The Human Resources Group is committed to attracting and retaining a workforce of qualified employees to achieve the goals and mission of SAWS. SAWS' core values of Excellence, Integrity, and Respect are supported by developing and implementing comprehensive, innovative and proactive programs in employee relations and development, total compensation, benefits and wellness, and risk management and workplace safety. The group promotes continuous personal and professional growth for employees by focusing on the following areas:

- **Talent Acquisition & Succession** – Proactively implements recruitment strategies to attract, secure and retain top talent for SAWS. Recruits employee resources required by all administrative and operational areas. Forecasts and assists organizational areas with succession management.
- **Employee Relations** – Provides proactive assistance to employees and supervisors regarding the interpretation and implementation of policies, procedures and directives. Provides direction and oversight for a variety of employment matters, including performance and disciplinary issues, investigations into formal complaints and other workplace concerns.
- **Compensation & Benefits** – Develops and manages the employees' compensation, benefit and wellness programs, balancing competitiveness and cost efficiency for these plans and programs. Responsible for the plan development and fiscal accountability of all medical and prescription plans, pension programs, wellness initiatives, and oversees the administration of these plans and programs.
- **Learning & Development** – Develops strategies and designs for organizational development, talent and performance management, employee engagement, and change management functions. Manages learning initiatives around a continuous cycle of needs analysis, design, project management, delivery, and evaluation. Helps lead culture change through processes that support organizational learning, including the continual enhancement of the performance evaluation process.
- **Risk Management** – Manages all facets of the comprehensive commercial insurance program including administration of premises risk assessments. Administers all workers' compensation, casualty and subrogation claims.
- **Safety & Environmental Health** – Coordinates all workplace safety activities to ensure a safe environment for employees. Partners with organizational management in anticipating safety challenges and exploring opportunities for improvement.



HUMAN RESOURCES

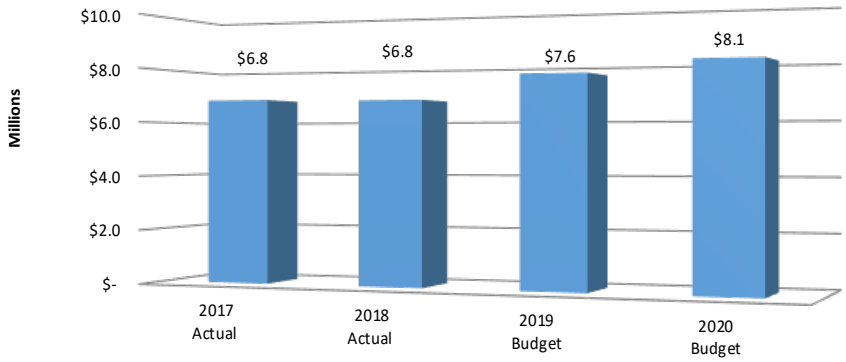
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 4,039	$ 4,171	$ 4,671	$ 5,032
Contractual Services	1,578	1,533	1,669	1,644
Materials and Supplies	29	54	52	67
Other Charges	1,223	1,003	1,319	1,329
O&M Before Capitalized Cost Total	**$ 6,869**	**$ 6,761**	**$ 7,711**	**$ 8,072**
Capitalized Cost	(58)	-	(65)	-
Total O&M	**$ 6,811**	**$ 6,761**	**$ 7,646**	**$ 8,072**
	-	-	-	-
Capital Outlay	**$ 2**	**$ 48**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Human Resources	$ 4,025	$ 4,168	$ 4,755	$ 4,743
Risk Management	2,844	2,593	2,956	2,253
Safety and Environmental Health	-	-	-	1,076
O&M Before Capitalized Cost Total	**$ 6,869**	**$ 6,761**	**$ 7,711**	**$ 8,072**
Capitalized Cost	(58)	-	(65)	-
Grand Total	**$ 6,811**	**$ 6,761**	**$ 7,646**	**$ 8,072**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Human Resources	26.0	28.0	32.0	31.0
Risk Management	18.0	18.0	17.0	9.0
Safety and Environmental Health	-	-	-	10.0
Total Full-Time Equivalent Positions	**44.0**	**46.0**	**49.0**	**50.0**

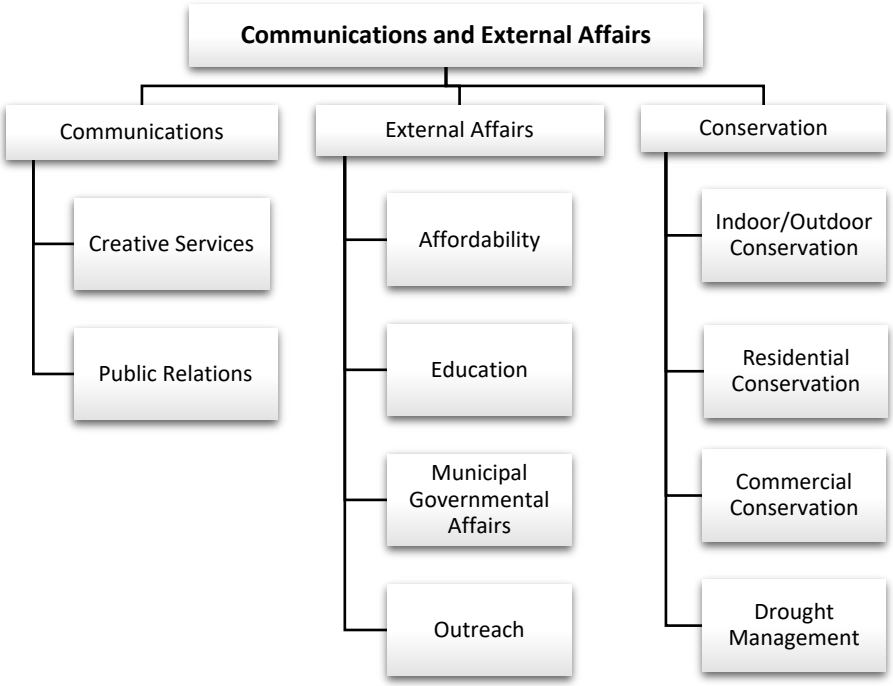
HUMAN RESOURCES



COMMUNICATIONS AND EXTERNAL AFFAIRS

The Communications and External Affairs Group engages in proactive strategic outreach and partnerships to inform and involve SAWS customers and stakeholders, driving the image and success of the organization. This is accomplished through:

- **Communications** – Manages and directs mass communications efforts through the following departments:
  - *Creative Services* – Develops the creative content for all internal and external communication efforts including newsletters, brochures, website and advertisements.
  - *Public Relations* – Manages news media relations for accuracy and appropriate messaging in news coverage concerning SAWS. Coordinates community events, manages social media content and directs advertising to promote awareness of SAWS programs, projects and image.
- **External Affairs** – Manages outreach efforts with customers, neighborhood and civic leaders, and San Antonio City Council members. Implements the SAWS Affordability Program that aids economically disadvantaged customers so that they have access to water and sewer services. Develops and conducts adult and youth educational programs to inform and promote water awareness in our community.
- **Conservation** – Delivers nationally recognized programs that achieve cost-effective water savings while enhancing quality of life. San Antonio's cheapest source of water is conservation – water not used. To help keep rates affordable, SAWS aggressively promotes efficient commercial and residential water use through education, outreach, incentives and drought ordinance rules.



COMMUNICATIONS AND EXTERNAL AFFAIRS

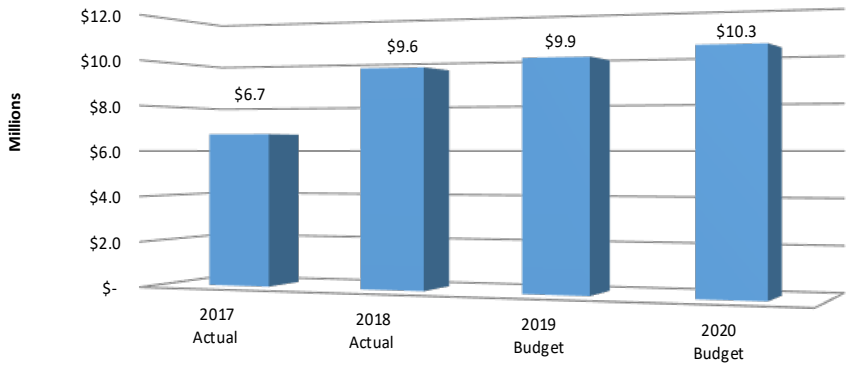
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 3,738	$ 4,124	$ 4,268	$ 4,610
Contractual Services	2,897	5,403	5,544	5,608
Materials and Supplies	106	48	70	59
Other Charges	-	-	15	15
O&M Before Capitalized Cost Total	**$ 6,741**	**$ 9,575**	**$ 9,897**	**$ 10,292**
Capitalized Cost	-	-	-	-
Total O&M	**$ 6,741**	**$ 9,575**	**$ 9,897**	**$ 10,292**
	-	-	-	-
Capital Outlay	**$ 3**	**$ 6**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Communications Administration	$ 551	$ 617	$ 593	$ 621
Communications	1,280	1,466	1,566	1,601
Conservation	3,453	5,401	5,700	5,793
External Relations	1,457	2,091	2,038	2,277
O&M Before Capitalized Cost Total	**$ 6,741**	**$ 9,575**	**$ 9,897**	**$ 10,292**
Capitalized Cost	-	-	-	-
Grand Total	**$ 6,741**	**$ 9,575**	**$ 9,897**	**$ 10,292**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Communications Administration	4.0	4.0	5.0	5.0
Communications	10.0	9.0	8.5	8.5
Conservation Department	24.4	24.4	24.0	24.0
External Relations	8.5	9.5	12.0	14.0
Total Full-Time Equivalent Positions	**46.9**	**46.9**	**49.5**	**51.5**

COMMUNICATIONS AND EXTERNAL AFFAIRS



OTHER REQUIREMENTS

Other Requirements has been established to account for operations and maintenance expenses that relate to the overall organization and are difficult to associate with specific departments. These expenses affect all departments across the organization and are accumulated within this department to facilitate the budgeting and accounting process. Specifically, they include funds for merit pay increases, dependent medical insurance, workers' compensation, unemployment compensation, accrued vacation leave, leave buyback, and post-retirement medical benefits.

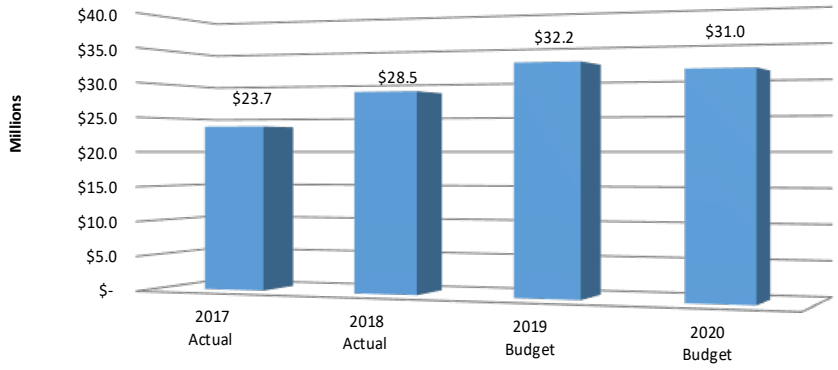
($ in thousands)

Expenditures by Type	2017 Actual	2018 Actual	2019 Budget	2020 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	$ 17,311	$ 19,444	$ 21,818	$ 21,067
Contractual Services	127	417	330	330
Materials and Supplies	-	-	-	-
Other Charges	7,930	8,949	10,276	10,506
O&M Before Capitalized Cost Total	**$ 25,368**	**$ 28,810**	**$ 32,424**	**$ 31,903**
Capitalized Cost	(1,692)	(334)	(207)	(895)
Total O&M	**$ 23,676**	**$ 28,476**	**$ 32,217**	**$ 31,008**
	-	-	-	-
Capital Outlay	**$ -**	**$ -**	**$ -**	**$ -**

Expenditures by Department	2017 Actual	2018 Actual	2019 Budget	2020 Budget
Other Requirements	$ 25,369	$ 28,813	$ 32,422	$ 31,903
O&M Before Capitalized Cost Total	**25,369**	**28,813**	**32,422**	**31,903**
Capitalized Cost	(1,692)	(334)	(207)	(895)
Grand Total	**$ 23,676**	**$ 28,476**	**$ 32,217**	**$ 31,008**

Full-time Equivalent Positions	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Other Requirements	7.0	5.0	4.0	4.0
Total Full-Time Equivalent Positions	**7.0**	**5.0**	**4.0**	**4.0**

OTHER REQUIREMENTS



FULL TIME EQUIVALENT POSITIONS

The 2020 Budget includes funding for 1,890 full-time equivalent (FTE) positions. This represents an increase of 11 authorized FTE positions from the 1,879 FTE positions budgeted in 2019.

A total of 17 new FTE positions were added to the 2020 Budget:

- 6 Operational positions to support the Agua Vista Treatment facility
- 4 positions required to support the AMI (Advanced Metering Infrastructure) pilot project and the anticipated long-term implementation of AMI
- 3 Environmental Laboratory positions to support additional sampling and analyses necessary for the Vista Ridge Pipeline Project
- 2 Affordability Specialist positions to provide dedicated community outreach related to various UpLift programs
- 2 custodial positions, which will allow SAWS to replace contract maintenance services at a lower cost

Six existing, vacant FTE positions were eliminated in the 2020 Budget, resulting in a net increase of 11 FTE positions.

The following table shows the distribution of funded FTE positions within each SAWS organizational unit authorized in each budget year from 2017 through 2020. Periodically, FTE positions and resources are reallocated among different areas of the organization in order to better meet changing needs. In such instances, where possible, prior year authorized FTE position levels have been restated, as reflected in the table shown below, to be consistent with the current year organizational structure.

	2017 Budget	2018 Budget	2019 Budget	2020 Budget
Board of Trustees and Pres/CEO	10.0	10.0	10.0	9.0
Engineering and Construction	178.5	197.5	197.5	197.5
Water Resources and Governmental Relations	132.0	131.0	131.0	130.0
Operations	5.0	4.0	6.0	6.0
Distribution and Collection	513.0	518.0	519.0	520.0
Production and Treatment	397.5	375.0	388.0	396.0
Sewer System Improvements	40.0	39.0	37.0	37.0
Financial Services	69.5	70.5	70.5	69.5
Information Systems	108.5	102.5	102.5	105.5
Customer Experience and Strategic Initiatives	277.5	294.5	276.5	276.5
Legal	39.5	38.5	38.5	37.5
Human Resources	44.0	46.0	49.0	50.0
Communications and External Affairs	46.9	46.9	49.5	51.5
Other Requirements	7.0	5.0	4.0	4.0
Total	**1,868.9**	**1,878.4**	**1,879.0**	**1,890.0**

CAPITAL IMPROVEMENT PROGRAM

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CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program (CIP) is a planning and budgeting tool that provides information about SAWS infrastructure needs. It identifies requirements for sustaining, restoring and modernizing the facilities and infrastructure that support water supply and delivery, wastewater collection and treatment, and chilled water requirements in the SAWS service area. It also prioritizes and schedules projects for funding and execution through a multi-year plan.

The CIP supports four core businesses: Water Supply, Water Delivery, Wastewater and Chilled Water. Water Supply CIP consists of projects to develop long term water supplies from surface and groundwater sources, including any transmission pipelines required to deliver these water supplies to SAWS service area. Water Delivery provides for the expansion, improvement and replacement of infrastructure required to produce and deliver water to the customer while wastewater CIP focuses on infrastructure for the collection and treatment of wastewater. Chilled Water CIP provides for the expansion, improvement and replacement of infrastructure required to generate and deliver chilled water to customers in the downtown and Port San Antonio areas.

The 2020 CIP program totals $608.9 million and is summarized in the table below.

($ in millions)	Water Supply	Water Delivery	Wastewater	Chilled Water	Total
Sources of Funds					
System Revenues	$ 71.1	$ 60.8	$ 83.6	$ -	$ 215.5
Capital Recovery Fees	29.0	30.0	30.0	-	89.0
Debt Proceeds	-	4.0	299.1	1.3	304.4
Total Sources of Funds	**$ 100.1**	**$ 94.8**	**$ 412.7**	**$ 1.3**	**$ 608.9**
Uses of Funds					
Corporate		12.9	23.4	-	$ 36.3
Water Resources	100.1				100.1
Collection Facilities			11.3		11.3
Governmental		31.1	20.6		51.7
Mains - New		9.8	6.2		16.0
Main Replacements		25.0	329.0		354.0
Production		16.0			16.0
Treatment			22.2		22.2
Chilled Water				1.3	1.3
Total Uses of Funds	**$ 100.1**	**$ 94.8**	**$ 412.7**	**$ 1.3**	**$ 608.9**

The 2020 Water Supply program totals $100.1 million and includes $93.4 million for Phase 2 of the Water Resources Integration Program (WRIP), which completes the pump station and pipeline infrastructure necessary to expand the WRIP's water delivery capacity from the current 45 million gallons per day (MGD) to 75 MGD. This phase also provides a means for an additional recharge of up to 35 MGD of Edwards Aquifer water into the Aquifer Storage and Recovery facility.

The 2020 Water Delivery program totals $94.8 million for production facilities upgrades, replacements and expansion as well as water main replacement. The level of investment in Water Delivery infrastructure for 2020 remains consistent (0.4% higher) with the SAWS average annual investment in Water Delivery infrastructure over the last five years.

The 2020 Wastewater program totals $412.7 million and represents the largest single year investment in SAWS wastewater infrastructure. The vast majority of the 2020 Wastewater program focuses on the rehabilitation and

replacement of wastewater mains identified through the SAWS Sanitary Sewer Overflow Reduction Program (SSORP). These projects have been prioritized and scheduled to meet the requirements of SAWS Consent Decree with the federal government. The single largest of the SSORP projects in 2020 is the W-6 Upper Segment Highway 90 to S.W. Military Drive Sewer Main project at $217.9 million. The project involves replacing the existing sewer infrastructure that currently runs through Lackland Air Force Base. The new infrastructure will be built around the base.

The 2020 Chilled Water program totals $1.3 million and includes a $1.1 million project that will replace and upsize the aging chilled water pipeline along the South Alamo Street right of way.

The overall funding split for the 2020 water production and delivery and the wastewater collection and treatment program is 78% repairs and replacements and 22% additional capacity to support new growth and development.

SIGNIFICANT NON-ROUTINE CAPITAL EXPENDITURES

The majority of SAWS' CIP projects provide for routine, ongoing expenditures for major repair or replacement of infrastructure. Projects that are typically "one time" in nature and involve the development of a new water supply, the construction of new water production or wastewater treatment facilities or the acquisition of new technology that enhances service delivery could be considered significant non-routine capital expenditures.

Two projects discussed above may be considered significant one-time expenditures: (1) Phase 2 of the Water Resources Integration Program (WRIP) at $93.4 million which completes the pump station and pipeline infrastructure necessary to expand the WRIP's water delivery, and (2) the W-6 Upper Segment Highway 90 to S.W. Military Drive Sewer Main project at $217.9 million, which replaces a major sewer main that runs through Lackland Air Force Base.

2020 Capital Improvement Plan Summary

Core Business	*CIP Category / Project Title*	*Phase*	*Programmed Amount (1)*
Water Delivery			
	Corporate		
	General Legal Services	Acquisition	192,750
	CIP Program Management Software	Acquisition	77,100
	Facility & Fuel Remediation at Van Dyke Service Center	Construction	294,522
	Owner Controlled Construction Changes (OCCC)	Construction	1,587,510
	Overhead		10,750,000
	Corporate Total		**12,901,882**
	Mains - New		
	30-inch Water Main along Lockhill-Selma to DeZavala EST	Design	585,960
	New Water Main on Brightwood Place	Construction	462,600
	Canyon Golf Water Main PZ 1380 to PZ 1400	Design	239,627
	Canyon Golf & Wilderness Oak 30-inch Water Main	Design	138,780
	Highway 90 and General McMullen Pressure Zone Integration	Construction	4,762,139
	Water Main Oversizing	Construction	3,598,000
	Mains - New Total		**9,787,106**
	Mains - Replacement		
	Governmental Mains	Construction	31,148,400
	Dead End Main Elimination via Looping	Construction	1,028,000
	Water Main Replacement	Construction	6,682,000
	Water Main Replacement Geotechnical Services Contract	Design	102,800
	Valves, Services and Meter Replacements	Construction	16,191,000
	Water Main Replacement Work Order Engineering Contract	Design	976,600
	Mains - Replacement Total		**56,128,800**
	Production		
	Broadband Access Pts. & Prog. Logic Controllers Rplmt. – Phase 3	Construction	3,084,000
	DeZavala Storage Tank	Design	1,644,800
	Dietrich Storage Tank	Construction	6,104,058
	King Street Pump Station Rehabilitation	Design	801,840
	Mission Pump Station Additional Well	Design	904,640
	Ranch Town #2 Booster Pump Station Rehab	Design	565,400
	Production Facilities Construction Work Order Contract	Construction	514,000
	Production Facilities Engineering Work Order Contract	Design	514,000
	Pump Station Rehabilitation Phase 9 - Marbach	Design	1,819,560
	Production Total		**15,952,298**
Water Delivery Total			**$ 94,770,086**
Wastewater			
	Corporate		
	General Legal Services	Acquisition	$ 398,350
	CIP Program Management Software	Acquisition	77,100
	Facility & Fuel Remediation at Van Dyke Service Center	Construction	294,522
	Owner Controlled Construction Changes (OCCC)	Constructiion	7,903,925
	Overhead	Overhead	14,750,000
	Corporate Total		**23,423,897**
	Collection Facilities		
	LS 11 (Feathercrest) and 111 (Stone Ridge) Upgrades	Construction	11,308,000
	Collection Facilities Total		**11,308,000**
	Mains - New		
	New Northeast Service Center-Lift Station and Sewer Main	Construction	1,028,000
	Sewer Main Oversizing	Construction	5,140,000
	Mains - New Total		**6,168,000**

(1) Includes 2.8% projected inflation

2020 Capital Improvement Plan Summary

CIP Category / Project Title	Phase	Programmed Amount (1)
Wastewater *(continued)*		
Mains - Replacement		
E-4 Bulverde Area Sewer Capacity Relief and Storage at Loop 1604	Construction	10,280,000
Governmental Mains	Construction	20,560,000
Main Replacements - Sewer - SAWS Crews	Construction	3,598,000
Sewer Laterals	Construction	5,397,000
Sewer Main Easements	Acquisition	5,140,000
Small and Large Diameter Condition Remedial Measures	Construction	71,960,000
Capacity, Management, Operation & Maintenance (CMOM)	Construction	10,280,000
W-6: Hwy 90 to SW Military Drive Sewer Main	Construction	217,936,000
Wastewater Main Replacement Geotechnical Services Contract	Design	308,400
Wastewater Main Replacement Work Order Engineering Contract	Design	4,112,000
Mains - Replacement Total		**349,571,400**
Treatment		
Steven M. Clouse Sludge Thickening Facility Expansion Phase 2	Construction	2,775,600
Steven M. Clouse WRC Digester Mixing Improvements	Design	1,542,000
Steven M. Clouse WRC Electrical System Improvements - Phase 3	Design	1,644,800
Steven M. ClouseWRC Sand Drying Beds Improvement	Construction	3,084,000
Steven M. Clouse WRC Tertiary Filter Expansion Project	Design	1,336,400
Mitchell Lake Dam and Spillway	Design	3,341,000
Mitchell Lake Wetlands Project	Design	3,341,000
Treatment Facilities Construction Work Order Contract	Construction	514,000
Treatment Facilities Engineering Work Order Contract	Design	514,000
WRC Control System Upgrade / Replacement - IS Project	Construction	4,112,000
Treatment Total		**22,204,800**
Wastewater Total		**$ 412,676,097**
Water Resources		
Water Supply		
General Legal Services	Acquisition	$ 257,000
Owner Controlled Construction Changes (OCCC)	Construction	373,901
Overhead	Overhead	3,000,000
Pump Station Rehabilitation Phase 12 – Seale	Design	1,305,560
WRIP Projects	Construction	93,434,920
Water Supply Total		**98,371,381**
Recycled Water		
Recycled Water Overhead	Overhead	225,000
Recycled Water Customer Lines	Construction	205,600
Recycled Water Governmental Adjustments	Construction	514,000
Extend Recycled Water Line to PortSA	Design	87,380
Recyled Water System Upgrades 2020-2030	Design	771,000
Recycled Water Total		**1,802,980**
Water Resources Total		**$ 100,174,361**
Chilled Water		
Chilled Water		
Chilled Water Overhead	Overhead	$ 125,000
Hemisfair/S. Alamo 20-inch Water Line	Construction	1,130,800
Chilled Water Total		**$ 1,255,800**
Grand Total		**$ 608,876,344**

(1) Includes 2.8% projected inflation

CIP Project Data

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Water Delivery

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SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00164
Project:	General Legal Services - WD - 2020
Programmed Amount:	$192,750
Core Business:	WD - Water Delivery
Category:	Corporate WD
Phase:	Acquisition
Council District:	System Wide

Description and Scope:

Specialized legal support is required for critical projects.

Justification:

External legal support is sought only when there is insufficient internal legal staff to support the effort, or specialized legal expertise is required.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$187,500	$0	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11251
Project:	CIP Program Management Software Upgrades
Programmed Amount:	$77,100
Core Business:	WD - Water Delivery
Category:	Corporate WD
Phase:	Acquisition
Council District:	System Wide

Description and Scope:

In 2015, SAWS implemented the Contracts and Project Management System (CPMS). The CPMS manages the full lifecycle of CIP contract (e.g, solicitation, ranking and selection, contract execution, invoicing, change orders/amendments) and project management (Master Planning, Project Ranking, Budget Management, submittal, inspections).

Phase 2 will expand the CPMS to manage projects and contracts with O&M funding, and mixed funding (O&M/CIP or multiple core business), enhance support for mobility, and enable functionality for historical easements.

Justification:

This project will increase the efficiency and quality of program management, and increase the accuracy of project and program tracking and decision making.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	**2020**	**2019**	**2020**
	$75,000	**$0**	**$0**

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11298
Project:	Facility and Fuel Remediation at Van Dyke Service Center
Programmed Amount:	$294,522
Core Business:	WD - Water Delivery
Category:	Corporate WD
Phase:	Construction
Council District:	District 02

Description and Scope:

Construction of a new 5,000 sf storage building and demolition of 2,550 square feet (sf) existing dilapidated building (circa 1968). Removal of Underground Storage Tanks (USTs - 2,000 gal diesel and 12,000 gal unleaded) will be funded separately by operations and maintenance funds programmed in the Engineering Department budget in the amount of $456,000.

Justification:

The 2,550 sf brick structure originally known as Seale Road Station is over 40 years old has been abandoned for over 15 years, remains in a dilapidated state, and requires demolition for safety purposes.

SAWS Facilities and SAWS Conservation departments currently use approximately 5,000 sf of storage at Mission Road Service Center, which is scheduled to be sold. A new storage building will be built on the Van Dyke Service Center site which is more accessible to SAWS facilities crews stationed at Van Dyke.

The USTs were installed over 30 years ago and they are no longer covered by warranty. In 2017, water was discovered in four of the bi-monthly overfill inspections. This facility has low fuel usage (average of 34 gal/day for diesel and 31 gal/day unleaded). The service center's location is 3.3 miles from the Eastside Service Center which is a convenient, alternate refueling location for SAWS vehicles.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without Inflation.	2020	2020	2020
	$0	$0	$286,500

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10885
Project:	Water Delivery OCCC 2020
Programmed Amount:	$1,587,510
Core Business:	WD - Water Delivery
Category:	Corporate WD
Phase:	Construction
Council District:	System Wide

Description and Scope:

Funds for Owner Controlled Construction Changes (OCCC).

Justification:

Improve the monitoring and efficiency of construction project changes. OCCC changes in excess of the amount required by Texas Local Government Code will continue to require Board approval in accordance with SAWS resolutions.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$1,544,270

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10741
Project:	30-inch Water Main along Lockhill-Selma to DeZavala EST
Programmed Amount:	$585,960
Core Business:	WD - Water Delivery
Category:	Mains New - Water
Phase:	Design
Council District:	District 08

Description and Scope:

The 30-inch water main will be approximately 5,000 ft of 30" main from the existing 20" main (87-5140) at the intersection of Lockhill Selma and Huebner to the proposed DeZavala elevated storage tank (EST) that will also be constructed in 2022.

Justification:

This project will connect the new DeZavala EST to SAWS water distribution system, as well as improve transmission efficiency in PZ 1111.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$570,000	$3,800,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11242
Project:	New Water Main on Brightwood Place
Programmed Amount:	$462,600
Core Business:	WD - Water Delivery
Category:	Mains New - Water
Phase:	Construction
Council District:	District 10

Description and Scope:

The City of Alamo Heights will be moving its water mains from alley ways into streets over the next few years. Along Brightwood Place, there are homes that are within SAWS service area but they are currently being served by the City of Alamo Heights. This project will install 2,300 feet of water main along Brightwood Place between Broadway and N. New Braunfels.

Justification:

This needs to be put into place due to the relocation of a main in Alamo Heights from the alley way into the street. The relocation will cause customers within SAWS CCN to be out of water.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$450,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10742
Project:	Canyon Golf/Overlook Parkway Water Main PZ 1380 to PZ 1400
Programmed Amount:	$239,627
Core Business:	WD - Water Delivery
Category:	Mains New - Water
Phase:	Design
Council District:	OCL

Description and Scope:

This project will design a new 20-inch and 24-inch water line along Overlook Parkway, replacing the existing 12-inch and 16-inch water line, and connecting the existing 16-inch main along Overlook Parkway near Little Brook to the existing 24-inch along US 281. Additionally, the project will design a new 16-inch water line from the Oliver Ranch primary pump station (PS) to the existing 16-inch line east of Sunderidge.

Justification:

This project will provide improved connectivity in the northwestern part of PZ 1400-East and addresses existing pressure issues during periods of peak demand.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$233,100	$1,553,500

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11229
Project:	Canyon Golf 30-inch Water Main
Programmed Amount:	$138,780
Core Business:	WD - Water Delivery
Category:	Mains New - Water
Phase:	Design
Council District:	OCL

Description and Scope:

Install 3,000 ft of 30" main from the existing 20" main at the intersection of Wilderness Oak and Canyon Golf Rd to existing 30" main along Canyon Golf Rd.

Justification:

Currently there is limited effective elevated storage in the western area of PZ 1400E. This causes low pressures during peak day demands. Consequently, the low pressures do not allow for the Blanco tank to properly fill, limiting the water supply to the Timberwood Park pressure zone. This project eliminates a 12" bottleneck thereby supplying the area with elevated storage from the Indian Springs and Montana Pass tanks. This increases the minimum pressures during peak demands and will allow for the Blanco tank to fill more efficiently.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$135,000	$1,215,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10698
Project:	Highway 90 and General McMullen Pressure Zone Integration
Programmed Amount:	$4,762,139
Core Business:	WD - Water Delivery
Category:	Mains New - Water
Phase:	Construction
Council District:	District 04, District 05

Description and Scope:

The primary water source for pressure zone (PZ) 823 is the 21st Street pump station, which is in poor condition. If this station was to fail, about 4,800 customers in this pressure zone would be out of service. The high risk of failure of this pump station has resulted in the creation of temporary connections through small diameter mains from Pressure Zone 828. This project makes multiple permanent connections to larger diameter mains to provide customers from PZ 823 with more reliable water sources. By making these connections, SAWS will avoid the cost for improvements to the 21st Street pump station, allowing it to be decommissioned. Approximately 1,200 ft of new main will be installed and 9,300 ft will be replaced. Approximately 4,800 customers will move from PZ 823 to PZ 828.

This project will install 12-inch water lines replacing the existing 6-inch water line along Brady Boulevard, connecting the existing 12-inch on Cupples Road to the existing 20-inch on Barclay Street. Additionally, the project will install two 12-inch water lines along General McMullen Drive connecting the existing 12- inch on Patton Boulevard to the existing 12-inch on General McMullen near Queretaro Street, as well as a second new 12-inch water line connecting the existing 12-inch on Morelia to the existing 12-inch on Castroville Road. Finally a new 12-inch water line connecting the existing 8-inch on Frio City Road to the existing 12-inch on Jennings Ave will also be installed.

Justification:

Currently, PZ 823 operates completely independent of PZ 828. To simplify operations and to provide the PZ 823 area with a more reliable supply, it is recommended to connect the two pressure zones by 2020.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2018	2018	2020
	$0	$359,800	$4,632,431

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00105
Project:	Water Main Oversizing 2020
Programmed Amount:	$3,598,000
Core Business:	WD - Water Delivery
Category:	Mains New - Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

Funds are required for SAWS proportionate share of the cost of mains which are necessary to serve anticipated growth but are larger than the size main required by a developer customer or single customer. Developers are required to build necessary offsite infrastructure to meet the needs of their development. When growth is projected in adjacent tracts, SAWS contributes money to increase the size of the mains to serve the additional growth. Sharing in the cost is beneficial to both SAWS and the developer and prevents the construction of parallel smaller sized mains.

Justification:

Participating in oversizing is a cost effective way to meet the needs of growth. It is funded by impact fees collected from new development.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$3,500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11214
Project:	Water Delivery Overhead 2020
Programmed Amount:	$10,750,000
Core Business:	WD - Water Delivery
Category:	Corporate WD
Phase:	Construction
Council District:	System Wide

Description and Scope:

SAWS overhead costs cover the direct costs associated with SAWS personnel that manage and support CIP projects during the capitalizable phases of the project. The overhead costs were calculated primarily using the capitalized costs from staff time charged using the CIP Time Tracker on an annualized basis, and analyzing the remaining 2019 and prior year CIP projects and the future 2020 CIP projects.

Justification:

Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$10,750,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00131
Project:	Governmental Water - 2020
Programmed Amount:	$31,148,400
Core Business:	WD - Water Delivery
Category:	Governmental Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

The governmental program consists of projects implemented in conjunction with other government agencies infrastructure work. The program includes replacement of water mains in poor condition, adjustment of water mains whose existing alignment conflicts with proposed new street alignment, and installation of new water mains needed to provide additional capacity.

SAWS participates in the Utility Coordination Council, and jointly plans and reviews infrastructure improvements with City of San Antonio (COSA), Bexar County, City Public Service (CPS) Energy, Texas Department of Transportation (TXDOT), AT&T, and other agencies, to maximize effectiveness of public infrastructure.

Justification:

Replacing and/or adjusting aging infrastructure in conjunction with other agencies planned street work is the most cost effective approach to infrastructure management. It minimizes the cost of construction and minimizes the potential of utility failure under a new street.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$30,300,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11124
Project:	Dead End Main (DEM) Elimination via Looping
Programmed Amount:	$1,028,000
Core Business:	WD - Water Delivery
Category:	Main Replacement - Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

The Dead End Main (DEM) Flushing Program is required to meet TCEQ regulations, 30 TAC Chapter 290.46. There are more than 9,000 dead end mains in the SAWS distribution system. Approximately 195 of these dead end mains were requested to be reviewed for abandonment or elimination. Of the 195 DEMs identified, 24 rose to high priority due to water quality issues. The water quality issues at these locations are not solved with auto flushers and cannot hold residual. Design Consultant KCI is preparing plans to eliminate these DEMs via looping. This funding is a continuation of the construction work necessary to eliminate priority DEMs. The duration is recurring depending on changes to TCEQ requirements. This is year 2 of at least a 5 year effort.

Justification:

TCEQ highly encourages DEMs to be eliminated where practical. Implementation of the DEM Looping Project will reduce the overall number of DEM's required to be flushed. Failure to eliminate DEMs, where practical, may negatively impact future negotiations and put the current negotiated agreement at risk.

Eliminating the DEMs will reduce staff time in flushing these sites. Some of the sites identified for looping have a higher frequency flushing requirement.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$1,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10887
Project:	Water Main Replacement 2020
Programmed Amount:	$6,682,000
Core Business:	WD - Water Delivery
Category:	Main Replacement - Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

This annual contract provides for the replacement of water mains that cannot be repaired quickly and economically by SAWS crews so the work must be contracted externally. The project will also recommend specific water mains for repair, rehabilitation, or replacement based on damages found through use of assessment technology. This project will also recommend long term pipeline management alternatives by performing structural and statistical analysis of inspection data. The locations chosen for this project will vary in size and location. Water mains will be designed and scheduled for construction in subsequent years.

Justification:

Mains found to require repair, rehabilitation, or replacement are necessary to provide and maintain water service.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$6,500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00205
Project:	Water Mains, Valves Services and Meter Replacements - SAWS - 2020
Programmed Amount:	$16,191,000
Core Business:	WD - Water Delivery
Category:	Main Replacement - Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

This project funds the replacement of water mains, valves, hydrants, and meters within the SAWS distribution system. When infrastructure fails, it is evaluated to determine the best repair method. When replacement is necessary, it is evaluated to determine whether replacement by SAWS crews or a contractor would be more effective and efficient. This project includes replacement work done internally by SAWS crews.

Justification:

Replacement work is necessary to restore service and is more efficient than repair.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$15,750,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00195
Project:	Water Main Replacement Work Order Engineering Contract - SAWS - 2020
Programmed Amount:	$1,079,400
Core Business:	WD - Water Delivery
Category:	Main Replacement - Water
Phase:	Design
Council District:	System Wide

Description and Scope:

This annual project will fund design services to repair/replace water mains that have experienced a high rate of main failure. These projects vary in size and location, and may require the solicitation of contractor construction services on an urgent basis. The projects will replace sub-standard or deteriorated water mains requiring immediate replacements. The work will also include professional engineering services related to geotechnical and construction materials testing and reporting.

Justification:

Design of mains to be replaced or repaired is necessary to restore and maintain water service. The geotechnical and construction materials testing will improve quality control and assurance of SAWS construction projects.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$1,050,000	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10803
Project:	Broadband Access Points and Programmable Logic Controllers Replacement – Phase 3
Programmed Amount:	$3,084,000
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Construction
Council District:	System Wide

Description and Scope:

This project (Phase 3) will replace the aging radio communication system used to receive data from the water production and pumping stations with new wireless communication infrastructure to upgrade communication capability and replace obsolete control equipment. More than 100 water production facilities are controlled and operated from a central control point. The existing equipment is old and some components are no longer supported by the manufacturer. The radio systems have an expected lifespan of 15 years. The existing systems have been in use for 10 to 20 years.

The upgrades will support a common communication internet protocol backbone and increase efficiency by allowing development of standardized, automated control strategies for stopping and starting pumping equipment based on equipment efficiency, customer demand patterns and energy costs. Additionally, metering equipment can be calibrated from the control center through the broadband system, reducing the labor time involved in driving to the pump station and the time for a signal to be sent to the pump station will be greatly reduced.

Justification:

The master plan for the Supervisory Control and Data Acquisition (SCADA) system recommends this upgrade. Phase 3 will address the programmable logic controllers (PLCs) and radios at 30 additional Water Production facilities. These PLCs and radios need to be replaced as part of this Project due to staffing limitations that preclude this work from being done in-house. Additionally, upgrades to the chlorine leak monitoring system at 38 Water Production facilities will be completed in this phase. These upgrades are necessary to provide comprehensive and remote monitoring of the chlorine system and will allow staff to maintain operational continuity and respond to events safely at these facilities.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$3,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00020
Project:	DeZavala Storage Tank
Programmed Amount:	$1,644,800
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Design
Council District:	District 08

Description and Scope:

This project will design a 2.5 million gallon elevated water storage tank for Pressure Zone (PZ) 1111 (formerly PZ 7). This pressure zone serves a large area both east and west of Interstate 10, and this master planned water storage tank will accommodate future growth in the pressure zone. The project will be designed in 2020 and constructed in 2022. In 2019, SAWS acquired land at the intersection of DeZavala Rd. and Indian Wood Rd. to construct the tank.

Justification:

This project is required by SAWS Master Planning to address future growth in a rapidly growing part of the city. It also addresses TCEQ's requirement to place an elevated storage tank within each pressure zone. This project will help provide a consistent pressure within the pressure zone and minimize fluctuations in pressure during distribution of water.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2015	2020	2022
	$0	$1,600,000	$10,500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00297
Project:	Dietrich Storage Tank
Programmed Amount:	$6,104,058
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Construction
Council District:	District 05

Description and Scope:

This project will construct a 1.5 million gallon elevated storage tank for Pressure Zone (PZ) 828 (formerly PZ 3) to meet TCEQ capacity requirements for future growth. The project was designed in 2018 and will be constructed in 2020. In 2018, SAWS acquired land at 139 Springfield Road to install the elevated storage tank.

This project connects SAWS PZ 3 to DSP PZ 828 via one-quarter mile of 12-inch main along Patton Blvd, connecting to two existing 12-inch water mains in DSP PZ 828.

Justification:

This project is needed to meet TCEQ's capacity requirements for future growth in a rapidly growing part of the city.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2016	2018	2020
	$0	$655,228	$5,937,800

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00413
Project:	King Street Pump Station Rehabilitation
Programmed Amount:	$801,840
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Design
Council District:	District 04

Description and Scope:

King Street Pump Station is a former BexarMet primary pump station. This pump station includes 3 wells, 3 high service pumps, and a 500,000 gallon ground storage tank. This project will be performed as a part of SAWS continued work to improve and upgrade former BexarMet Water Production Facilities. The scope of this project includes the evaluation and replacement of the well pumps, high service pumps, electrical and communication equipment. The scope will also include any necessary site improvements such as grading, fencing, lighting, pavement, security, and yard piping.

Justification:

King Street Pump Station's mechanical and electrical components are aging and difficult to operate. These components need to be upgraded to improve the reliability and efficiency of the operation of this pump station.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$780,000	$5,200,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11258
Project:	Ranch Town #2 Booster Pump Station Electrical Rehabilitation
Programmed Amount:	$565,400
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Design
Council District:	OCL

Description and Scope:

Ranch Town #2 Booster Pump Station serves an area west of Hwy 16 N and north of FM 1560. The scope of this project is to design and rehabilitate the electrical infrastructure of the Ranch Town #2 pump station.

Justification:

Ranch Town #2 Pump Station is a former BexarMet facility that was constructed in 1979. A majority of the electrical components of this pump station have exceeded their life expectancy. To improve the reliability and efficiency of the pump station, electrical components of the pump station need to be replaced.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$550,000	$3,600,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10890
Project:	Production Facilities Construction Work Order Contract 2020
Programmed Amount:	$514,000
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Construction
Council District:	System Wide

Description and Scope:

This contract will allow work order contracts for construction of small but urgent projects not executable by SAWS engineering and operations staff. SAWS periodically has need for general types of projects that entail rehabilitation, improvement upgrades, addition/demolition, replacement/expansion of equipment and facilities. These include:

-water production primary and secondary pump station facilities
-elevated storage tank and ground storage tank sites
-transmission mains (20-inch diameter and larger)
-valve & control valve replacement, yard piping, electrical upgrades, SCADA, programming
-other related projects of similar nature as above

The scope of work may include, but is not limited to potholing and subsurface utility investigation, right of way preparation, permit application, coordination with other utilities, agencies and consultants, civil, structural, mechanical, electrical and environmental services related to potable water facilities, preparation of material submittals and shop drawings, preparation of pay estimates, participating in equipment performance testing, final inspection and project completion and other construction phase services.

Justification:

This Work Order Contract will be on an "as-needed" basis, and the scope of the construction will depend on the nature of each individual project. A work order will be issued upon identification of a need for a construction activity and determination of its scope and schedule.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10891
Project:	Production Facilities Engineering Work Order Contract 2020
Programmed Amount:	$514,000
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Design
Council District:	System Wide

Description and Scope:

The San Antonio Water System periodically has a need for general types of projects that entail evaluation, rehabilitation, improvement upgrades, addition/demolition, replacement/expansion of equipment and facilities. These include:

-water production primary and secondary pump station facilities
-elevated storage tank and ground storage tank sites
-transmission mains (20-inch diameter and larger)
-valve & control valve replacement, yard piping, electrical upgrades, SCADA, programming
-other related projects of similar nature as above

The scope of work may include, but is not limited to, geotechnical and field survey, potholing and subsurface utility investigation, right of way services, permit application assistance, public meetings/hearings attendance, coordination with other utilities, agencies and consultants, civil, structural, mechanical, electrical and environmental services related to potable water facilities, preliminary engineering evaluation and recommendations, preparation of design plans, specifications, cost estimates, and bid documents, assistance during construction by reviewing contractor submittals and shop drawings, preparation of pay estimates, participating in equipment performance testing, final inspection and project completion and other construction phase services.

Justification:

This Work Order Contract will be on an "as-needed" basis, and the scope of the services will depend on the nature of each individual project. A work order will be issued upon identification of a project and determination of its scope and schedule.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$500,000	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00225
Project:	Pump Station Rehabilitation Phase 9 - Marbach
Programmed Amount:	$1,819,560
Core Business:	WD - Water Delivery
Category:	Production
Phase:	Design
Council District:	District 04

Description and Scope:

This facility is a primary pump station for SAWS and supplies water to the west side service areas along Loop 410. The pump station has a total well pumping capacity of 45 million gallons per day and a firm high service pumping capacity of 42 million gallons per day. This project, a part of the multi-year pump station improvements program, will evaluate and replace high service pumps, well pumps, and electrical and SCADA equipment of the Marbach pump station. The project will also include necessary site improvements such as grading, fencing, lighting, pavement, security, and yard piping.

Justification:

This primary pump station was built in 1973. In 1991, an additional well and high service pumps were installed. Most of the existing electrical and mechanical equipment of the pump station exceeds the 20-25 year life expectancy. To improve the efficiency of the pump station, mechanical and electrical components of the pump station need to be replaced.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$1,770,000	$11,800,000

Wastewater

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SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00166
Project:	General Legal Services - WW 2020
Programmed Amount:	$398,350
Core Business:	WW - Wastewater
Category:	Corporate WW
Phase:	Acquisition
Council District:	System Wide

Description and Scope:

Specialized legal support is required for critical projects.

Justification:

External legal support is sought only when there is insufficient internal legal staff to support the effort, or specialized legal expertise is required.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$387,500	$0	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11251
Project:	CIP Program Management Software Upgrades
Programmed Amount:	$77,100
Core Business:	WW - Wastewater
Category:	Corporate WW
Phase:	Acquisition
Council District:	System Wide

Description and Scope:

In 2015, SAWS implemented the Contracts and Project Management System (CPMS). The CPMS manages the full life cycle of Capital Improvement Program (CIP) contracts (e.g., solicitation, ranking and selection, contract execution, invoicing, change orders/amendments) and project management (master planning, project ranking, budget management, submittal, and inspections).

Phase 2 will expand the CPMS to manage projects and contracts with operations & maintenance (O&M) funding and mixed funding (O&M/CIP or from multiple core businesses), to enhance support for mobility, and to enable functionality for historical easements.

Justification:

This project will increase the efficiency and quality of program management, and increase the accuracy of project and program tracking and decision making.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2019	2020
	$75,000	$0	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11298
Project:	Facility and Fuel Remediation at Van Dyke Service Center
Programmed Amount:	$294,522
Core Business:	WW - Wastewater
Category:	Corporate WW
Phase:	Construction
Council District:	District 02

Description and Scope:

Demolition of 2,550 square feet (sf) existing dilapidated building (circa 1968), construction of a new 5,000 sf storage building and removal of Underground Storage Tanks (USTs - 2,000 gal diesel and 12,000 gal unleaded), UST removal will be funded separately by operations and maintenance funds programmed in the Engineering Department budget in the amount of $456,000.

Justification:

The 2,550 sf brick structure originally known as Seale Road Station is over 40 years old has been abandoned for over 15 years, remains in a dilapidated state, and requires demolition for safety purposes.

SAWS Facilities and SAWS Conservation departments currently use approximately 5,000 sf of storage at Mission Road Service Center, which is scheduled to be sold. A new storage building will be built on the Van Dyke Service Center site which is more accessible to SAWS facilities crews stationed at Van Dyke.

The USTs were installed over 30 years ago and they are no longer covered by warranty. In 2017, water was discovered in four of the bi-monthly overfill inspections. This facility has low fuel usage (average of 34 gal/day for diesel and 31 gal/day unleaded). The service center's location is 3.3 miles from the Eastside Service Center which is a convenient, alternate refueling location for SAWS vehicles.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$286,500

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10886
Project:	Wastewater OCCC 2020
Programmed Amount:	$7,903,925
Core Business:	WW - Wastewater
Category:	Corporate WW
Phase:	Construction
Council District:	System Wide

Description and Scope:

Funds for Owner Controlled Construction Changes (OCCC).

Justification:

Improve the monitoring and efficiency of construction project changes. OCCC changes in excess of the amount required by Texas Local Government Code will continue to require Board approval in accordance with SAWS resolutions.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$7,688,643

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11268
Project:	Wastewater Overhead 2020
Programmed Amount:	$14,750,000
Core Business:	WW - Wastewater
Category:	Corporate WW
Phase:	Construction
Council District:	System Wide

Description and Scope:

SAWS overhead costs cover the direct costs associated with SAWS personnel that manage and support CIP projects during the capitalizable phases of the project. The overhead costs were calculated primarily using the capitalized costs from staff time charged using the CIP Time Tracker on an annualized basis, and analyzing the remaining 2019 and prior year CIP projects and the future 2020 CIP projects.

Justification:

Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2018	2018	2020
	$0	$0	$14,750,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11277
Project:	New Northeast Service Center-Lift Station and Sewer Main
Programmed Amount:	$1,028,000
Core Business:	WW - Wastewater
Category:	Mains New - Sewer
Phase:	Construction
Council District:	District 10

Description and Scope:

SAWS will be constructing a new sanitary sewer lift station, 4,000 feet of sanitary sewer force mains, and water main pipelines along Judson road, from just south of 1604 to the new Service Center scheduled to be constructed by 2022. The water main is funded in 2019, and funding is needed in 2020 for the sewer main and lift station.

Justification:

The new sewer main is required to provide service to the new service center, and will also provide capacity for additional customers in the area.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$1,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00401
Project:	Sewer Main Oversizing 2020 - SAWS
Programmed Amount:	$5,140,000
Core Business:	WW - Wastewater
Category:	Mains New - Sewer
Phase:	Construction
Council District:	System Wide

Description and Scope:

Funds are required for SAWS proportionate share of the cost of mains, which are necessary to serve anticipated growth but are larger than the size main required by a developer customer or single customer. Developers are required to build necessary offsite infrastructure to meet the needs of their development. When growth is projected in adjacent tracts, SAWS contributes money to increase the size of the mains to serve the additional growth. Sharing in the cost is beneficial to both SAWS and the developer and prevents the construction of parallel smaller sized mains.

Justification:

Participating in oversizing is a cost effective way to meet the needs of growth. It is funded by impact fees collected from new development.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$5,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00372
Project:	E-4 Bulverde Area Sewer Capacity Relief and Storage at Loop 1604
Programmed Amount:	$10,280,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Construction
Council District:	District 10

Description and Scope:

This project is located in northeast San Antonio and extends along Elm Creek within the greenway. The pipeline is approximately 9,073 feet and manhole depth ranges from 5 to 17 feet deep. The original pipe was installed in 1996 and additional segments were installed in 2001.

Justification:

This project will help reduce the capacity constraints related to upstream growth.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2018	2020
	$30,000	$0	$10,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00234
Project:	Governmental Sewer - 2020
Programmed Amount:	$20,560,000
Core Business:	WW - Wastewater
Category:	Governmental Sewer
Phase:	Construction
Council District:	System Wide

Description and Scope:

The governmental program consists of projects implemented in conjunction with other government agencies infrastructure work. The program includes replacement of water mains in poor condition, adjustment of water mains whose existing alignment conflicts with proposed new street alignment, and installation of new water mains needed to provide additional capacity.

SAWS participates in the Utility Coordination Council, and jointly plans and reviews infrastructure improvements with City of San Antonio (COSA), Bexar County, City Public Service (CPS) Energy, Texas Department of Transportation (TXDOT), AT&T, and other agencies, to maximize effectiveness of public infrastructure.

Justification:

Replacing and/or adjusting aging infrastructure in conjunction with other agencies planned street work is the most cost effective approach to infrastructure management. It minimizes the cost of construction and minimizes the potential of utility failure under a new street.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$20,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00241
Project:	Main Replacements - Sewer - SAWS Crews - 2020
Programmed Amount:	$3,598,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Construction
Council District:	System Wide

Description and Scope:

Replacement of sewer mains by SAWS crews. When failures in the sewer system are encountered, SAWS crews determine the best method to restore service. When portions of the system must be replaced, the project is evaluated to determine if SAWS crews or contractors will be the most effective or efficient means to complete the replacement.

Justification:

The replacement work is necessary to restore service and may be required to comply with the EPA Consent Decree.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$3,500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00249
Project:	Sewer Laterals - 2020
Programmed Amount:	$5,397,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Construction
Council District:	System Wide

Description and Scope:

Replace deteriorated customer sewer laterals from the sewer main to the customer's property line. Each year SAWS crews replace customer laterals when televising or reported problems indicate the lateral has become unserviceable.

Justification:

Replacement of sewer laterals is necessary to restore service and reduces inflow and infiltration, which reduces sewer overflows, and is required by the EPA Consent Decree.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$5,250,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11253
Project:	Sewer Main Easement Acquisition
Programmed Amount:	$5,140,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Acquisition
Council District:	System Wide

Description and Scope:

Provide additional funds for sewer main easements that are not budgeted in specific projects.

Justification:

These funds are needed to acquire easements for sewer main rehabilitation projects that will be constructed using Sanitary Sewer Overflow Reduction Program (SSORP) funds. The easements will be acquired prior to construction, however the specific easement locations are not always known prior to design.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$5,000,000	$0	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00259
Project:	Small and Large Diameter Condition Remedial Measures 2020
Programmed Amount:	$71,960,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Construction
Council District:	System Wide

Description and Scope:

Rehabilitate sewer mains that have been identified by televised inspection to be in very poor condition. Candidate areas identified are evaluated to determine the most cost effective method (conventional open trench replacement, cured in place pipe, or pipe bursting) of rehabilitation. Each year, SAWS is required to inspect high risk pipes to evaluate condition and to take necessary action to prevent sewer overflows.

Justification:

Rehabilitation of the sewer system is required by the EPA Consent Decree and identified under the Condition Remedial Measures Plan. All phases of the project must be complete by July 23, 2025.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$70,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11297
Project:	Capacity, Management, Operation and Maintenance (CMOM) 2020
Programmed Amount:	$10,280,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Construction
Council District:	System Wide

Description and Scope:

Funding in the amount of $10 million dollars per year for 2020 and 2021, respectively, is programmed for urgent/emergency wastewater work as a result of the CMOM program. Wastewater mains identified for replacement are in very poor condition and are required under the federal government sanitary sewer overflow (SSO) consent decree. From late 2018 through 2019, funds were diverted from the 2019 Small Diameter/Large Diameter Condition project and the Wastewater Owner Controlled Construction Changes project to fund $15 million of urgent/emergency CMOM work. Consequently, additional funding in 2020 and 2021 is needed to cover any urgent/emergency CMOM-identified projects.

Justification:

Mains in poor and very poor condition are currently part of the CMOM program under monitoring. The condition of these assets will continue to degrade over time and may reach urgent or emergency status requiring expedited design and construction to ensure the protection of public health and safety.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$10,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11206
Project:	W-6 Upper Segment: Hwy 90 to SW Military Drive Sewer Main
Programmed Amount:	$217,936,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Design
Council District:	District 04, District 06

Description and Scope:

The W-6: Highway (Hwy) 90 to Southwest (SW) Military Drive Sewer Main (formerly known as W-6 Upper Segment) involves replacing aging and under capacity sewer infrastructure that currently runs through Lackland Air Force Base. Ultimately, the proposed final alignment involves deep tunneling from a point near the intersection of SW Military Drive and Old Pearsall Road extending northwest along SW Military Drive to the intersection of SW Military Drive and US Hwy 90 where it turns east and proceeds east along US Hwy 90 to a point near the intersection of US Hwy 90 and South Callaghan Road.

Justification:

The W-6 is a major sewer pipeline carrying flows from the western sewer shed. Numerous collapses and sanitary sewer overflows (SSOs) in this area and upstream require urgent action to resolve these issues and comply with the EPA Consent Decree.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$17,476,000	$212,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10888
Project:	Wastewater Main Replacement Geotechnical Services Contract 2020
Programmed Amount:	$308,400
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Design
Council District:	System Wide

Description and Scope:

San Antonio Water System (SAWS) is pursuing professional engineering services related to geotechnical and construction materials testing and reporting.

Justification:

The geotechnical and construction materials testing will improve quality control and assurance of SAWS construction projects.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2020	2020
	$0	$300,000	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00254
Project:	Wastewater Main Replacement Work Order Engineering Contract - 2020
Programmed Amount:	$4,112,000
Core Business:	WW - Wastewater
Category:	Main Replacement - Sewer
Phase:	Design
Council District:	System Wide

Description and Scope:

This annual project will fund design services to repair/replace sewer mains that have been identified in poor or very poor condition. These projects vary in size and location and may require the solicitation of contractor construction services on an urgent basis. These projects will be constructed to correct unsanitary and potentially hazardous conditions that pose a threat to public health and safety, and are primarily projects required by the EPA Consent Decree.

Justification:

Design of replacement/repair mains is necessary to restore and maintain wastewater service.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$4,000,000	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10850
Project:	LS #11 (Feathercrest) and LS #111 (Stone Ridge) Lift Stations Upgrades
Programmed Amount:	$11,308,000
Core Business:	WW - Wastewater
Category:	Collection Facilities
Phase:	Construction
Council District:	District 09, District 10

Description and Scope:

This project will relocate Lift Station #11 (Feathercrest) out of the 100-year floodplain and eliminate Lift Station #111 (Stone Ridge). The relocation of Feathercrest will include safety and security upgrades, construction of dual force mains (along Thousand Oaks and Wetmore Road), evaluation and upgrades of wet well capacity (to be verified for TCEQ regulatory compliance as well as adequate response time in the event of an emergency), the use of submersible pumps, and upgrades to the remote SCADA monitoring system and electrical system (including a new backup generator). The discharge point of Feathercrest's new dual force mains, as well as the elimination of Stone Ridge will require the construction of a new gravity sewer main along Wetmore Road.

Justification:

These lift stations were installed approximately 35 years ago, and the typical life expectancy is 20 years. Relocating the Feathercrest Lift Station and eliminating the Stone Ridge Lift Station will reduce the probability of a sanitary sewer overflow. This project is required by the EPA Consent Decree and must be completed by July 23, 2023.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2017	2018	2020
	$150,000	$0	$11,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11265
Project:	Steven M. Clouse WRC Thickening Facility Expansion Phase 2
Programmed Amount:	$2,775,600
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Construction
Council District:	District 03

Description and Scope:

This project will add an additional centrifuge to the existing Thickening Facilities at the Steven M. Clouse WRC. The first phase of this project installed two centrifuges and included provisions for the installation of two additional centrifuges in a phased manner for complete elimination of the existing gravity belt thickening (GBT) system.

Justification:

The Steven M Clouse WRC thickening facility has four existing GBTs. SAWS needs additional thickening components to meet the demand at the thickening facility. The existing GBTS are aging. From an operational point of view, it is challenging to run the GBTs consistently. After completion of an evaluation, it was determined centrifuges were the preferred technology for thickening. Therefore, SAWS has decided to install four centrifuges at the thickening facility. So far, SAWS has installed two centrifuges in 2019. SAWS plans to install the third centrifuge in 2020, and the fourth centrifuge in 2022. Installation of four centrifuges will help SAWS take the GBTs offline, increasing operational efficiency.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$2,600,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11045
Project:	Steven M. Clouse WRC Digester Mixing and System Enhancements Phase 3
Programmed Amount:	$1,542,000
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Design
Council District:	District 03

Description and Scope:

The design will address improvements to four existing digesters (No. 5, 6, 7 and 8) at the digester complex including cleaning of digesters, repair of the dome liners, repair and/or replacement of dome hatches / manways, dome pressure / vacuum relief assemblies and valves, replacement of existing digester mixing systems, and enhancements of existing digester gas meters. The digester pumping and heat exchanger systems will be rehabilitated or replaced, if deemed necessary. The design will also incorporate various electrical and instrumentation and control improvements.

Justification:

These improvements will increase operational reliability and efficiency of the sludge digestion process.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2021
	$0	$1,500,000	$15,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10104
Project:	Steven M. Clouse WRC Electrical System Improvements – Phase 3
Programmed Amount:	$1,644,800
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Design
Council District:	District 03

Description and Scope:

Replace various plant electrical switchgear, motor control centers, transformers and generators that are aging and in poor condition. All plant electrical equipment has been assessed, evaluated and assigned a rating of 1 to 6, with 1 being in the poorest condition and 6 being in the best condition. The electrical equipment to be replaced in Phase 3 was rated in the poorest condition. Phase 3 will be constructed in 2022 at an estimated cost of $15 million. The current cost estimate for all phases of the project is $49 million.

Justification:

The Steven M. Clouse WRC has been in operation since 1987, and the plant electrical equipment is in poor condition. Failure of this equipment could interrupt the treatment process, require emergency generators and cause a fire or other safety issue.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$1,600,000	$15,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10647
Project:	Steven M. Clouse WRC Sand Drying Bed Improvements
Programmed Amount:	$3,084,000
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Construction
Council District:	District 03

Description and Scope:

The sludge drying beds are used to dewater the sludge after the digestion process in conjunction with the belt filter presses. The 132 sludge drying beds at the Steven M. Clouse WRC are more than 30 years old and in need of replacement. The project scope is to replace 10 to 15 beds per year over 2019-2024, with a similar but an up-to-date technology.

Justification:

The beds are more than 30 years old and in need of replacement due to loss of sand and severe deterioration of the under drain systems. The treatment of solids is necessary to meet permit requirements. The drying beds provide an additional option for treatment.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2017	2019	2020
	$0	$0	$3,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10988
Project:	Steven M. Clouse WRC Tertiary Filter Expansion
Programmed Amount:	$1,336,400
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Design
Council District:	District 03

Description and Scope:

Ten (10) existing cloth media filters at the Steven M. Clouse WRC were installed in 2012 to replace a number of the original antiquated dual media sand filters. The project will provide additional filters at the Steven M. Clouse WRC. The project will also include associated site/civil, mechanical, structural, electrical and instrumentation and controls work.

Justification:

There is a lack of redundancy on filters when one filter is out of service. Redundancy is specifically needed during wet weather flows. The filters also support the recycle water system at the plant.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2021
	$0	$1,300,000	$13,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11252
Project:	Mitchell Lake Dam and Spillway
Programmed Amount:	$3,341,000
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Design
Council District:	District 03

Description and Scope:

In February of 2019, SAWS received an Administrative Order from the U.S. Environmental Protection Agency (EPA) with a Schedule of Activities that requires building a constructed wetland below Mitchell Lake to achieve compliance with permitted effluent limitations. The project will require improvements to the existing dam structure and replacement of the existing spillway to enable variable water level flows and controls for water directed to the constructed wetland.

As part of a constructed wetlands pilot study, a dam improvement evaluation is being conducted that will result in preliminary designs for improvements to Mitchell Lake dam and spillway with a design maturity of approximately 15% completeness.

The EPA Administrative Order requires completion of all aspects of the constructed wetland by September 20, 2024, so remaining dam and spillway design work will need to proceed rapidly in 2020.

Justification:

The Mitchell Lake dam and spillway were originally constructed in 1901 and underwent various improvements and reconstructions in 1932, 1940 and 1948. SAWS plans to establish a new spillway elevation of 521.7' mean sea level (MSL) and a minimum operating level of 518.5' MSL. Spillway and dam improvements will be designed to meet requirements of a high hazard classification, such that the 100-year peak water surface elevation will be 524.2' MSL and the 80% probable maximum flood peak water surface elevation will be 528.0' MSL. Under normal operating conditions, a continual discharge of between 2-10 MGD will be made to a downstream constructed wetlands. During extended dry periods, lake levels will be maintained at the 518.5' minimum by discharges from the Leon Creek WRC.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$3,250,000	$30,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10115
Project:	Mitchell Lake Wetlands Project
Programmed Amount:	$3,341,000
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Design
Council District:	District 03

Description and Scope:

Design a pilot project to test the wetlands concept. The consultant will prepare the final recommendation report on the pilot results and dam improvements. If the pilot project is successful, the full wetlands will be designed in 2020 and constructed in 2022.

Justification:

The Mitchell Lake Wetlands Project involves construction of approximately 120 acres of free-water surface wetlands to treat water from Mitchell Lake. The project is being constructed pursuant to EPA Administrative Order CWA-06-2016-1770. It is expected that effluent quality from the constructed wetlands will comply with limitations specified in Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ00110137004 for Biochemical Oxygen Demand, Total Suspended Solids, pH and Dissolved Oxygen.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$3,250,000	$30,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10895
Project:	Treatment Facilities Construction Work Order Contract 2020
Programmed Amount:	$514,000
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Construction
Council District:	System Wide

Description and Scope:

This annual contract will fund construction services that cannot be done by SAWS construction crews, and include construction activities at the following facilities:
-wastewater treatment (SAWS water recycling centers)
-recycle water pump stations (SAWS water recycling centers)
-recycle water system (SAWS service area)
-cooling (SAWS service area)
-lift stations (SAWS service area)
-odor control stations (throughout the City of San Antonio)

Justification:

This Work Order Contract will be on an "as-needed" basis, and the scope of the construction will depend on the nature of each individual project. A work order will be issued upon identification of a need for a construction activity and determination of its scope and schedule.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10894
Project:	Treatment Facilities Engineering Work Order Contract 2020
Programmed Amount:	$514,000
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Design
Council District:	System Wide

Description and Scope:

Work order contracts for engineering of small but urgent projects that are not executable by SAWS engineering and operations staff. These contracts allow flexibility to execute projects without pulling funds from budgeted projects, and avoid delays associated with conventional bid processes.

Justification:

This Work Order Contract will be on an "as-needed" basis, and the scope of the design will depend on the nature of each individual project. A work order will be issued upon identification of a need for a design activity and determination of its scope and schedule.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2016	2020	2020
	$0	$500,000	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11250
Project:	WRC Control System Upgrades
Programmed Amount:	$4,112,000
Core Business:	WW - Wastewater
Category:	Treatment
Phase:	Construction
Council District:	District 03, District 04

Description and Scope:

SAWS WRC Control System Upgrades will upgrade the Emerson SCADA control systems at the SAWS three wastewater recycling centers. This upgrade will deploy an all new Human Machine Interface (HM) and controllers improving the monitoring and control capabilities of WRC equipment and provide more advanced cybersecurity defenses for these critical systems. The upgrade will enable better analytics and automation to improve operational capabilities, along with better coordination between all three WRC's control systems. The plan includes the design and construction as follows:

-2020: $4.0M – Design for Clouse, Medio and Leon WRCs and Phase 1 construction for Clouse WRC 2021: $5.0M – Phase 2 Construction for Clouse WRC
-2023: $4.0M - Construction for Medio and Leon WRCs

Justification:

The SCADA systems are outdated and need to be updated. The Emerson technology is end of life and we do often experience costly failures at the plants that cause outages and operational issues.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$4,000,000

WATER RESOURCES

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SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00165
Project:	General Legal Services - WR - 2020
Programmed Amount:	$257,000
Core Business:	WR - Water Resources
Category:	Corporate WR
Phase:	Acquisition
Council District:	System Wide

Description and Scope:

Specialized legal support is required for critical projects.

Justification:

Specialized legal support is required for critical projects. External legal support is sought only when there is insufficient internal legal staff to support the effort, or specialized legal expertise is required.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$250,000	$0	$0

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-10896
Project:	Water Resources OCCC 2020
Programmed Amount:	$373,901
Core Business:	WR - Water Resources
Category:	Corporate WR
Phase:	Construction
Council District:	System Wide

Description and Scope:

Funds for construction changes requested by SAWS.

Justification:

Improve the monitoring and efficiency of construction changes. OCCC changes in excess of the amount required by Texas Local Government Code will continue to require Board approval in accordance with SAWS resolutions.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$363,717

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11215
Project:	Water Resources Overhead 2020
Programmed Amount:	$3,000,000
Core Business:	WR - Water Resources
Category:	Corporate WR
Phase:	Construction
Council District:	System Wide

Description and Scope:

SAWS overhead costs cover the direct costs associated with SAWS personnel that manage and support CIP projects during the capitalizable phases of the project. The overhead costs were calculated primarily using the capitalized costs from staff time charged using the CIP Time Tracker on an annualized basis, and analyzing the remaining 2019 and prior year CIP projects and the future 2020 CIP projects.

Justification:

Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$3,000,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00300
Project:	Pump Station Rehabilitation Phase 12 - Seale
Programmed Amount:	$1,305,560
Core Business:	WR - Water Resources
Category:	ASR
Phase:	Design
Council District:	District 02

Description and Scope:

This primary pump station was built in 1992. This pump station is located in Pressure Zone 930 (formerly PZ 4 and supplies water to the north east side service areas along Loop 410. This project, a part of the multi-year pump station improvements program, will evaluate and replace high service pumps, well pumps, and associated electrical and SCADA equipment. The project will also include necessary site improvements such as grading, fencing, lighting, pavement, security, and yard piping. It has a total well pump capacity of 15 million gallons per day (MGD) and a firm pumping capacity of 27 MGD.

Justification:

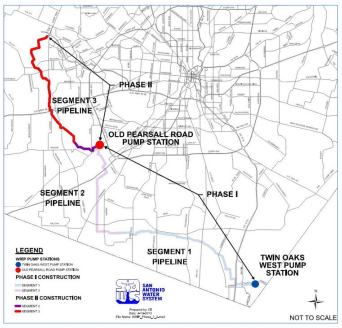
Some of the electrical and mechanical components at the pump station were installed in 1992. These components are aging and difficult to operate. This project will evaluate and replace the electrical and mechanical components of the Seale Pump Station to improve its reliability and operational efficiency.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$1,270,000	$8,500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11267
Project:	Water Resources Integration Project (WRIP) Phase 2
Programmed Amount:	$93,434,920
Core Business:	WR - Water Resources
Category:	Integration
Phase:	Construction
Council District:	District 04, District 06



Description and Scope:

Phase 2 of the Water Resources Integration Program (WRIP) will consist of constructing the necessary pump station and pipeline infrastructure to expand the integration capacity of the western integration pipeline from the existing capacity of 45 MGD to 75 MGD. Two additional high service pumps will be installed at the H2Oaks West Pump Station along with a new 55 MGD booster station and an additional 7.5 million gallon ground storage tank at the Old Pearsall Road Pump Station. The new booster station will pump water from the Old Pearsall Road Pump Station to the Anderson Pump Station through approximately 17 miles of new 48-inch pipeline. WRIP Phase 2 will also provide a means for the additional recharge of up to 35 MGD of Edwards Aquifer water from Pressure Zone 1111 into the Carrizo Aquifer at the H2Oaks facility.

Justification:

WRIP Phase 2 will increase total integration capacity of the treated/recovered water from the H2Oaks facility to 75 million gallons per day and add two additional pressure zones for distribution in high growth areas on the west and northwest parts of SAWS service area. This phase also increases the amount of Edwards water which can be stored in the Carrizo Aquifer at the H2Oaks facility.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2018	2018	2020
	$0	$0	$90,890,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11216
Project:	Recycled Water Overhead 2020
Programmed Amount:	$225,000
Core Business:	RW - Recycled Water
Category:	Recycled Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

SAWS overhead costs cover the direct costs associated with SAWS personnel that manage and support CIP projects during the capitalizable phases of the project. The overhead costs were calculated primarily using the capitalized costs from staff time charged using the CIP Time Tracker on an annualized basis, and analyzing the remaining 2019 and prior year CIP projects and the future 2020 CIP projects.

Justification:

Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$225,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00145
Project:	Recycled Water Customer Lines - 2020
Programmed Amount:	$205,600
Core Business:	RW - Recycled Water
Category:	Recycled Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

Provide recycled water to customers for irrigation, cooling towers and industrial uses.

Justification:

Providing recycled water avoids the use of potable water sources.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2020	2020
	$0	$0	$200,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-00150
Project:	Governmental Adjustments - Recycled Water - 2020
Programmed Amount:	$514,000
Core Business:	RW - Recycled Water
Category:	Recycled Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

The governmental recycled water program consists of projects implemented in conjunction with other government entities, when they implement maintenance and/or capital improvement projects. Through this program, SAWS participates in the relocation and replacement of recycled water facilities, when appropriate or required. SAWS participates in the Utility Coordination Council, and jointly plans and reviews infrastructure improvements with City of San Antonio (COSA), Bexar County, City Public Service (CPS) Energy, Texas Department of Transportation (TXDOT), AT&T, and other agencies, to maximize effectiveness of public infrastructure.

Justification:

Replacing aging infrastructure in conjunction with other agencies planned street work is the most cost effective approach to infrastructure management. It minimizes the cost of construction and minimizes the potential of utility failure under a new street.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2020
	$0	$0	$500,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11255
Project:	Extend Recycled Water Line to PortSA
Programmed Amount:	$87,380
Core Business:	RW - Recycled Water
Category:	Recycled Water
Phase:	Design
Council District:	District 04

Description and Scope:

This project will design an 8" recycled water line extension to PortSA. The line is planned to be 2,850 feet and will provide recycled water service to PortSA. The line will provide recycled water to two initial customers, Project Tech and Building 145.

Justification:

The customers at PortSA have requested SAWS recycled water service. The recycled water line will also have the capacity to provide service to future customers.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$85,000	$850,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11257
Project:	Recycled Water System Upgrades and Improvements
Programmed Amount:	$771,000
Core Business:	RW - Recycled Water
Category:	Recycled Water
Phase:	Design
Council District:	System Wide

Description and Scope:

This project will assess the condition of all the SAWS recycled water system for the purpose of providing phased preliminary design recommendations for not only upgrading the system but also optimizing the operation of the system in order to continue to provide recycled water service to all our customers. These upgrades will focus on replacing and/or upgrading various equipment including pumps, control panels, electrical systems, and other appurtenances. Recommendations for optimal operation of the system will also be provided including any additional infrastructure that may be required to continue to serve our customers or expand service to others.

Justification:

The recycled water system is now over 20 years old and it is not only necessary to assess and evaluate the condition but also evaluate for purposes of optimizing its operation. This in turn will allow for proactive planning of upgrades required so that these upgrades can be programmed into the CIP over several years to minimize the impact of large costs/investment. These upgrades will position SAWS to continue to provide recycled water service to all our customers including critical customers that are part of our portfolio.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2020	2020	2022
	$0	$750,000	$0

Chilled Water

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SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	**Pro-11217**
Project:	**Chilled Water Overhead 2020**
Programmed Amount:	**$125,000**
Core Business:	CW - Chilled Water
Category:	Chilled Water
Phase:	Construction
Council District:	System Wide

Description and Scope:

SAWS overhead costs cover the direct costs associated with SAWS personnel that manage and support Capital Improvements Program (CIP) projects during the capitalizable phases of the project. The overhead costs were calculated primarily using the capitalized costs from staff time charged using the CIP Time Tracker on an annualized basis, and analyzing the remaining 2019 and prior year CIP projects and the future 2020 CIP projects.

Justification:

Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$125,000

SAN ANTONIO WATER SYSTEM
2020 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET

PROJECT OVERVIEW

Project ID:	Pro-11256
Project:	Hemisfair/S. Alamo Chilled Water Line
Programmed Amount:	$1,130,800
Core Business:	CW - Chilled Water
Category:	Chilled Water
Phase:	Construction
Council District:	District 01

Description and Scope:

The South Alamo chilled water line replacement project will replace and upsize a chilled water supply and return pipe in the South Alamo right of way. The 12-inch chilled water infrastructure is over 50 years old and near the end of its useful service life. It will be replaced by a 20-inch chilled water supply and return line from Nueva to Market Street. The Master Plan recommends this line be upsized to accommodate potential growth for the properties north of Market Street. Also there is a recommendation that the system be looped with another 20-inch pipe on Market Street which would come directly from the Central Plant. The new 20-inch pipe would accommodate the renewal of the existing service to the Hilton Palacio Del Rio and a new service for the development in the Hemisfair park. SAWS is negotiating connection fees with the developer to fund these improvements.

The 8-inch chilled water supply and return pipes that run from the Nueva and South Alamo intersection has had several breaks. This project will cut and cap it at its starting point near South Alamo and Nueva Street. The only customer served by the pipe line is the Plaza Nacional by Marriott. Their service will be transferred to existing stub outs that were provided when the 24-inch pipe from the Cherry Street plant was installed.

Justification:

The South Alamo right of way from Market Street to Cesar Chavez Boulevard is about to be rebuilt as part of a City of San Antonio bond program. The street will have fewer traffic lanes but wider pedestrian walkways with a great deal of landscaping improvements. The SAWS chilled water infrastructure is over 50 years old and near the end of its useful service live. In addition SAWS has experienced numerous pipeline failures in the right of way. The construction itself is a threat to the integrity of the piping systems. Future pipe failures in the new ROW will be very expensive to repair and politically undesirable. SAWS also desires to use the opportunity to upsize the pipe to grow the system.

The developer in the Hemisfair park has expressed concern regarding system reliability and about tying into outdated pipe. Their agreement to tie onto the chilled water system is contingent on SAWS replacing the old pipe.

Funding Information:	**Acquisition Year:**	**Design Year:**	**Construction Year:**
Amounts shown are estimated costs without inflation.	2019	2019	2020
	$0	$0	$1,100,000

Supplemental Information

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WATER SUPPLY FEE

Effective for all potable water consumption on or about January 1, 2019 and January 1, 2020, respectively.

This fee directly funds the acquisition of new water supplies to reduce San Antonio's dependence on the Edwards Aquifer.

The Water Supply Fee shall be assessed on all potable water service for water usage in every instance of service for each month or fraction thereof according to the schedule below:

WATER SUPPLY FEE

RATE CLASS	USAGE GALLON - BLOCK THRESHOLD	ASSESSED FEE RATE PER 100 GALLONS	
		Approved **2019**	Approved **2020**
Residential	2,992	$0.1040	$0.1585
	4,489	0.1819	0.2772
	5,985	0.2338	0.3563
	7,481	0.2859	0.4357
	10,473	0.3379	0.5150
	14,962	0.3899	0.5942
	20,199	0.4678	0.7129
	Over 20,199	0.6756	1.0296
General	Base*	$0.1961	$0.2989
	125% of Base	0.2256	0.3438
	175% of Base	0.2941	0.4482
	Over 175% of Base	0.3433	0.5232
Wholesale	Base**	$0.2554	$0.3892
	Over Base	0.7665	1.1681
Irrigation	8,229	$0.2566	$0.3911
	17,954	0.3592	0.5474
	162,316	0.4619	0.7039
	Over 162,316	0.5903	0.8996

* The Base Use for General Class is defined as 100% of the prior year's average monthly consumption.

**The Base Use for the Wholesale Class is defined as 100% of the prior year's average monthly consumption or as agreed to by the wholesale customer and approved by the SAWS Board of Trustees.

Residential Water and Sewer Rates

Residential Water Rates

Effective for all potable water consumption on or about January 1, 2019. No changes to these rates are proposed for implementation in 2020.

The Service Availability Charge (minimum bill) assessed for all residential water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons of water usage in every instance of service for each month or fraction thereof shall be as follows:

MONTHLY SERVICE AVAILABILITY CHARGE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
METER SIZE	Approved 2019	Approved 2019
5/8"	$12.82	$16.67
3/4"	16.97	22.06
1"	25.22	32.79
1 1/2"	45.85	59.61
2"	70.58	91.75
3"	128.34	166.84
4"	210.83	274.06
6"	417.07	542.18
8"	664.55	863.89
10"	953.27	1,239.24
12"	1,778.20	2,311.67

Lifeline Discount

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
	Approved 2019	Approved 2019
Discount *	$2.57	$3.34

MONTHLY VOLUME CHARGE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
	RATE PER 100 GALLONS	RATE PER 100 GALLONS
Usage Gallon Block Threshold	Approved 2019	Approved 2019
2,992	$0.0740	$0.0962
4,489	0.1295	0.1683
5,985	0.1665	0.2165
7,481	0.2034	0.2645
10,473	0.2405	0.3125
14,962	0.2775	0.3607
20,199	0.3329	0.4328
Over 20,199	0.4809	0.6253

*Water Service Availability Charge is reduced by the discount if monthly usage does not exceed 2,992 gallons.

Residential Sewer Rates

Effective for all potable water consumption on or about January 1, 2019. No changes to these rates are proposed for implementation in 2020.

Sewer service charges for all metered residential connections are computed on the basis of average water usage for 90 days during three consecutive billing periods beginning after November 15 and ending on or about March 15 of each year and are billed according to the rate schedules below.

MONTHLY SEWER SERVICE AVAILABILITY CHARGE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
METER SIZE	Approved 2019	Approved 2019
5/8"	$14.53	$17.43
3/4"	15.97	19.18
1"	18.14	21.78
1 1/2"	25.41	30.50
2"	36.31	43.58
3"	72.61	87.12
4"	108.91	130.70
6"	181.52	217.83
8"	290.41	348.52
10"	435.65	522.77
12"	580.86	697.03

MONTHLY SEWER VOLUME CHARGE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
	RATE PER 100 GALLONS	RATE PER 100 GALLONS
Usage Gallon Block Threshold	Approved 2019	Approved 2019
1,496	$0.0000	$0.0000
2,992	0.3104	0.3726
Over 2,992	0.4657	0.5588

Customers who do not have a winter record of water usage or an interim average will be billed for sewer service assuming **5,895** gallons monthly sewer usage. Customers with no San Antonio Water System water meter will be charged the Sewer Service Availability Charge based on a 5/8" meter size.

AFFORDABILITY DISCOUNT

Effective for consumption on or about January 1, 2020.

SAWS offers four levels of affordability discounts for residential customers who meet the income eligibility requirements.

To receive the discount, a customer must apply with the city of San Antonio Department of Human Services, Family Assistance Division. Program qualifications include being a SAWS customer, qualifying with DHS and meeting the federal income assistance guidelines. Eligibility is based on Household Family Size and Income at or below 125% Federal Assistance Guidelines

Affordability Program Discounts

Family Size	Annual income at or below
1	$15,613
2	21,138
3	26,663
4	32,188
5	37,713
6	43,238
7	48,763
8	54,288
Families with more than 8 persons	**Add $5,200 for each additional person**

2019 DISCOUNT BASED ON TYPE OF SERVICE PROVIDED

	Annual income at or below 50% Poverty	Annual income at or below 75% Poverty	Annual income at or below 100% Poverty	Annual income at or below 125% Poverty
Water and Sewer	$25.75	$17.95	$11.55	$9.05
Water only	11.25	8.15	5.30	4.15
Sewer only	14.50	9.80	6.25	4.90

2020 DISCOUNT BASED ON TYPE OF SERVICE PROVIDED

	Annual income at or below 50% Poverty	Annual income at or below 75% Poverty	Annual income at or below 100% Poverty	Annual income at or below 125% Poverty
Water and Sewer	$28.35	$19.40	$12.50	$9.80
Water only	13.85	9.60	6.25	4.90
Sewer only	14.50	9.80	6.25	4.90

General Class Water Service and Sewer Rates

Including Apartment, Commercial, Industrial and Municipal
Effective for consumption on or about January 1, 2019. No changes to these rates are proposed for implementation in 2020.

For business customers, a multi-step, base-excess use structure has been developed called the General Class. The base amount for General Class customers is 100% of customer's prior year's average monthly usage. Increased unit rates apply as usage exceeds each customer's base amount.

General Class Water Rates

Monthly Service Availability and Volume Charge
The Monthly Service Availability Charge (minimum bill) for all general water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons for water usage in every instance of service for each month or fraction thereof shall be as follows:

MONTHLY SERVICE AVAILABILITY FEE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
METER SIZE	Approved 2019	Approved 2019
5/8"	$13.86	$16.94
3/4"	19.79	24.12
1"	31.66	38.45
1 1/2""	61.29	74.27
2"	96.79	117.20
3"	179.74	217.47
4"	298.19	360.65
6"	594.32	718.67
8"	949.73	1,148.31
10"	1,364.34	1,649.54
12"	2,548.96	3,081.65

MONTHLY VOLUME CHARGE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
USAGE BLOCKS	RATE PER 100 GALLONS Approved 2019	RATE PER 100 GALLONS Approved 2019
Base	$0.1810	$0.2354
>100-125% of Base	0.2084	0.2710
>125-175% of Base	0.2717	0.3533
>175% of Base	0.3171	0.4121

The Base Use is defined as 100% of the prior year's average monthly consumption.

General Class Sewer Rates

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
	Approved	Approved
	2019	**2019**
5/8”	$14.53	$17.43
3/4”	15.97	19.18
1”	18.14	21.78
1 1/2”	25.41	30.50
2”	36.31	43.58
3”	72.61	87.12
4”	108.91	130.70
6”	181.52	217.83
8”	290.41	348.52
10”	435.65	522.77
12”	580.86	697.03

Customers who do not have a San Antonio Water System water meter will be charged the Sewer Service Availability Charge based on a 2" meter size.

MONTHLY SEWER VOLUME CHARGE

Usage Blocks Base*	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
	RATE PER 100 GALLONS	RATE PER 100 GALLONS
	Approved	Approved
	2019	**2019**
1,496	$0.0000	$0.0000
Over 1,496	0.4159	0.4992

The Base Use is defined as 100% of the prior year's average monthly consumption.

LANDSCAPE IRRIGATION SERVICE RATES

Effective for consumption on or about January 1, 2019. No changes to these rates are proposed for implementation in 2020.

The landscape irrigation rate applies to all "landscape irrigation" accounts. These exclude irrigation meters using water as part of their business function (e.g. process water and nurseries) as well as when used for health and safety purposes (e.g. school athletic fields). New commercial businesses are required to install separate landscape irrigation meters. Existing accounts will be retrofitted where possible. Accounts not retrofitted will be prorated based on estimated irrigation water use.

Monthly Service Availability and Volume Charge
The Monthly Service Availability Charge (minimum bill) for all irrigation water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons for water usage in every instance of service for each month or fraction thereof shall be as follows:

MONTHLY SERVICE AVAILABILITY FEE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
METER SIZE	Approved 2019	Approved 2019
5/8"	$13.86	$16.94
3/4"	19.79	24.12
1"	31.66	38.45
1 1/2""	61.29	74.27
2"	96.79	117.20
3"	179.74	217.47
4"	298.19	360.65
6"	594.32	718.67
8"	949.73	1,148.31
10"	1,364.34	1,649.54
12"	2,548.96	3,081.65

MONTHLY VOLUME CHARGE

	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
	RATE PER 100 GALLONS	RATE PER 100 GALLONS
Usage Gallon Block Threshold	Approved 2019	Approved 2019
8,229	$ 0.3292	$ 0.4279
17,954	0.4607	0.5991
162,316	0.5925	0.7702
Over 162,316	0.7570	0.9841

WHOLESALE WATER SERVICE AND SEWER RATES

Effective for consumption on or about January 1, 2019. No changes to these rates are proposed for implementation in 2020.

WHOLESALE WATER RATES

Water service charges for all metered wholesale water connections shall be the sum of the appropriate Water Service Availability Charge and the application of the Water Monthly Volume Charges to metered water usage in every instance of service for each month or fraction thereof and are billed according to the schedule below.

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	Approved 2019
6"	$538.85
8"	860.58
10"	1,235.91
12"	2,308.35

Wholesale water service will not be provided through a meter smaller than 6" in order to comply with fire-flow requirements and the "Criteria for Water Supply and Distribution in the City of San Antonio and its Extraterritorial Jurisdiction."

MONTHLY VOLUME CHARGE

	RATE PER 100 GALLONS
USAGE BLOCKS	Approved 2019
Base*	$0.2099
Over Base	0.6299

WHOLESALE SEWER RATES

Sewer service charges for all metered wholesale water connections shall be the sum of the appropriate Sewer Service Availability Charge and the application of the Sewer Monthly Volume Charges to metered water usage and are billed according to the schedule below.

MONTHLY SEWER RATE

	Approved 2019
Sewer Service Availability Charge	$340.07
Monthly Volume All Usage / per 100 gallons	$0.4438

EDWARDS AQUIFER AUTHORITY PERMIT FEE

Ordinance No. 87042 provides for the establishment and assessment of a pass-through charge of the Edwards Aquifer Authority Permit Fee to all San Antonio Water System water customers. Fee is assessed on all potable water usage. Any changes to the pass-through fee for 2020 will be evaluated at the end of 2019.

Year	EAA Fee *(per 100 gallons)*
2005	0.01549
2006	0.01482
2007	0.01352
2008	0.01769
2009	0.01222
2010	0.01841
2011	0.01407
2012	0.01719
2012*	0.03901
2013	0.03425
2014	0.03295
2015	0.03311
2016	0.04259
2017	0.03612
2018	0.03533
2019	0.03561

* Increased April 1, 2012 to include funding for EAA Habitat Conservation Plan Program.

TCEQ Fee

San Antonio Water System works cooperatively with government agencies to comply with local, state and federal regulations. As the state-level environmental agency, the Texas Commission on Environmental Quality (TCEQ) generates part of its operating revenue from fees charged to utilities like SAWS.

To help recover the fees assessed by TCEQ, SAWS charges every customer a TCEQ pass-through fee.

The pass-through fee applies to all residential, commercial and wholesale accounts. Any changes to the pass-through fees for 2020 will be evaluated at the end of 2019.

2019 TCEQ PASS-THROUGH FEE	
Service Type	**Monthly Rate**
Water Fee	$0.20
Wastewater Fee	$0.06

Recycled Water Service

Effective for all potable water consumption on or about January 1, 2019 and January 1, 2020, respectively.

Monthly Service Availability and Volume Charge
The Monthly Service Availability Charge (minimum bill) for all recycled water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons for water usage in every instance of service for each month of fraction thereof shall be as follows:

Edwards Exchange Customers

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	Approved 2019	Approved 2020
5/8"	$12.34	$14.71
3/4"	16.05	19.13
1"	20.92	24.94
1 1/2""	33.24	39.62
2"	48.60	57.93
3"	129.27	154.09
4"	192.15	229.04
6"	366.53	436.90
8"	552.50	658.58
10"	757.60	903.06
12"	934.75	1,114.22

MONTHLY VOLUME CHARGE

	Standard		Seasonal	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
Usage in Gallons	Approved 2019	Approved 2020	Approved 2019	Approved 2020
Transferred Amount	$0.0325	$0.0387	$0.0325	$0.0387
All in excess of transferred amount	0.1218	0.1452	0.1294	0.1542

The Volume Charge "Seasonal" Rate Per 100 Gallons shall be applied to all billings beginning on or about May 1 and ending after five complete billing months on or about September 30 of each year. At all other times the Volume Charge "Standard" Rate Per 100 Gallons shall be utilized.

NON EDWARDS EXCHANGE CUSTOMERS

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	Approved 2019	Approved 2020
5/8"	$12.34	$14.71
3/4"	16.05	19.13
1"	20.92	24.94
1 1/2"	33.24	39.62
2"	48.60	57.93
3"	129.27	154.09
4"	192.15	229.04
6"	366.53	436.90
8"	552.50	658.58
10"	757.60	903.06
12"	934.75	1,114.22

MONTHLY VOLUME CHARGE

	Standard		Seasonal	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
Usage in Gallons	Approved 2019	Approved 2020	Approved 2019	Approved 2020
First 748,000	$0.1303	$0.1553	$0.1401	$0.1670
Over 748,000	0.1332	0.1588	0.1413	0.1684

The Volume Charge "Seasonal" Rate Per 100 Gallons shall be applied to all billings beginning on or about May 1 and ending after five complete billing months on or about September 30 of each year. At all other times the Volume Charge "Standard" Rate Per 100 Gallons shall be utilized.

GLOSSARY

Acre-Foot	The volume of water that would cover one acre to a depth of one foot. It is equal to 325,851 gallons
Affordability Discount	Customer assistance program designed to provide a discount to customers who meet income eligibility requirements.
Annual Budget	A financial plan for a specified period of time (fiscal year) that assigns resources to each activity in sufficient amounts so as to reasonably expect accomplishment of the objectives in the most cost effective manner.
Aquifer	A wet underground layer of water-bearing permeable rock or unconsolidated materials (gravel, san, or silt) from which groundwater can be usefully extracted using a water well.
Balanced Budget	A budget in which planned revenues generated from various user fees and receipts are sufficient to fund planned expenditures.
Board	Board of Trustees of the San Antonio Water System
Bonds	City of San Antonio, Texas Water System Revenue and Refunding Bonds
Brackish Groundwater	Either slightly or moderately saline water containing between 1,000 and 10,000 milligrams per liter (mg/L) of total dissolved solids (TDS).
Build America Bonds	Taxable municipal bonds that carry special tax credits and federal subsidies for either the bond issuer or the bondholder. Build America Bonds were created under the American Recovery and Reinvestment Act on February 17, 2009.
Capital Improvement Program	The Capital Improvement Program (CIP) is a planning and budgeting tool that provides information about SAWS' infrastructure needs. It identifies facility and equipment requirements for sustaining, restoring and modernizing the facilities and infrastructure that support water supply and delivery, wastewater collection and treatment, and heating and cooling requirements in the SAWS service area. It also prioritizes and schedules them for funding and implementation through a multi-year plan.
Capital Expenditure	An expenditure that: • results in additions or improvements of a permanent nature • is in an amount exceeding $5,000 • adds value and has a useful life of more than one year • prolongs the life of the improved or enhanced property • is necessary to establish or implement the use of a capital asset such that the modification of other existing assets makes the new asset operational.
City	The City of San Antonio (COSA), located in the State of Texas.

City Council	The current elected officials of the City of San Antonio, as set forth in the City's Charter. Unless otherwise stated, the Mayor is considered part of the City Council.
Commercial Paper	An unsecured, short-term debt instrument maturing between 1 and 270 days, that provides the debt holders (bondholders) exemption from at least some taxes on the earnings at a local, state or federal level, or a combination thereof. The debt is usually issued at a discount, reflecting prevailing market interest rates. Tax-Exempt commercial paper is typically backed only by the issuer's promise to pay the face amount on the maturity date specified on the note.
CPS Energy	Municipally owned utility providing electric and gas to the San Antonio and Bexar County area - formerly City Public Service (CPS).
CPS Contract Or CPS Energy Contract	The Wastewater Contract executed on September 15, 1990 between the Alamo Conservation and Reuse District and the City Public Service Board of San Antonio.
Desalination	Brackish groundwater desalination
Debt	All indebtedness payable from Pledged Revenues and/or Net Revenues incurred or assumed by the City for borrowed money and all other SAWS financing obligations payable from Pledged Revenues and/or net Revenues that, in accordance with generally accepted accounting principles, are shown on the liability side of a balance sheet.
Debt Service Requirements	As of any particular date of computation, with respect to any obligation and with respect to any obligations and with respect to any period, the aggregate of the amounts to be paid or set aside by the City as of such date or in such period for the payment of the principal of, premium, if any, and interest (to the extent not capitalized) on such obligations.
District Special Project (DSP)	Former Bexar Metropolitan Water District
Encumbrance	Amount for which there is a legal obligation to spend in the future. A purchase order is a typical encumbrance transaction
Edwards Aquifer HCP	Edwards Aquifer Habitat Conservation Program
Fiscal Year	The twelve month accounting period used by SAWS in connection with the operation of the System, currently ending on December 31 of each year, which may be any twelve consecutive month period established by the Board, but in no event may the Fiscal Year be changed more than one time in any three calendar year period.

Gross Revenues	All revenue during such period in respect or on account of the operation or ownership of the System, excluding refundable meter deposits, restricted gifts, grants in aid of construction, any amounts payable to the Unites States as rebate, any impact fees charged by the System, payments received pursuant to the CPS Contract together with earnings and interest thereon, and earnings and income derived from the investment or deposit of money in the Construction Fund.
Junior Lien Obligations	Bonds, Previously Issued Junior Lien Obligations, and any Additional Junior Lien Obligations hereafter issued by the City, or bonds issued to refund any of the foregoing (as determined within the sole discretion of the City Council in accordance with applicable law) if issued in a manner so as to be payable from and equally and ratably secured by a junior lien on and pledge of SAWS' Net Revenues
Lift Station	Lift stations are facilities designed to move wastewater from lower to higher elevation, particularly where the elevation of the source is not sufficient for gravity flow and/or when the use of gravity conveyance will result in excessive excavation depths and high sewer construction costs.
Net Revenues	Gross Revenues of the System, with respect to any period, after deducting the System's Operating and Maintenance Expenses during such period.
Operations and Maintenance Expense	All current expenses of operating and maintaining the System not paid from the proceeds of any Debt, including: (1) The cost of all salaries, labor, materials, repairs, and extensions necessary to render efficient service, but only if, in the case of repairs and extensions, that are, in the judgment of the Board, necessary to maintain operation of the System and render adequate service to the City and the inhabitants thereof and other customers of the System, or are necessary to meet some physical accident or condition which would otherwise impair the payment of Debt, 2) Payments to pension, retirement, health hospitalization, and other employee benefit funds for employees of the Board engaged in the operation or maintenance of the System, (3) Payments under contracts for the purchase of water supply, treatment of sewage, or other materials, goods or services for the System to the extent authorized by law and the provisions of such contract, (4) Payments to auditors, attorneys, and other consultants incurred in complying with the obligations of the City or the Board, (5) The payments made on or in respect of obtaining and maintaining any Credit Facility, and (6) Any legal liability of the City or the Board arising out of the operation, maintenance, or condition of the System, but excluding any allowance for depreciation, property retirement, depletion, obsolescence, and other items not requiring an outlay of cash and any interest on the Bonds or any Debt
Ordinance	Ordinance No. 75686 adopted by the City Council on April 30, 1992.

Pledged Revenues	The Net Revenues, plus any additional revenues, income, receipts, or other resources, including, without limitation any grants, donations, or income received or to be received or to be received from the United States Government, or any other public or private source, whether pursuant to an agreement or otherwise, which hereafter are pledged by the City to the payment of the Senior Lien Obligations, and excluding those revenues excluded from Gross Revenues.
Potable Water	Water fit to drink.
Senior Lien Obligations	The outstanding and unpaid obligations of the City that are payable solely from and equally and ratably secured by a prior and first lien on and pledge of the Pledged Revenues of the System.
Sewershed	An area were the rain runoff flows are determined by curbs, storm drains, settling basins, pipes and outfalls to streams.
Sanitary Sewer Overflow (SSO)	A condition whereby untreated sewage discharged into the environment prior to reaching sewage treatment facilities
Strategic Plan	Strategic plan is a process of identifying corporate goals and priorities. The Strategic Plan becomes a management tool used to help an organization ensure that members of the organization are working toward the same goals, and to assess and adjust the organization's direction in response to a changing environment. Strategic planning is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it, with a focus on the future.
Subordinate Lien Obligations	The currently outstanding and unpaid obligations of the City that are payable wholly or in part from a lien on and pledge of the Net Revenues that is subordinate and inferior to the pledge thereof securing payment of the currently outstanding Senior Lien Obligations and the Junior Lien Obligations.
Swap	An exchange of streams of payments over time according to specified terms. The most common type is an interest rate swap, in which one party agrees to pay a fixed interest rate in return for receiving an adjustable rate from another party.
Tax Exempt Commercial Paper	An unsecured, short-term debt instrument maturing between 1 and 270 days, that provides the debt holders (bondholders) exemption from at least some taxes on the earnings at a local, state or federal level, or a combination thereof. The debt is usually issued at a discount, reflecting prevailing market interest rates. Tax-Exempt commercial paper is typically backed only by the issuer’s promise to pay the face amount on the maturity date specified on the note.
Watershed	An area or ridge of land that separates waters flowing to different rivers and basins.
Water Resources Integration Program	Approximately 45 miles of water transmission pipeline and a pump station that will convey water from SAWS' Twin Oaks Aquifer Storage and

	Recovery (ASR), Carrizo and Brackish Groundwater Desalination programs located at the SAWS Twin Oaks Facility property in south Bexar County to new and existing facilities in western and northwestern Bexar County.
Water Supply Fee	A consumption based fee that funds the acquisition of new water sources to reduce San Antonio's dependence on the Edwards Aquifer.

GLOSSARY OF ABBREVIATIONS

AMI	Advanced Metering Infrastructure
ASR	Aquifer Storage and Recovery
AWC	Average Winter Consumption
BGD	Brackish Groundwater Desalination
CCN	Certificates of Convenience and Necessity
CIP	Capital Improvement Program
COSA (CoSA)	City of San Antonio
CCTV	Closed circuit television
CFO	Chief Financial Officer
CIO	Chief Information Officer
CMOM	Capacity Management Operation and Maintenance
COO	Chief Operating Officer
CP	Commercial Paper Program
CPMS	Capital Project Management System
CPS	City Public Service Energy
CWIP	Central Water Integration Pipeline
D&C	Distribution and Collection Group
DEM	Dead end main
DSP	District Special Project (Formerly Bexar Metropolitan Water District)
EAA	Edwards Aquifer Authority
EAHCP	Edwards Aquifer Habitat Conservation Program
EARIP	Edwards Aquifer Recovery Implementation Program
EMT	SAWS Executive Management Team
EPA	U.S. Environmental Protection Agency
ESSC	East Side Service Center

EST	Elevated Storage Tank
FTE	Full-time equivalent
GASB	Government Accounting Standards Board
GBT	Gravity Belt Thickening System
GDP	Gross Domestic Product
GFOA	Government Finance Officers Association
GIS	Geographic Information System
GPCD	Gallons per capita per day
HCP (EAHCP)	Edwards Aquifer Habitat Conservation Program
I/I	Inflow and infiltration
IP	Internet Protocol
JBSA	Joint Base San Antonio
LCRA	Lower Colorado River Authority
LS	Lift Station
ITP	Incidental Take Permit
MGD	Million gallons per day
MSA	Metropolitan Statistical Area
MSL	Mean Sea Level
MYFP	Multi-year Financial Plan
O&M	Operations and Maintenance
OCCC	Owner Controlled Construction Changes
OPEB	Other Post-Employment Benefits
PLC	Programmable Logic Controllers
PV	Present value
PZ	Pressure Zone
R&R	Renewal and Replacement
SAEDF	San Antonio Economic Development Foundation

SAWS	San Antonio Water System
SBSP	Southwest Bexar Sewer Pipeline
SCADA	Supervisory Control and Data Acquisition system
SIFMA	Securities Industry and Financial Markets Association
SSLGC	Schertz-Seguin Local Governmental Corporation
SSO	Sanitary sewer overflow
SSORP	Sanitary sewer overflow reduction program
TCEQ	Texas Commission on Environmental Quality
TECP	Tax exempt commercial paper
TPDES	Texas Pollutant Discharge Elimination System
TXDOT	Texas Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
WCTS	Wastewater collection and transmission system
WD	Water Delivery
WMP	Water Management Plan
WRC	Water Recycling Center
WRIP	Water Resources Integration Pipeline
WTPA	Water Transmission and Purchase Agreement
WW	Wastewater
WWTP	Wastewater treatment plant

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