



**San
Antonio
Water
System**



Semiannual Water Management Report

January-June 2015

This page intentionally left blank

Water Management Plan

Semiannual Report

January – June 2015

3	Executive Summary
6	Water Supply Summary
10	Featured Project
12	Pumping to Customers
13	Financial Report
19	Glossary

About the cover:

The return of rains to the San Antonio area brought spring flows back to San Pedro Park during the spring of 2015. The last time there was significant flow from San Pedro Springs was 2007, and prior to that, 1996. Water levels in the Edwards Aquifer, which feeds San Pedro Springs and many others in the region, reached a peak of 673 feet above mean sea level on June 25, 2015. While this year's abundant spring rains provided significant recharge for the Edwards Aquifer, levels could not be maintained during the summer. The 10-day average dropped to 659.5, requiring a return to Stage 1 water restrictions effective Friday, July 31.

This page intentionally left blank

Executive Summary

The Semiannual Report to San Antonio City Council is a requirement of Chapter 34 of the Municipal Code, Section 34-1349. This report is submitted to City Council twice each year, covering the January through June and July through December time frames.

San Antonio Water System (SAWS) was created by an act of the City Council in May 1992, through Ordinance 75686. The District Special Project (DSP) was authorized in October 2011 by City Ordinance 2011-10-0845 to enable the transfer of assets, liabilities, rights, duties and obligations of the former Bexar Metropolitan Water District (BexarMet) to SAWS. SAWS and DSP combined serve approximately 1.7 million people which includes more than 478,000 water connections and 427,000 wastewater connections. The service area covers 927 square miles primarily in Bexar County and in limited areas of Atascosa, Medina and Comal counties.

This report documents various water resources activities including those pertaining to the implementation of San Antonio Water System's *2012 Water Management Plan* with focus on the period of January 1 through June 30, 2015. The report will:

- Review the progress on the *2012 Water Management Plan*,
- Provide a status report on the utility's water production at year's end,
- Recap the water supplies developed and costs during the reporting period,
- Provide an update on the acquisition of additional water supplies,
- Summarize revenues generated from the water supply fee, capital spending on water supply projects, and summarize the maintenance and operational expenses for completed projects, and,
- Outline the status on the awarding of contracts.

SAWS (including DSP) had a total potable production of 102,341 acre-feet for first half of 2015. One acre-foot of water is equal to 325,851 gallons. Included in this total is 76,179 acre-feet of Edwards Aquifer production. Our Edwards Aquifer supply in first half of 2015 accounted for 74 percent of the total potable demand. Water from non-Edwards Aquifer sources and ASR was 26 percent of the water pumped into distribution.

The current water supply portfolio consists of groundwater supplies from the Edwards Aquifer, the Trinity Aquifer in Bexar County, the Carrizo Aquifer in southern Bexar County and from Gonzales County for the Regional Carrizo Program. Additionally, groundwater is obtained from Carrizo Aquifer wells in Guadalupe and Gonzales counties via the Wells Ranch Project by Canyon Regional Water Authority (CRWA). SAWS surface water supplies include the Guadalupe-Blanco River Authority's Western Canyon Project,

Medina Lake and River system, and CRWA's Lake Dunlap Project. In addition, SAWS maintains as part of its diversified water supply portfolio the largest direct recycled water system and the largest groundwater-based Aquifer Storage and Recovery (ASR) facility in the nation.

In 2014 SAWS experienced a 35 percent cumulative year-end cutback to its Edwards pumping permits, the most severe in the history of Edwards Aquifer regulation. However, as a result of the community's investment in diversified water resources, water conservation programs, and adherence to applicable drought restrictions, ratepayers were able to offset the need for deeper water restrictions.

Heavy rains during the spring of 2015 sent the Edwards Aquifer level skyrocketing. As the 10-day average water level of the aquifer went above 660 feet msl, SAWS advised the City Manager that it would be appropriate to end drought restrictions for the time being. Per City ordinance, the San Antonio City Manager announced the end to water restrictions effective Wednesday, June 10, 2015. The City of San Antonio had been in some type of water restrictions since 2011, and had stayed in Stage Two restrictions since 2012. On June 25 the water level in the Edwards Aquifer J-17 monitoring well hit 673 feet elevation. Looking forward cautiously, SAWS closely monitors water levels continuously, particularly as hot, dry summer conditions return to the area.

SAWS 2012 Water Management Plan calls for the implementation of four planned water supplies (Brackish Groundwater Desalination Program, Expanded Bexar County Carrizo Aquifer, acquisition of additional Edwards Aquifer Water Rights and the Vista Ridge Project). The four supplies would add up to an additional 110,937 acre-feet per year of firm water supply by the year 2026. The timing of these planned water supplies may be altered due to revised planning assumptions being developed for the next *Water Management Plan*. Together, the capital costs of these proposed projects, including the construction of the Water Resources Integration Pipeline, would total approximately \$740 million. The new Vista Ridge project is projected to add \$147 million of capital costs to support the integration of the Vista Ridge water into the distribution system.

In 2014 SAWS and Abengoa officials signed a 54-inch diameter pipe to celebrate the launch of the new Vista Ridge water project. The proposal is for a long-term supply of water that will be delivered as early as 2019 and provide San Antonio up to an additional 50,000 acre-feet of water annually or 20 percent of its annual demand from a non-Edwards Aquifer source. Under the proposal, Abengoa Vista Ridge has secured sufficient rights in Burleson County, northeast of Austin, and will develop the wellfield and construct the pipeline to San Antonio.

SAWS broke ground for its brackish groundwater desalination (BGD) project in South Bexar County in July 2014. Phase one of the project was under construction during the first half of 2015 and is scheduled for completion in 2016. Phase 1 will deliver a desalination plant capable of producing 12 million gallons of drinking water per day

by treating moderately salty groundwater from the Wilcox Aquifer.

In 2015, SAWS Water Resource planners began meeting to develop the new Water Management Plan. The new Water Management Plan will address significant changes that have occurred since the 2012 plan was created:

- Per capita water use - This number has been trending downward steadily.
- Population - New information reflecting increased growth trends.
- Current Supplies - To reflect SAWS significant progress in bringing new supplies on line.
- Drought of Record Revisions - The new model will update the 1950s drought of record to include more recent experience with the drought of the last four years.
- BexarMet Integration – To include changes in supply and demand since SAWS began managing former BexarMet service areas in 2012.

The Water Supply Fee is a multi-year funding mechanism for the development, construction and management of additional water supply. Since its implementation in 2001, the Water Supply Fee has generated over \$1 billion to support the expansion and diversification of SAWS' water portfolio. The money generated from the Water Supply Fee has been used to fund capital investments, operating and maintenance expenses, and debt service associated with new water supply projects. SAWS' capital investment in water supply projects since 2001 totals over \$910 million.

The next section of this report will discuss the status and progress of SAWS' water portfolio with a focus on the first six months of 2015.

Water Supply Summary

This section summarizes the status and activities for each water resource project for the first six months of 2015.

Current Supply	Demand (Jan-Jun 2015) acre-feet	Supply Status
Edwards Aquifer Supplies <i>Groundwater supply</i>	76,179	<ul style="list-style-type: none"> 2015 beginning of year permit was 288,824 acre-feet In May 2015, inventory increased to 289,101 acre-feet through increasing the volume under lease and return of water from the Edwards Aquifer Authority's groundwater trust as part of the Edwards Aquifer Habitat Conservation Plan (EAHCP) SAWS determined that no additional leases are necessary in 2015, and is instead focusing on leases that will begin in 2016
Medina Lake and River System <i>Surface water supply</i>	0	<ul style="list-style-type: none"> On April 25, 2013, SAWS requested Bexar Medina Atascosa (BMA) Water District to discontinue delivery due to decreased water quality as a result of declining Medina Lake levels. The lake was at 6% capacity Medina Lake was at 3.3% capacity on January 1, 2015. On June 30, the lake was at 72 % capacity as a result of abundant spring rains
Direct Recycled Water <i>Recycled water</i>	3,574 (actual use) (CPS not included)	System total capacity: 35,000 acre-feet <ul style="list-style-type: none"> 10,000 acre-feet assigned to CPS Energy System Supply: 25,000 acre-feet <ul style="list-style-type: none"> o Contracted 12,999 acre-feet o Available supply: 12,001 acre-feet
Trinity Aquifer <i>Groundwater supply</i>	4,439	<ul style="list-style-type: none"> Production has increased due to recharge during the period
Canyon Regional Water Authority <i>Surface/Groundwater supply</i>	1,729	<ul style="list-style-type: none"> Canyon Regional is transitioning its disinfection methods that would allow SAWS to take additional water in the future
Canyon Lake <i>Surface water supply</i>	4,726	<ul style="list-style-type: none"> Canyon Lake continues to deliver a steady, reliable water supply

Current Supply	Demand (Jan-Jun 2015) acre-feet	Supply Status
Twin Oaks Aquifer Storage and Recovery Groundwater Supply	SAWS Edwards water from ASR storage to customer: 5,646 SAWS Edwards water to storage: 0	<ul style="list-style-type: none"> Total volume of water in storage (June 30, 2015): 72,236 acre-feet EAHCP Edwards water to storage totaled 4,392 acre-feet through June 30 (January and April-June).
Carrizo Aquifer (Bexar County) Groundwater Supply	3,123	<ul style="list-style-type: none"> Production occurred January through April.
Regional Carrizo Program Groundwater Supply	6,499	<ul style="list-style-type: none"> Includes SAWS Buckhorn wellfield production in Gonzales County plus water purchased from Schertz-Seguin Local Government Corporation.

Planned Projects (2012-2020)	Project Status
Additional Edwards Aquifer <i>Groundwater supply</i> (Acquisition)	<ul style="list-style-type: none"> • See comments on Current Edwards leasing/purchases above
Expanded Carrizo (Bexar County) <i>Groundwater Supply</i> (Design)	<ul style="list-style-type: none"> • Project Kickoff Meeting was held on Oct. 24, 2014 with the design team • Aquifer modeling efforts were completed in Jan. 2015 • Design for Phase I in progress • 2012 WMP called for delivery of 7,000 acre-feet per year by 2017. Timing may be altered due to current planning process
Brackish Groundwater Desalination Program <i>Brackish Groundwater</i> (Construction)	<ul style="list-style-type: none"> • Groundbreaking for construction of plant took place on July 2, 2014 • Construction of the treatment plant, conveyance system, and Phase I production and injection wells is in progress and is expected to be completed by the end of 2016
Abengoa Vista Ridge <i>Groundwater</i> (Contract, Design)	<ul style="list-style-type: none"> • On Nov. 4, 2014, the Water Transmission and Purchase Agreement between SAWS and Abengoa Vista Ridge was executed • SAWS hired a new Senior Director-Vista Ridge to oversee and direct activities related to the Abengoa Vista Ridge Project • Vista Ridge Consortium will develop the well field and construct the pipeline • SAWS will invest approximately \$147 million in infrastructure to integrate Vista Ridge water into the system • SAWS will only pay for water made available for delivery

Planned Mid-Term Projects (2021-2039)	Project Status
<p>Conservation Programming <i>Water Conservation</i></p>	<ul style="list-style-type: none"> • Programming to maintain dry year consumption at 135 gallons per capita per day (GPCD) beyond 2020 • 2014 demand was approximately 121 GPCD
<p>Brackish Groundwater Desalination Program Phases II and III <i>Brackish Groundwater Supply</i></p>	<ul style="list-style-type: none"> • Future expansion of brackish groundwater production in south Bexar County • In the 2012 WMP, Phases II and III were anticipated to provide an additional 13,440 acre-feet annually by 2021 and an additional 6,720 acre-feet annually by 2026, respectively, however, timing may be altered due to current planning process • Hydrologic modeling has been conducted to determine the amount of additional Wilcox Aquifer production and number of wells that could be supported • This analysis also examined whether the project would remain within the limits set by the Desired Future Conditions (DFCs) for the groundwater management area (GMA9) as required by the state
<p>Expanded Carrizo (Bexar County) Project Phases II and III <i>Groundwater Supply</i></p>	<ul style="list-style-type: none"> • Future expansion of Local Carrizo production in south Bexar County • In the 2012 WMP, Phases II and III are anticipated to provide an additional 7,000 acre-feet annually for each phase, by 2022 and 2027. Timing and yield may be altered due to current planning process

Featured Projects

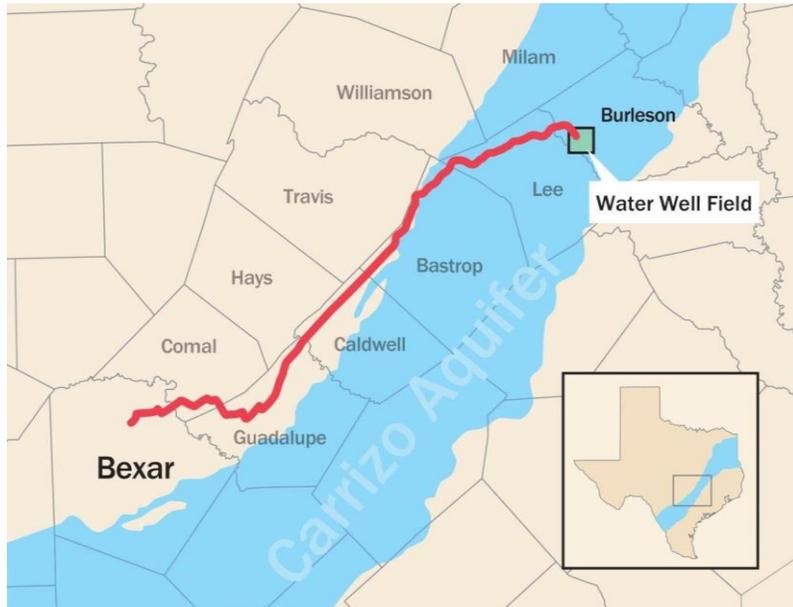
Abengoa Vista Ridge – Regional Water Supply

Project Status: Planned Project for 2012-2020; Project approved, Contract signed

Water Supply: Groundwater, Carrizo and Simsboro Aquifers in Burleson County

Background:

On Nov. 4, 2014, SAWS Board of Trustees and San Antonio City Council concluded a four-year effort to secure a major new water source when they approved a contract with Abengoa Vista Ridge (AVR) to supply up to 16.3 billion gallons annually to San Antonio. The agreement calls for AVR to build and operate wells and a pipeline system to pump groundwater from Burleson County to San Antonio for a period of 30 years. In exchange, SAWS will pay a fixed unit price for water actually delivered, plus all operating and maintenance costs. At the end of the term, the contract will expire, and the well and pipeline system ownership, as well as the right to continue purchasing the leased water, will transfer to SAWS. At this point, a large portion of the project's cost will be eliminated, and the overall price will be reduced significantly.



The contract signing initiated the development phase involving permitting, easement acquisition, and the sale of bonds necessary to finance construction of the project. After financing is secured, the contract allows for up to 42 months for the construction phase to be completed. Thereafter, the operations phase will begin and continue for 30 years. Thereafter, SAWS will continue operating the project directly, with continuing access to the water rights.

Activities this Period:

Contracts with engineers, surveyors, land acquisition specialists and hydrogeologists have been executed. In March 2015, Central Texas Regional Water Supply Corporation (CTRWSC)

formed and was subcontracted by AVR to perform land acquisition, design, construction and operation of the pipeline system.

Though a few minor adjustments are pending, most of the pipeline route and potential locations for pump stations have been established. Requests to landowners to gain right-of-entry as the first step to acquiring easements and property on which to build the pipeline have been issued. Land surveys and geotechnical investigations are underway.

CTRWSC submitted an application to TCEQ, and received the designation as a Public Water System, giving it the authority to operate as a water supplier. Inquiries to regulatory and governmental entities have been made to begin the permitting process for stream and road crossings.

Preliminary hydraulic engineering work to establish the optimal pipe sizing and the number and location of pump stations was initiated. AVR held preliminary discussions with electricity service providers to determine the availability of electrical power for the pump stations.

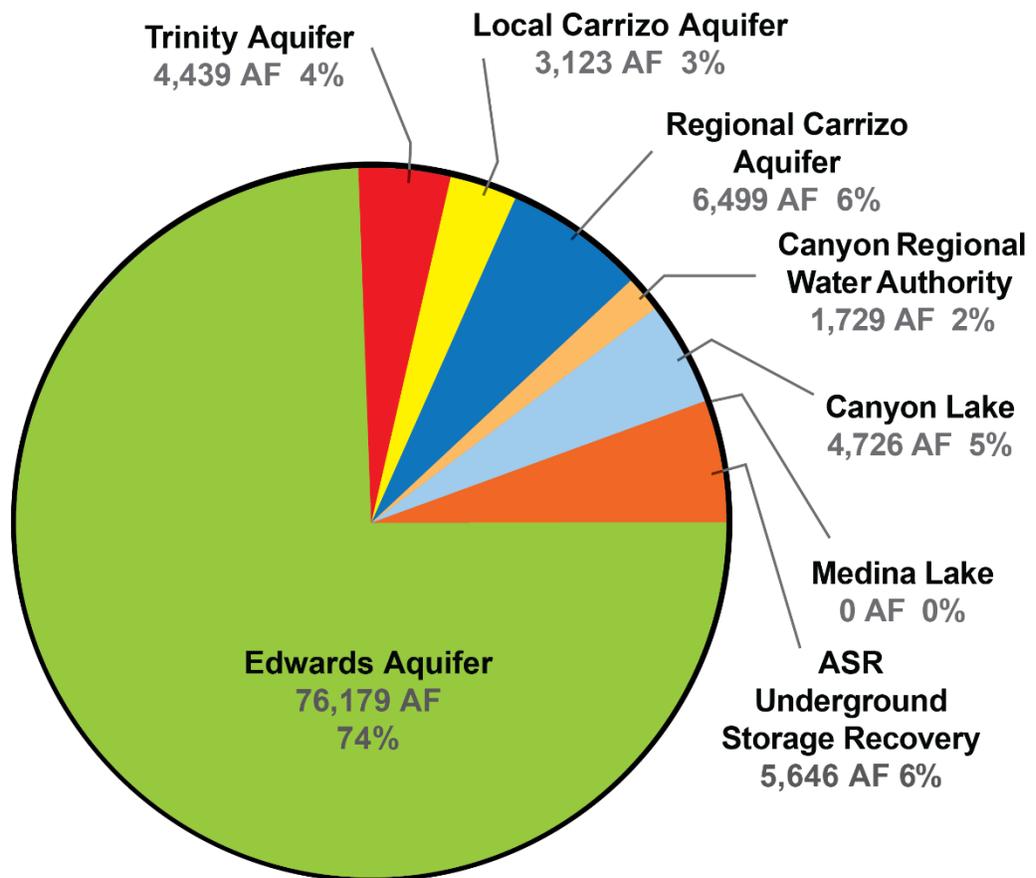
The hydrogeologist conducted aquifer evaluations and developed a plan for drilling temporary test wells. Two test wells have been completed, and initial water quality testing indicates the aquifer waters are of high quality.



Pumping to Customers

In the first six months of 2015, SAWS had a total potable production of 102,341 acre-feet (AF). This includes the demand of SAWS District Special Project (DSP, former BexarMet). The number does not include the 4,392 AF of Edwards Aquifer water that was stored in SAWS Aquifer Storage & Recovery Twin Oaks facilities (ASR) as part of the storage agreement for the Edwards Aquifer Authority Habitat Conservation Plan (EAHCP). This total demand was supplied by water sources shown in the chart below.

SAWS Potable Water Demand for January - June 2015 (acre-feet)



Financial Report

Integration of Bexar Metropolitan Water District Assets, Operations and Personnel

In November 2011, 74 percent of voters in the Bexar Metropolitan Water District (BexarMet) voted to dissolve the utility and for transferring the responsibility for its assets and operations to SAWS. The election was authorized by the Texas Legislature through Senate Bill (SB) 341, adopted in May 2011. Effective Jan. 28, 2012, the assets, liabilities, rights, duties and obligations of BexarMet were transferred to an entity known as the San Antonio Water System District Special Project (SAWS DSP). Management and control of SAWS DSP is vested in the SAWS Board of Trustees (Board) in accordance with the District Special Project Ordinance, SAWS DSP will be reported as a discrete component unit of the City of San Antonio until full integration with SAWS has been completed. Full integration with SAWS will be considered to have occurred when the rates paid by SAWS DSP customers for water service are the same as those paid by SAWS customers and no SAWS DSP debt remains outstanding.

SAWS has been tasked with rebuilding a water utility that was facing severe financial and budgetary constraints, infrastructure needs, non-firm water sustainability, relatively high water rates, relatively low employee compensation, lack of appropriate employee resources due to layoffs, and a generally poor relationship with the public. Through concerted efforts during 2012 and 2013, SAWS resolved most of the challenges facing the prior utility.

While full integration of SAWS DSP rates with those of SAWS may not be complete, the operational integration is mostly complete. Future efforts will focus primarily on ways to develop one integrated rate structure for all customers as well as redeem all outstanding debt of SAWS DSP. Once that has been accomplished, SAWS DSP will be dissolved. Complete integration with SAWS is required to occur by January 2017 unless SAWS requests an extension from the Texas Commission on Environmental Quality.

Water Supply Fee

On Oct. 19, 2000, the San Antonio City Council via Ordinance #92753 approved a funding mechanism for the construction and development of additional water resources to meet projected water demands for the City of San Antonio and Bexar County for the next 50 years.

The Water Supply Fee assists in funding expenditures for the development of new water resources to include all operating, maintenance, research and development, and capital costs (including debt service when capital expenditures are debt funded). As mentioned earlier, SAWS has the largest direct recycled water systems in the nation, which reduces the need for additional

water supplies and therefore reduces the size of the Water Supply Fee.

The Water Supply Fee is tiered for residential and irrigation customers. A residential customer using the average of 7,788 gallons in a month will pay a total Water Supply Fee in 2015 of \$11.04. The Water Supply Fee per 100 gallons in 2015 for each customer class is summarized below.

RATE CLASS	Usage Blocks Gallons	Assessed Fee RATE PER 100 GALLONS
<i>Residential</i>	First 5,985	\$0.1285
	Next 6,732	\$0.1858
	Next 4,488	\$0.2622
	Over 17,205	\$0.4589
<i>General</i>	All blocks	\$0.1976
<i>Wholesale</i>	All blocks	\$0.1976
<i>Irrigation</i>	0 Gallons	\$0.0000
	Next 6,732	\$0.1976
	Next 10,473	\$0.2622
	Over 17,205	\$0.4975

On Dec. 2, 2014, the SAWS Board of Trustees approved a 5.1 percent increase in the Water Supply Fee effective for water used beginning Jan. 1, 2015. This increase was in line with the 2015 rate request pre-approved by City Council in November 2013.

Water Supply Fee Financial Reports

The following tables provide an accounting of the collection and uses of the Water Supply Fee since its inception in 2001.

San Antonio Water System Sources and Uses of Funds Water Supply 2001-June 2015 <i>(\$ in Millions)</i>	
Water Supply Fee	\$1,055.16
Operating Transfer from Water Delivery	148.22
Non-operating income & Other	62.79
Recycle Water Revenues	55.06
Water Supply Impact Fees	104.51
Bond Proceeds	823.43
Water Supply O&M	(577.34)
Debt Service	(432.03)
Capital Funding	<u>(911.87)</u>
Funds Provided	<u>327.92</u>
Restrictions on Cash	204.25
Designations on Cash	<u>91.96</u>
Unrestricted/Undesignated Funds	<u>\$ 31.71</u>

San Antonio Water System
Operating & Maintenance Expenditures
2001-June 2015
(\$ in Millions)

Operating and Maintenance Costs	
Western Canyon Project - GBRA	\$ 76.47
Oliver Ranch - Lease Payments & Production Costs	20.96
BSR - Lease Payments & Production Costs	4.62
Regional Carrizo - Water Sales Agreements & Other ³	36.97
Brackish Desalination	1.32
Edwards - Lease Expense & Other	56.29
Aquifer Storage & Recovery Project	38.09
Aquifer Protection & Compliance	30.70
Vista Ridge ⁵	0.07
Recycled Water Operations	35.16
Conservation Program - net loss	7.27
Stormwater program - net loss	4.05
LCRA - Study Period and Other, Net of Cash Recovery ⁴	20.77
Lower Guadalupe Water Supply Project	6.26
Simsboro Aquifer	4.41
Recharge Initiative	0.80
Other Water Resources Cost	13.94
Facilities Maintenance	19.65
Communication & Outreach	10.66
Legal - Water Law	7.48
Billing & Collections	40.46
Finance & Information Systems	37.21
Corporate Facilities	10.14
Human Resources, Safety, Other Benefits ¹	29.91
Other Support Services ²	28.76
Transfer to COSA	<u>34.93</u>
Total Operating & Maintenance	<u>\$ 577.34</u>

¹ Includes workers compensation and dependent and retiree health insurance.

² Includes executive management, Board of Trustees, Internal Audit, Legal (corporate) and other miscellaneous.

³ Includes a \$12.4 million write-off of pipeline design costs made obsolete with the agreement with Schertz Seguin Local Government Corporation to transport water from Gonzales county to SAWS.

⁴ Total program cost net of cash recovered from LCRA settlement.

⁵ Development Stage costs paid by SAWS.

San Antonio Water System
Water Supply Capital Spending
2001-June 2015
(\$ in Millions)

	FUNDING		
	Pay-as-you-go	Debt	Total
Water Supplies:			
Non-Edwards Water Supplies			
Western Canyon Project - GBRA	\$ 3.31	\$ 10.87	\$ 14.18
Trinity Aquifer Projects (Oliver Ranch/BSR)	12.49	-	12.49
Local Carrizo	1.31	13.52	14.82
Brackish Desalination	11.87	88.98	76.84
Regional Carrizo	55.43	63.76	118.89
Aquifer Storage & Recovery Project (ASR)	2.08	245.44	247.52
Expanded Carrizo	0.09	0.18	0.27
Recycled Water System	1.23	84.86	86.08
Total Non-Edwards	87.79	507.61	595.41
Edwards Aquifer Water Rights	87.52	153.18	240.70
Total Water Supply Capital Spending	175.31	660.79	836.10
Other Capital Spending:			
Integration	15.19	20.67	35.86
Unallocated Project Overhead	7.33	-	7.33
Land, Buildings & Equipment	27.30	5.29	32.59
	49.81	25.96	75.77
Total Capital Spending	\$ 225.12	\$ 686.75	\$ 911.87

San Antonio Water System Cash Restrictions/Designations Water Supply 2001-June 2015 <i>(\$ in Millions)</i>	
Restrictions on Cash:	
Operating Reserve	\$ 15.04
Reserve Fund	19.20
Construction Funds:	
Bond Funds ¹	136.40
Impact Fees ²	<u>33.61</u>
	204.25
Designations on Cash:	
Future Reserve Fund deposits	0.17
PGA Monitoring/WQEE	1.30
Interest Mitigation Fund ³	15.32
2013 & Prior CIP program (cash funds)	<u>75.19</u>
	91.96
Unrestricted/Undesignated Funds	<u>31.71</u>
Total Water Supply Funds Available	<u>\$ 327.92</u>

¹ Represents bond proceeds currently on hand. These proceeds have all been committed to be used on existing projects.

² Represents unspent impact fees. These have all been committed to fund CIP projects in the 2015 & prior CIP program or they will be used to help fund future CIP programs.

³ Represents funds accumulated as a result of favorable variances in debt service. Funds may be used for CIP or to otherwise reduce debt service costs.

Glossary

AF/yr	Acre-Foot per year (325,851 gallons)
ASR	Aquifer Storage & Recovery Facility / underground storage facility
BGDP	Brackish Groundwater Desalination Program
BMA	Bexar-Medina-Atascosa Improvement District #1
BMWD	Bexar Metropolitan Water District
BSR	Bulverde Sneckner Ranch
CCN	Certificate of Convenience and Necessity
CRWA	Canyon Regional Water Authority
DFC	Desired Future Condition
DOR	Drought of Record
DSP	District Special Project (former BexarMet)
EAA	Edwards Aquifer Authority
EAHCP	Edwards Aquifer Habitat Conservation Plan
EOY	End of Year
GBRA	Guadalupe-Blanco River Authority
GCD	Groundwater Conservation District
GPCD	Gallon Per Capita Per Day
HCP	Habitat Conservation Plan
MGD	Million Gallons per Day
OR	Oliver Ranch
RCP	Regional Carrizo Project
RFCSP	Request For Competitive Sealed Proposals
SAWS	San Antonio Water System
SB	Senate Bill
SSLGC	Schertz-Seguin Local Government Corporation
TWDB	Texas Water Development Board
WMP	2012 Water Management Plan
WSC	Water Supply Corporation
WTPA	Water Transmission and Purchase Agreement

Firm Yield – The volume of water which can be produced from a defined source during a repeat of the drought of record under existing regulatory, legal, contractual, hydrological or infrastructure constraints.

Desired Future Condition – Defined by Title 31, Part 10, §356.10 (6) of Texas Administrative Code as "the desired, quantified condition of groundwater resources (such as water levels, spring flows or volumes) within a management area at one or more specified future times as defined by participating groundwater conservation districts within a groundwater management area as part of the joint planning process."

This page intentionally left blank

