

COMPREHENSIVE COST OF SERVICE AND RATE DESIGN ANALYSIS

San Antonio Water System

PREPARED FOR

San Antonio Water System

26 MAY 2015

B&V PROJECT NO. 182649



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Executive Summary

The SAWS Rate Advisory Committee (RAC), an advisory group appointed by the San Antonio Water System (SAWS) Board of Trustees, and SAWS staff completed work on an updated Comprehensive Cost of Service and Rate Design Study. This report is the culmination of this effort; it documents the process followed to develop the recommendations included herein, the cost of service analyses supporting such recommendations, and the rationale behind the design of the proposed rate structures for SAWS' water and wastewater utilities. Additionally, the study included an analysis of the impact of converting the District Special Project (DSP) to SAWS water rates, an analysis of various water utilities' customer affordability programs and a review of SAWS' Special Services Fees. The specific objectives of the study were to:

- Allocate projected revenue requirements for 2015 to the various customer classes in accordance with the respective cost of service requirements.
- Update the cost of service factors used to properly allocate revenue requirements and determine appropriate customer class groupings.
- Develop suitable rate schedules that produce revenues adequate to meet financial needs of each utility while recognizing customer costs of service and local and state legal and policy considerations.
- Design aggressive conservation-oriented rate structures that incentivize the efficient usage of water. These rate structures should also strive to ensure that life essential uses of water are made as affordable as possible.
- Review and update the SAWS recycled water rate schedule.
- Develop a multi-year financial model that projects the impact on SAWS future rates of different assumptions regarding future capital and operating requirements. These assumptions include 1) the cost of water provided by the Vista Ridge project and the possible sale of Vista Ridge water to communities along the pipeline route; 2) the timing of converting DSP customers to SAWS rates; and 3) elasticity of customer demand as a result of conservation efforts, projected future rate adjustments and significant drought restrictions.
- Review and analyze SAWS' affordability programs in comparison with other metropolitan utilities and suggest improvements to the current programs.
- Update current Special Services Fees to ensure that SAWS is adequately recovering costs associated with the related services.

The RAC made its first major contribution in the rate setting process by identifying the policy priorities or pricing objectives the committee members believed were most important to consider. It was understood by all parties that viable alternative rate structures would exemplify all of the pricing objectives, with an emphasis on the top ranked objectives as illustrated in Table 1.

Table 1 RAC Rate Analysis Objectives

RATE STUDY PRIORITIES	
ESSENTIAL	1 Financial Sufficiency
	2 Cost of Service Based Allocations
	3 Revenue/Rate Stability
VERY IMPORTANT	4 Conservation
	5 Drought Management
	6 Economic Development
IMPORTANT	7 Affordability
	8 Simple to Understand/Update
LEAST IMPORTANT	9 Minimize Customer Impact
	10 Ease of Implementation

Following the priority of pricing objectives, the RAC held several meetings to discuss the rate structure design options available. At these meetings, the RAC made the following decisions:

- Resolved that rates should be based on cost of service principles to serve each class of customers.
- Concurrence with concept of discretionary versus non-discretionary water consumption as foundation for conceptual rate design.
- Concurrence with the concept of Lifeline Supply pricing as a means to supplement SAWS customer affordability programs.
- Concurrence with concept of more progressive pricing structures for both water and wastewater systems to further encourage conservation efforts.
- Concurrence with the elimination of the seasonal rate structure and the possible development of an incremental drought rate structure that will serve to facilitate usage restriction efforts as well as to stabilize revenues during such periods.
- Concurrence with the need to update SAWS’ Special Services fee schedule as well as SAWS’ Wholesale and Recycled Water rate schedules to better reflect cost of service principles.

With these basic principles in mind and after an extensive review of various alternatives, the following are recommendations for consideration by the SAWS Board.

RECOMMENDATIONS

Water Rate Structure and Rates

- Develop a Residential Lifeline Supply rate block to incentivize very efficient use of water and to provide all residential customers with a very low rate for life essential uses of water. This proposal would change the rate structure by reducing the volumetric rate for the first 2,992 gallons of consumption and lowering the fixed charge for customers with no usage above 2,992 gallons.
- Expand the number of Residential volumetric blocks from four to eight. This change will allow SAWS to send an earlier price signal to all customers with usage above the Lifeline Supply amount and will further incentivize customer conservation efforts by affording customers the opportunity to move down the rate blocks with moderate reductions in usage.
- Continue to group the multi-family customers with the General class.
- Expand the number of Irrigation volumetric blocks from three to four, sending the highest price signal to the top 20% of irrigation usage.
- For the Wholesale class, reduce the existing four block volumetric block structure to two blocks where the first block represents the customer's prior year's average monthly usage or the base use amount as defined in a wholesale contract and the second block represents water usage by wholesale customers above the prior year average or the agreed upon base amount. Eliminate the distinction between inside city limit (ICL) and outside city limit (OCL) wholesale rates and develop one wholesale water rate structure that fully recovers the estimated cost of providing wholesale water service to existing wholesale customers.
- Eliminate the seasonal rate structure. At the time that the seasonal structure was implemented by SAWS, the Edwards Aquifer Authority (EAA) controlled water permits on a quarterly basis. Currently, the EAA controls water permits on an annual basis. As a result, seasonal rates have lost much of their effectiveness. Additionally, because weather patterns do not consistently follow seasonal trends, there can be quite a bit of revenue volatility for SAWS during the seasonal rate time period.
- Apply consistent block differentials to both water delivery and the water supply rates within each rate class.
- Consider the following combined water delivery and water supply rate schedules for FY 2015 for ICL customers (Tables 2 through 5). Separate water delivery and water supply ICL rate schedules as well as OCL rate schedules are included in Appendix C of this report. Note that the range of volumetric rates presented in the existing rate schedules for some classes represent standard and seasonal rates. As part of this analysis, the recommendation is to eliminate the seasonal rate structure.

Table 2 Proposed FY 2015 Water Rates – Residential (ICL)

Description	Residential ICL			
	Existing		Proposed FY 2015	
Availability Charge (meter size)*	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$7.57		\$9.76	
3/4"	\$10.63		\$12.91	
1"	\$16.72		\$19.19	
1 1/2"	\$31.94		\$34.88	
2"	\$50.18		\$53.69	
3"	\$92.80		\$97.63	
4"	\$153.67		\$160.38	
6"	\$305.86		\$317.27	
8"	\$488.47		\$505.54	
10"	\$701.52		\$725.18	
12"	\$1,310.24		\$1,352.74	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Combined Water Volumetric Rate				
Block 1	5,985	\$0.2291	2,992	\$0.1379
Block 2	12,717	\$0.3315 - \$0.3442	4,489	\$0.2413
Block 3	17,205	\$0.4675 - \$0.4977	5,985	\$0.3103
Block 4	Above	\$0.8185 - \$0.9469	7,481	\$0.3792
Block 5			10,473	\$0.4482
Block 6			14,962	\$0.5171
Block 7			20,199	\$0.6206
Block 8			Above	\$0.8964

* Proposed Residential Availability Charge will be reduced by \$1.95 if usage does not exceed 2,992 gallons.

Table 3 Proposed FY 2015 Water Rates – General (ICL)

Description	General ICL**	
	Existing	Proposed FY 2015
Availability Charge (meter size)	<i>(per bill)</i>	
5/8"	\$10.53	\$10.54
3/4"	\$15.05	\$15.06
1"	\$24.08	\$24.08
1 1/2"	\$46.65	\$46.62
2"	\$73.74	\$73.63
3"	\$136.96	\$136.73
4"	\$227.28	\$226.84
6"	\$453.06	\$452.12
8"	\$723.99	\$722.49
10"	\$1,040.08	\$1,037.89
12"	\$1,943.21	\$1,939.07
	<i>(per 100 gal)</i>	<i>(per 100 gal)</i>
Combined Water Volumetric Rate		
Base	\$0.3194	\$0.2918
101% - 125% of Base	\$0.3433	\$0.3356
126% - 175% of Base	\$0.4018	\$0.4377
176% of Base and Above	\$0.4967	\$0.5107

**General class includes Commercial, Multi-family, Industrial, and Municipal customers

Table 4 Proposed FY 2015 Water Rates – Wholesale

Description	Wholesale			
	Existing		Proposed FY 2015	
Availability Charge (meter size)	<i>(per bill)</i>		<i>(per bill)</i>	
6"	\$397.62		\$409.92	
8"	\$635.03		\$654.67	
10"	\$911.98		\$940.20	
12"	\$1,703.33		\$1,756.03	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Combined Water Volumetric Rate				
Block 1	Base	\$0.3074	Base	\$0.3604
Block 2	101% - 125% of Base	\$0.3626	Greater than Base	\$1.0811
Block 3	126% - 175% of Base	\$0.4359		
Block 4	176% of Base and Above	\$0.5345		

Table 5 Proposed FY 2015 Water Rates – Irrigation (ICL)

Description	Irrigation ICL			
	Existing		Proposed FY 2015	
Availability Charge (meter size)*	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$10.53		\$10.54	
3/4"	\$15.05		\$15.06	
1"	\$24.08		\$24.08	
1 1/2"	\$46.65		\$46.62	
2"	\$73.74		\$73.63	
3"	\$136.96		\$136.73	
4"	\$227.28		\$226.84	
6"	\$453.06		\$452.12	
8"	\$723.99		\$722.49	
10"	\$1,040.08		\$1,037.89	
12"	\$1,943.21		\$1,939.07	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Combined Water Volumetric Rate				
Block 1	6,732	\$0.3689	8,229	\$0.4519
Block 2	17,205	\$0.4675 - \$0.5006	17,954	\$0.6326
Block 3	Above	\$0.8572 - \$0.9912	162,316	\$0.8134
Block 4			Above	\$1.0393

Wastewater Rate Structure and Rates

- Maintain existing minimum allowance of 1,496 gallons included in the service availability charge for residential and general class customers.
- Implement a two block volumetric rate for the Residential class. This change also includes a significantly lower rate for the Lifeline Supply block of 2,992 gallons.
- Transition from a uniform fixed availability charge structure (regardless of meter size) to a meter-based tiered availability charge tied to the size of the water meter. Continue charging a uniform fixed availability charge to wholesale wastewater customers.
- Continue to group the multi-family customers with the General class.
- New residential customers with no established average winter consumption are currently charged a monthly wastewater charge based on an assumed consumption of 11 ccf (8,229

gallons). After 3 months, the customer is charged the lesser of actual average water usage or the unaveraged rate. Consider reducing the unaveraged rate by 1 ccf (748 gallons) each year for the next 3 years in order to bring the unaveraged rate more closely in line with the system-wide Average Winter Consumption.

- Eliminate the distinction between ICL and OCL wholesale rates and develop one wholesale wastewater rate structure that fully recovers the estimated cost of providing wastewater service to wholesale customers.
- Consider the following wastewater rate schedules for FY 2015 for ICL customers (Tables 6 and 7). OCL customer rates are included in Appendix C of this report.

Table 6 Proposed FY 2015 Wastewater Rates – Residential (ICL) & General (ICL)

Description	Existing Residential & General	Proposed FY 15 Residential	Proposed FY 15 General
Availability Charge (meter size)*	<i>(per bill)</i>		
5/8"	\$12.69	\$11.67	\$11.67
3/4"	\$12.69	\$12.84	\$12.84
1"	\$12.69	\$14.59	\$14.59
1 1/2"	\$12.69	\$20.43	\$20.43
2"	\$12.69	\$29.18	\$29.18
3"	\$12.69	\$58.36	\$58.36
4"	\$12.69	\$87.54	\$87.54
6"	\$12.69	\$145.90	\$145.90
8"	\$12.69	\$233.43	\$233.43
10"	\$12.69	\$350.15	\$350.15
12"	\$12.69	\$466.87	\$466.87
Wastewater Volumetric Rate	<i>(per 100 gal)</i>		
Block 1**	\$0.3365	\$0.2495	\$0.3343
Block 2	n/a	\$0.3743	n/a

*Service availability charge includes a minimum allowance of 1,496 gallons.

**The proposed Residential volumetric rates consist of two blocks with Block 1 ending at 2,992 gallons.

Table 7 Proposed FY 2015 Wastewater Rates - Wholesale

Description	Wholesale	
	Existing	Proposed FY 2015
Availability Charge	<i>(per bill)</i>	
All Meter Sizes	\$149.02	\$273.33
Wastewater Volumetric Rate	<i>(per 100 gal)</i>	
Uniform	\$0.3641	\$0.3567

Revenue Stability and Drought Rates

Customers' water usage can be highly variable from year to year due to extreme weather conditions, wet or dry. That variability in usage translates into variable revenue which may, at times, result in SAWS recovering an insufficient amount of revenue to meet the operating and capital costs of providing service to customers.

- Develop a revenue stability strategy to address revenue volatility associated with extreme weather conditions. This strategy might include:
 - ◆ Reducing the projected amount of water sales when developing budgets and determining the need for rate adjustments.
 - ◆ Automatically adjusting rates during periods when significant drought restrictions are in effect in order to further incentivize lower water usage as well as offset revenue losses from a significant reduction in customer usage. A drought rate analysis is not contained within this report.

Recycled Water

- Continue with the same Recycled Water structure until a more detailed analysis can be conducted with input from a recycled water users group. This analysis will need to take into account the price of recycled water compared to the price of potable water as well as any additional costs incurred by customers to utilize recycled water instead of potable water.
- Increase recycled water rates annually based on weighted average potable water rate adjustments. Current estimate for 2016 is approximately 6 percent.

District Special Project

The District Special Project (DSP) was created upon the dissolution of Bexar Metropolitan Water District (BexarMet). By state law, SAWS and DSP are required to be fully integrated by 2017 unless an extension of time is requested from the Texas Commission on Environmental Quality. Full integration includes the application of the same rate schedules to both SAWS and DSP customers.

Based on current projections, more revenue would be generated if SAWS projected water rates for residential and irrigation customers are applied to DSP customers in 2017. However, less revenue would be generated if SAWS projected general class rates are applied to DSP commercial customers. SAWS management believes that any net shortfall in revenue as a result of converting DSP customers to SAWS rates in 2017 will have been fully mitigated by cost savings that have benefited SAWS customers as a result of the operational integration of SAWS and DSP. Therefore, SAWS expects to achieve rate consolidation between SAWS and DSP no later than January 2017.

Fire Line Charges

- The cost of service analysis indicates that existing fire line (dedicated fire protection) charges are not sufficient to recover allocated costs to provide that service. As charges have not increased since 1994, these charges should be increased in connection with any potential rate adjustments. Based on the projected 2016 cost to provide fire line service, this increase is currently estimated to be 8.6%.

Sewer Surcharges

- The cost of service analysis indicates that existing sewer surcharge rates are not sufficient to recover costs incurred by SAWS from higher than average strength of customers' effluent. As sewer surcharge rates have not increased since 2003, these rates should be increased in connection with any potential rate adjustments. Based on the projected 2016 cost associated with high strength effluent, this increase is currently estimated to be 11.7%.

Affordability Program

- Although addressed earlier in this section, the development of a Lifeline Supply rate for both water and wastewater will both provide rate relief for usage deemed necessary to sustain life and incentivize very efficient water usage.
- Other program modifications should be considered as follows:
 - ◆ Expand outreach to increase participation
 - ◆ Simplify process for qualifying participants
 - ◆ Update data on existing participants in a timely manner
 - ◆ Possible expansion of direct emergency assistance provided through Project Agua
 - ◆ Timely identification and repair of leaks resulting in high bills for qualifying customers

Irrigation System Non-Compliance

City code requires that certain large irrigation customers conduct annual inspection of their irrigation systems. A large percentage of these customers are not in compliance with these requirements. Customers that comply with the inspection generally see a significant reduction in water usage due to repairs and modifications made as a result of the inspections.

- Assess a fee of \$160 when a customer fails to conduct the annual required inspection to recover the cost of enforcement.
- In order to recover the true cost of water estimated to be wasted by inefficient irrigation systems, assess an additional volumetric rate of \$0.0969 per 100 gallons of usage until the customer complies with the inspection requirement and completes any repairs identified in the inspection report.

Special Services Fees

- Consider implementing cost-based Special Services Fees as presented in the fee analysis section found in the Appendix B of this report.

Introduction

This Cost of Service study reviews the cost of providing water and wastewater services to SAWS' customers and provides information concerning the rate structure for the Water Delivery, Water Supply, Recycled Water and Wastewater portions of SAWS' business. This study is a recalibration of SAWS' existing rate structure to take into account current conditions and priorities and not a revision of SAWS' currently existing multi-year financial plan.

BACKGROUND

The San Antonio Water System (SAWS) is responsible for providing potable water services to about 386,000 customers and wastewater services to about 427,000 customers within the City of San Antonio (the City) and portions of the surrounding metropolitan area. SAWS also provides recycled water to a number of customers around San Antonio for both industrial and landscape irrigation purposes as a cost efficient, drought proof alternative to potable water. Additionally, SAWS is responsible for the operation of chilled water plants that support various downtown hotels, the City's convention center, the Alamodome, and industrial operations at Port San Antonio. SAWS also supports the City of San Antonio in efforts to comply with federal permit requirements related to storm water runoff. SAWS is currently structured around four core businesses: Water Delivery, Water Supply, Wastewater, and Chilled Water.

Since the last rate study in 2009, SAWS, with the approval of the SAWS Board and San Antonio City Council, has implemented adjustments to the level of rates in order to ensure financial sufficiency but has not changed the rate structure resulting from the 2009 study. In accordance with its policy to perform rate studies approximately once every five years, the SAWS Board of Trustees authorized a new Comprehensive Cost of Service and Rate Design Study (rate study) to be initiated in 2014. Best industry practices as endorsed by the American Water Works Association (AWWA) and Water Environment Federation (WEF) include conducting a comprehensive cost of service study every three to five years to review cost of service principles and to ensure the rate structures are meeting the objectives of the utility. AWWA and WEF are the industry organizations tasked with providing guidance on the operation and management of water and wastewater utilities, respectively. Both organizations have established general sets of principles used to guide the development of water and wastewater rates.

SAWS' rate structures are progressive and complex compared to those assessed by many other cities. The existing rate structures include the combination of tiered rates, seasonal rates, and individualized rates which aggressively promote water conservation. This rate study reviewed the effectiveness of these rate structures and provided information and recommendations regarding the most appropriate structure for all rates charged by SAWS considering such current issues as conservation, drought conditions, consumption characteristics of various customer classes, fairness and equity implications, financial stability, customer affordability, economic development and policy considerations. This report summarizes the processes and recommendations arising from this rate study.

PURPOSE OF STUDY

The purpose of this report is to summarize the process undertaken by the RAC and SAWS staff as assisted by Black & Veatch Corporation (Black & Veatch) as well as to document the RAC's recommendations with regard to rate structure.

SCOPE OF WORK

SAWS retained Black & Veatch in 2014 to update its cost of service and rate study for its water and wastewater utilities. Presented herein are the results of a review of both systems' projected revenues, revenue requirements, cost of service allocations, and rates for service.

For purposes of this report, Black & Veatch developed a rate model for the six fiscal years 2015 through 2020 which was populated with data from SAWS' multi-year financial plan. However, this report focuses on the FY 2015 model outputs and resulting rates. Rates for 2016 and beyond will be based upon the final rate structure ultimately approved by both SAWS' Board and City Council as impacted by SAWS' regular budgeting and rate setting process. These future rates will also be impacted by major customer and supply changes due to occur with the consolidation of DSP customers in 2017 and the Vista Ridge water supply project expected to begin delivery of water in 2019 or 2020.

The water and wastewater systems' costs of service were allocated to customer classes utilizing a cost causative approach endorsed by the AWWA M1 rate setting manual (*Principles of Water Rates, Fees and Charges*) and WEF rate setting manual MOP 27 (*Financing and Charges for Wastewater Systems*). The allocation methodologies produce cost of service allocations recognizing the projected customer service requirements for SAWS. The design of proposed rates is in accordance with allocated cost of service and local policy considerations, such as cash flow considerations, debt coverage requirements and reserve funding levels. It is important to note that AWWA and WEF observe that there is no prescribed single approach for establishing cost-based rates. Rather, agencies must exercise judgment to align rates and charges with local conditions and requirements, as well as applicable state law. Black & Veatch has used the guidelines contained in the AWWA and WEF documents to conduct the analyses contained herein.

In addition to the water and wastewater analyses, the study scope of work included an analysis of potential drought rate structures, an update of recycled water rates, an examination of multi-family customer cost of service elements to determine if this class should be separated from other General class customers, an analysis of the impact of converting DSP customers to SAWS rates, an update of Special Services fees and commentary and recommendations related to the current SAWS customer affordability program. This report documents the findings and recommendations related to each of these additional study items.

RAC INVOLVEMENT

One of the key initiatives was to involve stakeholders, such as the SAWS Rate Advisory Committee (RAC), in the entire rate study process, in order to obtain stakeholder support and participation in the rate design process. The RAC consisted of 10 members nominated by members of City Council and 7 other members, each of whom represented a diverse segment of SAWS' customer base depending on his/her background, profession and interests. The participation of the RAC was a key component of the rate study process and was necessary to ensure proper community

representation in establishing rate setting objectives and rate structures. Staff held a series of workshops with the RAC members. Black & Veatch facilitated discussions in several workshops throughout 2014 and 2015.

RAC members were asked to provide key input in the rate design process. This report documents the methodology used to perform the cost of service analysis, the analyses and recommendations developed as part of the rate design process, and the key decisions made by the RAC. The resulting rate structures, rates, and customer impacts reflect the input received from SAWS Staff, recommendations made by Black & Veatch, and decisions made by the RAC.

DISCLAIMER

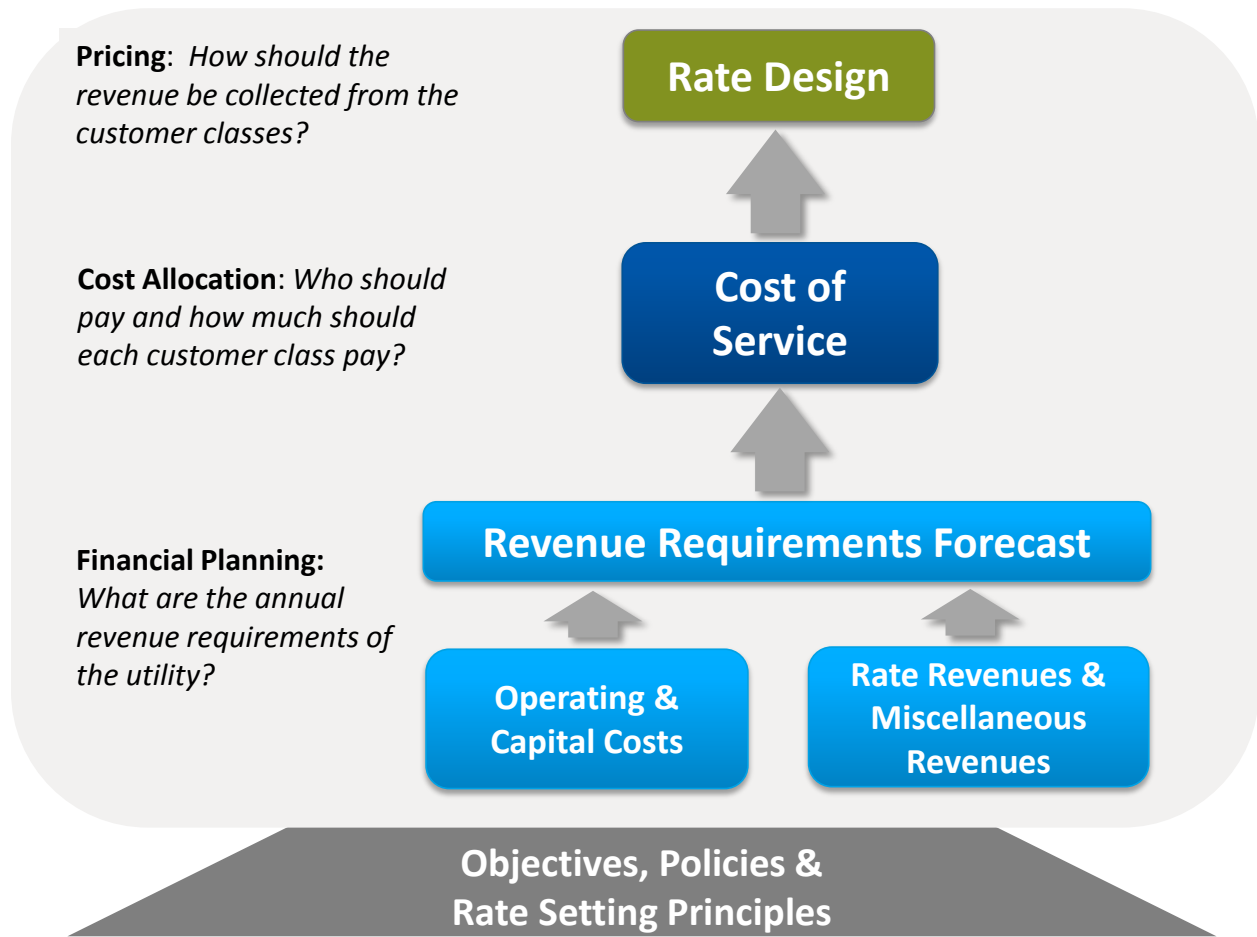
In conducting our study, we reviewed the books, records, agreements, capital improvement programs, customer sales and financial projections of SAWS as we deemed necessary to express our opinion of the operating results and projections. While we consider such books, records, documents, and projections to be reliable, Black & Veatch has not verified the accuracy of these documents.

The projections set forth in this report are intended as “forward-looking statements”. In formulating these projections, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized in performing the analyses follows generally accepted practices for such projections. Such assumptions and methodologies are reasonable and appropriate for the purpose for which they are used. While we believe the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur. Such factors that may affect both utility systems’ abilities to manage the systems and meet water quality, and/or other regulatory or environmental requirements include the following: SAWS’ ability to execute the capital improvement program as scheduled and within budget; regional climate and weather conditions affecting the demand for water; and adverse legislative, regulatory or legal decisions (including environmental laws and regulations).

GENERAL RATE STUDY APPROACH

The following graphic shows the general process to setting rates in the United States. The three main elements of the process are Revenue Requirements, Cost of Service, and Rate Design. There are sub-elements to every rate analysis which we also capture within the picture below. However the three main elements are consistent to most rate studies and are endorsed by AWWA and WEF as being included in the industry standard approach. This analysis and report incorporate these elements and the remainder of this report describes the process in more detail.

Figure 1 Industry Standard Rate Study Approach



OBJECTIVES, POLICIES & RATE SETTING PRINCIPLES

The foundation of the rate setting process is the establishment of pricing objectives and reaching consensus with respect to policies and rate setting principles. At initial meetings, RAC members along with SAWS staff and Black & Veatch, identified and prioritized rate setting objectives to provide a framework for the study. Participants reviewed a prepared list of objectives and discussed the relevance of each pricing objective. The list of pricing objectives reviewed is provided below in Figure 2.

Figure 2 Rate Setting Objectives

Objectives	Description
Financial Sufficiency	Rates should be set to recover the full cost of service operations and provide necessary funds for capital projects
Revenue/Rate Stability	Revenues and rates are predictable and stable
Drought Management	Strong price signals sent to customers in an effort to encourage demand reductions during drought stages that target discretionary water use
Economic Development	The development of special rates to incentivize economic development
Simple to Understand/Update	Rate structure should be simple for customers to understand and update in future years
Cost of Service-based Allocations	Costs are recovered from customers and customer classes in proportion to the cost of providing service
Conservation	A pricing structure that encourages permanent reductions in water usage through more efficient use of water
Minimize Customer Impact	Avoid large changes in customers' bills
Affordability	Economically disadvantaged customers should be able to afford essential water and sewer services
Ease of Implementation	The implementation of a rate structure that is compatible with the existing billing system

During the meetings, each objective was discussed in detail. Black & Veatch also explained the competing nature of some of the objectives. For example, the need for additional revenue stability (from fixed rate components) can hamper conservation efforts as fewer costs are based on usage. RAC members were then asked to prioritize and select the objectives they believed to be the most important to SAWS. Responses were tallied and the resulting rankings generated as shown in Figure 3.

Figure 3 Rate Study Priorities

RATE STUDY PRIORITIES	
ESSENTIAL	1 Financial Sufficiency
	2 Cost of Service Based Allocations
	3 Revenue/Rate Stability
VERY IMPORTANT	4 Conservation
	5 Drought Management
	6 Economic Development
IMPORTANT	7 Affordability
	8 Simple to Understand/Update
LEAST IMPORTANT	9 Minimize Customer Impact
	10 Ease of Implementation

It should be noted the rankings simply indicate which pricing objectives need to be emphasized more as compared to the existing rate structure. While the first three listed objectives were deemed by the RAC to be most essential to keep in mind with respect to any potential changes to be made to SAWS' existing rate structure, all of the listed priorities were deemed to be important. It was understood by all parties that the viable alternative rate structures would exemplify all of the pricing objectives, with an emphasis on the top ranked objectives. The resulting pricing objectives would be used to identify viable alternative rate structures in addition to being utilized for the other study scope items.

Water Rate Study

REVIEW OF EXISTING RATE STRUCTURE

SAWS currently utilizes four primary customer classes in the provision of potable water services to its customers: Residential, General, Irrigation and Wholesale. There are two additional designation within each class based on location within the system: Inside-City Limits (ICL) and Outside-City Limits (OCL). The following table shows the 2015 projected number of SAWS water accounts and usage by customer class.

Table 8 Projected Water Accounts and Usage by Customer Class

Customer Class	Number of Accounts		Total Accounts	% of Total	Total Usage (MG)	% of Total
	ICL	OCL				
Residential	308,118	44,997	353,115	91.4%	31.4	56.4%
General*	23,413	676	24,089	6.2%	20.8	37.3%
Irrigation**	8,440	657	9,097	2.4%	3.4	6.1%
Wholesale	0	8	8	0.0%	0.1	0.2%
Total	339,971	46,338	386,309	100.0%	55.7	100.0%

*Includes Commercial, Multi-family, Industrial and Municipal accounts.

**Includes assumed irrigation accounts.

Residential customers account for approximately 91% of all customer accounts while accounting for approximately 56% of all water usage. Commercial customers on the other hand account for approximately 6% of the total customers but account for more than 37% of all water usage. Approximately 2% of SAWS' customer connections are irrigation meters. The amount of water used through these meters can vary widely depending upon the weather conditions and has exhibited a general downward trend over the last several years. The 2015 budget projects that irrigation customers will account for approximately 6% of all water usage. SAWS has very few wholesale water customers and limited usage.

Water Service Availability Charge

All customers are currently assessed a service availability charge based upon the size of their water meter and the location of the customer; within city limits or outside of city limits. This charge is a fixed monthly fee designed to offset a portion of the costs associated with maintaining the facilities and infrastructure to serve these customers regardless of whether or not they use any water during that month. Larger meter sizes pay a higher fee to offset the costs associated with the additional capacity that must be readily available to serve these customers.

A summary of the number of meters by size for each of the residential, general and irrigation classes is shown below. Also depicted is the current meter charge for both ICL and OCL customers.

Table 9 Existing Residential Class Meter Charges by Meter Size

Meter Size	% of Meters	Existing Rate ICL	Existing Rate OCL
5/8"	91.90%	\$7.57	\$9.86
3/4"	6.10%	\$10.63	\$13.82
1.0"	1.60%	\$16.72	\$21.72
1.5"	0.40%	\$31.94	\$41.52
2.0"	0.10%	\$50.18	\$65.26

Table 10 Existing General & Irrigation Class Meter Charges by Meter Size

Meter Size	% of Meters		Existing Rate ICL	Existing Rate OCL
	General Class	Irrigation Class		
5/8"	42.60%	19.80%	\$10.53	\$13.69
3/4"	5.10%	16.10%	\$15.05	\$19.56
1.0"	14.87%	28.80%	\$24.08	\$31.29
1.5"	15.30%	21.70%	\$46.65	\$60.65
2.0"	13.80%	12.90%	\$73.74	\$95.87
3.0"	3.70%	0.60%	\$136.96	\$178.06
4.0"	2.70%	0.10%	\$227.28	\$295.46
6.0"	1.50%	0.00%	\$453.06	\$588.98
8.0"	0.40%	0.00%	\$723.99	\$941.20
10.0"	0.10%	0.00%	\$1,040.08	\$1,352.11
12.0"	0.00%	0.00%	\$1,943.21	\$2,526.17

Water Volumetric Charge

The water volumetric charge is an amount based on units of water consumption during the billing cycle. The current water delivery volumetric rates for each customer class are assessed using an increasing block rate structure. The water supply fee volumetric rates for residential and irrigation classes are assessed using an increasing block rate structure. The general and wholesale classes currently are assessed a flat water supply fee volumetric usage for all usage. The rate structures vary for each customer class to reflect the different usage patterns among the customer classes.

SAWS existing Residential combined water delivery and water supply fee volumetric rate structure consists of four blocks which are increasing in nature and which charge slightly higher rates for both seasonal usage (defined as any usage during the months of May-September) and usage outside city limits. A summary of the usage blocks, the percentage of usage and bills within each block and the corresponding rates is presented in Table 11.

Table 11 Existing Residential Class Combined Water Volumetric Rates and Usage by Block

Block	Block Threshold in Gallons	% of Usage	% of Bills Ending in Block	ICL Rates (per 100 gallons)		OCL Rates (per 100 gallons)	
				Standard	Seasonal	Standard	Seasonal
1	0 – 5,985	64.0%	58.7%	\$0.2291	\$0.2291	\$0.2595	\$0.2595
2	Next 6,732	22.7%	30.4%	\$0.3315	\$0.3442	\$0.3752	\$0.3918
3	Next 4,448	4.9%	5.6%	\$0.4675	\$0.4977	\$0.5293	\$0.5684
4	Over 17,205	8.4%	5.3%	\$0.8185	\$0.9469	\$0.9264	\$1.0930

Similar to the Residential class, the current General class volumetric water rate structure consists of four blocks which are increasing in nature for the water delivery portion of the volumetric rate and which charge slightly higher rates for outside city limits usage. However, this rate structure is slightly different from that of the Residential customers in that the rate structure is individualized, using each customer’s prior year’s average monthly consumption to determine the base that serves as the first block threshold. Additionally, there is no difference in price for usage during May-September. A summary of the usage blocks, the percentage of usage within each block and the corresponding rates are presented in Table 12.

Table 12 Existing General Class Combined Water Volumetric Rates and Usage by Block

Block	Block Threshold	% of Usage	Rate per 100 gallons	
			Inside-City	Outside-City
1	Base	83.40%	\$0.3194	\$0.3560
2	100-125% of Base	6.70%	\$0.3433	\$0.3869
3	125-175% of Base	4.10%	\$0.4018	\$0.4630
4	> 175% of Base	5.80%	\$0.4967	\$0.5863

The Irrigation class consists of all customers with separate irrigation meters and assumed irrigation use for General class customers that have an automatic irrigation system connected to their domestic meter. While a very small percentage of the Irrigation class consists of residential customers with separate dedicated irrigation meters, by far the majority of Irrigation class usage is attributable to General class customers. The Irrigation rate structure has been designed to closely mirror that of the residential class in terms of both blocks and rates associated with those blocks. A summary of the usage blocks, the percentage of usage and bills within each block and the corresponding rates is presented in Table 13.

Table 13 Existing Irrigation Class Combined Water Volumetric Rates and Usage by Block

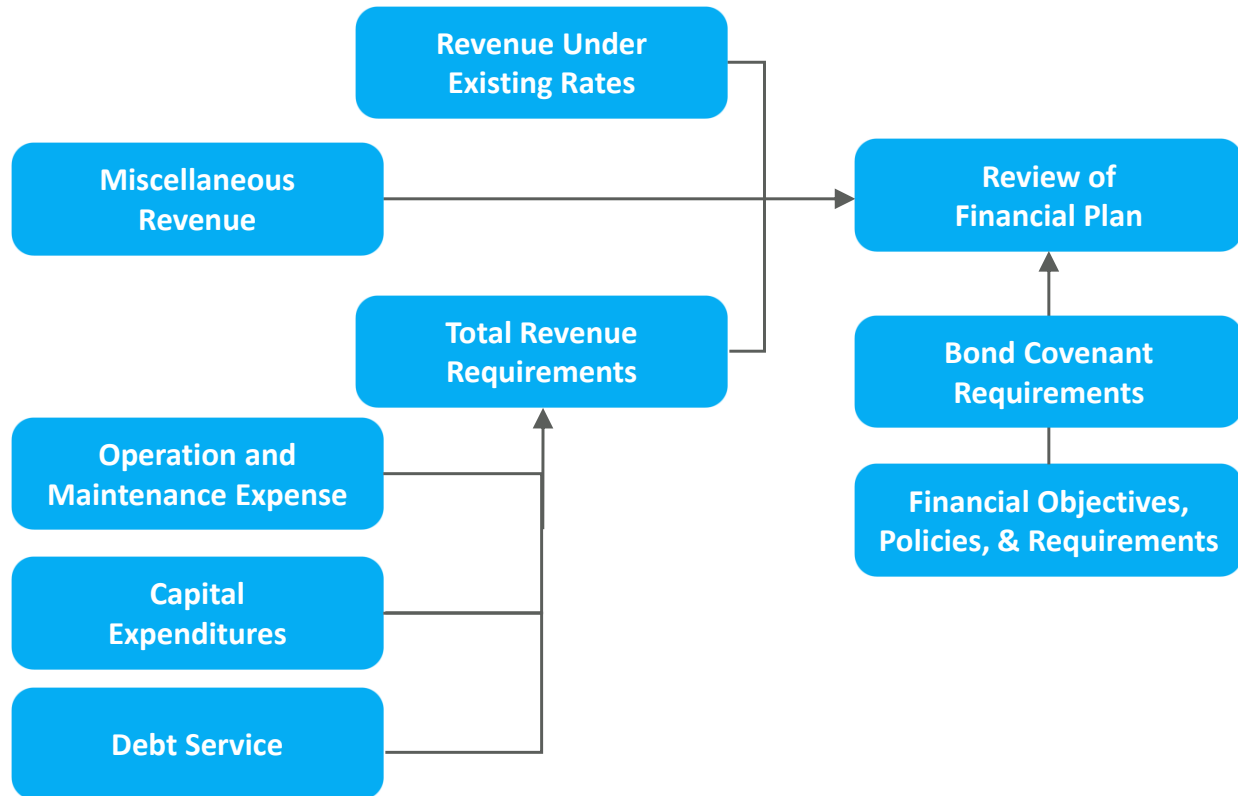
Block	Block Threshold in Gallons	% of Usage	Rate per 100 gallons			
			Inside-City		Outside-City	
			Standard	Seasonal	Standard	Seasonal
1	0 – 6,732	13.30%	\$0.3689	\$0.3689	\$0.4201	\$0.4201
2	Next 10,473	13.90%	\$0.4675	\$0.5006	\$0.5292	\$0.5722
3	Over 17,205	72.80%	\$0.8572	\$0.9912	\$0.9651	\$1.1392

REVENUE AND REVENUE REQUIREMENTS

The first major element in the rate setting process is the identification of revenue requirements. Revenue requirements include all operations and maintenance (O&M), capital financing, debt service, reserve funding, and financial coverage ratio requirements necessary for SAWS to operate each utility system. Revenue requirements not only represent the cash-needs of each utility but also the liquidity and debt coverage requirements. SAWS staff develop comprehensive models that identify revenue requirements on an annual basis. SAWS accounts for O&M costs by cost centers and then allocates the costs to the four core businesses of SAWS. The water related core businesses are Water Supply and Water Delivery.

These financial plans were incorporated into the cost of service and rate design models. The figure below outlines the financial planning process for each utility system. The remaining section describes the revenue requirements analysis conducted by SAWS and Black & Veatch.

Figure 4 Financial Plan Review



With revenue derived from the various sources, SAWS funds the requirements of: operation and maintenance (O&M); recurring annual capital expenditures for replacements, system betterments, and extensions; debt service on outstanding bonds and reserve levels. O&M expenses are those expenditures necessary to maintain the system in good working order. Capital expenditures consist of recurring routine annual replacements as well as major capital projects to expand the system. Currently, SAWS uses a combination of cash and debt to finance all capital improvements.

Water Supply Revenue Requirements

Water Supply revenue requirements include all costs incurred by SAWS to develop and provide new water supplies to SAWS current and future customers. These costs include costs to distribute recycled water and fund water conservation programs. Revenue requirements not only represent the cash-needs of each utility but also the liquidity and debt coverage requirements. SAWS staff provided a breakdown of costs that are recovered by the water supply fee as shown in Table 14.

Table 14 FY 2015 Water Supply Revenue Requirements

Description	Operating Expense	Capital Cost	Total Cost
Operating & Maintenance Expense	\$68,456,668		\$68,456,668
Debt Service		\$55,230,378	\$55,230,378
Transfer to City	\$3,475,694		\$3,475,694
Transfer to R&R	\$3,550,310	\$4,377,209	\$7,927,519
Capital Outlay		\$786,490	\$786,490
Subtotal	\$75,482,672	\$60,394,077	\$135,876,749
Amounts recovered from sources other than rates	(\$10,654,925)	(\$1,329,054)	(\$11,983,979)
Total Rate Requirements	\$64,827,747	\$59,065,023	\$123,892,770

Water Delivery Revenue Requirements

Water Delivery revenue requirements include all costs incurred by SAWS to distribute potable water to customers. Revenue requirements not only represent the cash-needs of each utility but also the liquidity and debt coverage requirements. SAWS staff provided a breakdown of costs that are recovered by Water Delivery Rates as shown in the following table.

Table 15 FY 2015 Water Delivery Revenue Requirements

Description	Operating Expense	Capital Cost	Total Cost
Operating & Maintenance Expense	\$57,549,618		\$57,549,618
Debt Service		\$50,684,434	\$50,684,434
Transfer to City	\$3,630,285		\$3,630,285
Transfer to R&R	\$5,172,210	\$14,461,697	\$19,633,907
Capital Outlay		\$2,730,743	\$2,730,743
Subtotal	\$66,352,113	\$67,876,874	\$134,228,987
Amounts recovered from sources other than rates	(\$657,319)	\$0	(\$657,319)
Total Rate Requirements	\$65,694,794	\$67,876,874	\$133,571,668

WATER COST OF SERVICE ALLOCATION

The cost of service analysis is based on a detailed cost allocation and rate model developed specifically for SAWS. This analysis used the cost of service methodology recommended in the AWWA M-1 Rate Manual to develop cost of service based rates. One of the essential objectives of this cost of service analysis was to ensure that the water utility achieved revenue neutrality. Through the adjustments presented in this section, that objective has been met. However, during the cost of service analysis it was determined that some customer classes were over-recovering their allocated costs based on existing 2015 rates while other classes were under-recovering. This cost of service analysis re-aligns costs to their appropriate customer classes and helps ensure that rates charged to each customer class appropriately recover each class' proportionate share of costs.

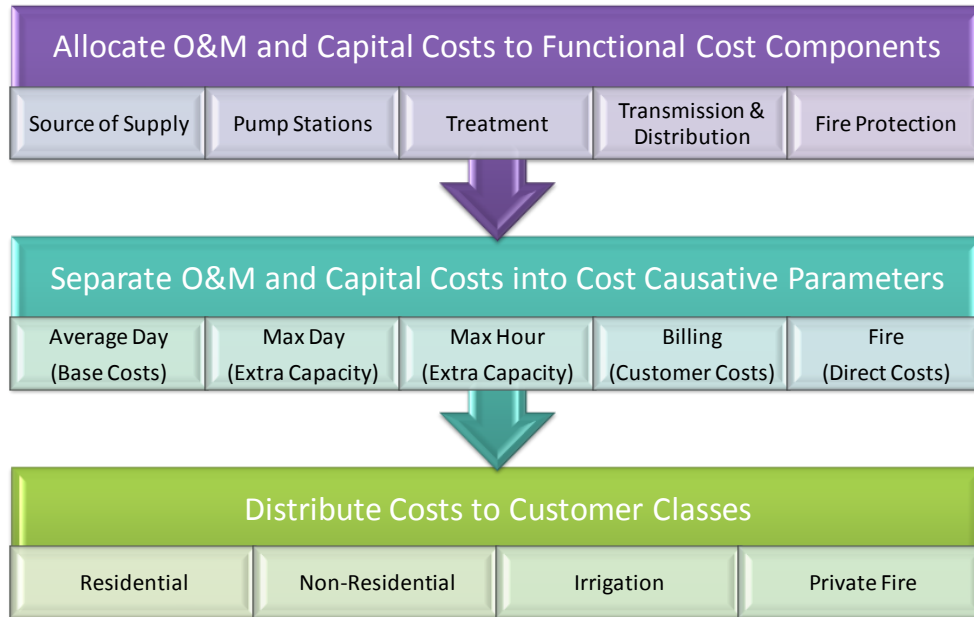
The M-1 Rate Manual specifies that a test year be established using revenue requirements, or the total cost of operating the system in that year. In analyzing the water system's cost of service for allocation to customer classes, the annual revenue requirements for FY 2015 was selected as the Test Year (TY) requirements to demonstrate the development of cost of service-based water rates. In determining the costs of service met by charges for water service, the first step is to calculate total revenue requirements less income received from other sources that are not subject to rate adjustments to yield the total cost of service to be recovered from rates. After that analysis is done, the allocation process is the next step. The FY 2015 costs to be recovered from rates, as summarized in Tables 14 and 15, are approximately \$256 million (Water Supply and Water Delivery combined).

Functional Cost Components

In developing an equitable rate structure, this analysis allocates water revenue requirements to the various customer classifications according to the cost of service rendered. Allocations of these requirements to customer classes should take into account water flow, the number of customers, and other relevant factors. Customer classification occurs to reflect groups of customers with similar service requirements for whom a utility can serve at a similar cost. Each class represents a particular type of service requirement. For the purposes of the cost of service analysis, the customer classifications in this study include single-family Residential; General, which includes commercial, multi-family, industrial, and municipal customers; Irrigation; Wholesale; Recycled Water; and Fire Line (fire protection) classes.

Figure 5 illustrates the generally-accepted process for allocating costs of service to customer classes. The cost-of-service methodology first allocates costs to functional cost components, then to cost categories, and subsequently distributes the costs to customer classes. For this analysis, there are five primary cost categories: (1) base flow, or volume costs, (2) maximum day costs, (3) maximum hour costs, (4) customer (meters and billing) costs, and (5) fire protection costs.

Figure 5 General Cost of Service Allocation Methodology



* Customer classes in figure do not represent SAWS’ classes. This figure is solely intended to give a general description of the allocation process.

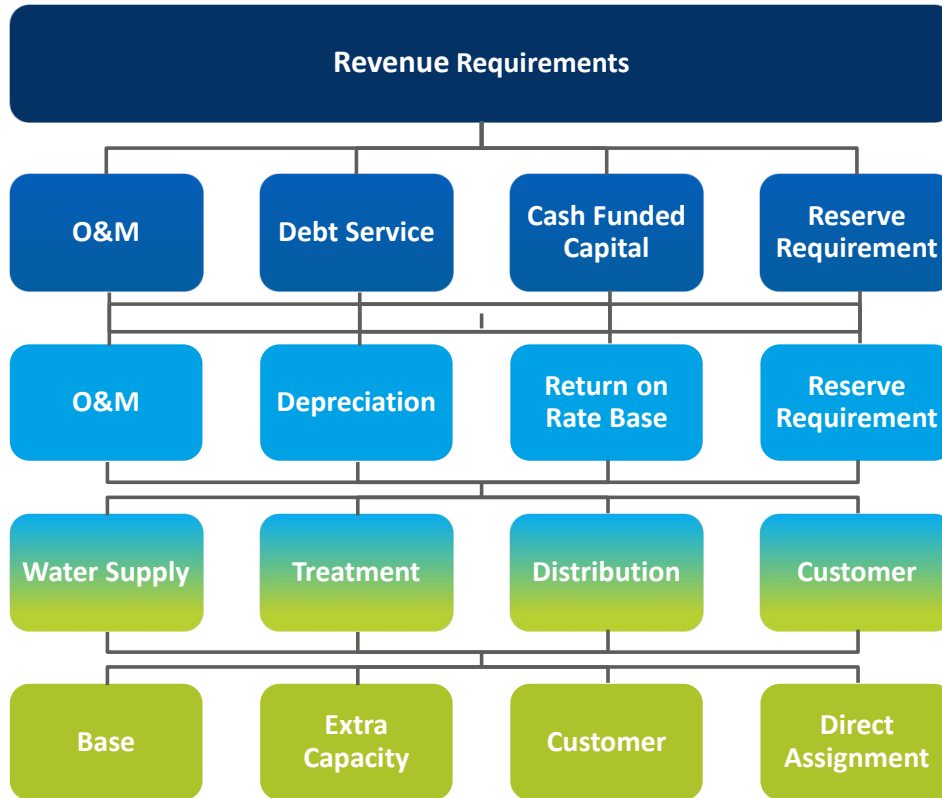
Allocation to Cost Components

In this report, Black & Veatch analyzes the cost of providing water service by system function in order to properly allocate the costs to the various classes of customers and subsequently design rates. Figure 6 illustrates the framework of the allocation of revenue requirements to functional cost components. As a basis for allocating costs of service among customer classes, we have separated costs into the following four basic functional cost components: (1) “Base”; (2) “Extra Capacity”; (3) “Customer”; and (4) “Direct Assignment.” In order to provide service to its customers at all times, SAWS must be capable of not only providing the total amount of water used, but also meet peak or maximum rates of demand.

- Base costs include the purchase of water, regulatory fees, debt service costs, water treatment, energy, administration, and operating and maintenance costs of the water system associated with service to customers to the extent required for a constant, or average annual rate of use.
- Extra Capacity costs represent those operating costs incurred in meeting demands in excess of average, and capital related costs for additional plant and system capacity beyond that required for the average rate of use.
- Customer costs are those elements that tend to vary in proportion to the number of customers connected to the system. These include meter reading, billing, collecting and accounting, and maintenance and capital costs associated with meters and services.

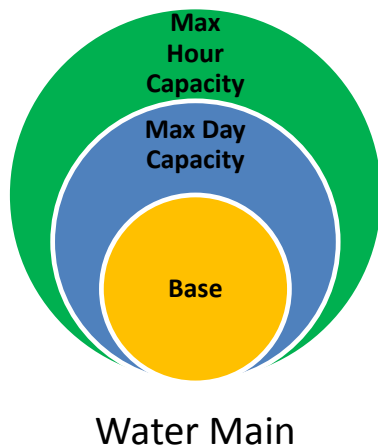
- Directly assigned costs are costs specifically identified as, those incurred to serve a specific customer group(s). The separation of costs of service into these principal categories facilitates allocating such costs to the various customer classes based on the respective service requirements of each class. Direct assignments were made for fire protection and recycled water costs.

Figure 6 Water Revenue Requirements Allocation to Functional Costs



Similar to the 2009 rate study, this rate case also uses the base-extra capacity allocation method. This approach requires that costs be carefully separated between base costs and extra capacity costs as each type of usage (base and maximum) places a different demand, or burden, on the system. Each of these demand patterns can create differences in the cost to serve each customer class. Figure 7 illustrates the base-extra capacity concepts for water systems.

Figure 7 Water Cost of Service Concept



Black & Veatch has allocated each element of cost to functional cost components using the parameter or parameters having the most significant influence on the magnitude of that element of cost. We allocate O&M and general and administrative (G&A) expense items directly to appropriate cost components, while the allocation of capital and replacement costs uses a detailed allocation of related capital investment. The separation of costs into functional components provides a means for distributing such costs to the various classes of customers based on their respective

responsibilities for each particular type of service.

For volume-related cost allocations, the first step in determining the allocation percentages is to assign system peaking factors. To determine peaking factors, Black & Veatch reviewed water system planning and design documents and conducted a bill tabulation analysis to identify average daily consumption versus maximum consumption, both in daily and hourly terms. This process is repeated for each customer class as well.

For Water Supply, the Base element is equal to the average daily demand (ADD) and assigned a value of 1.0. Water Supply maximum day (Max Day) demand is estimated to be 1.80 times the ADD. Thus, the Max Day is assigned a value of 1.80. The maximum instantaneous usage is approximated by the maximum hourly (Max Hour) usage and is estimated to be 2.50 times the ADD. Thus, Max Hour is assigned a value of 2.50.

For Water Delivery, the Base element is assigned a value of 1.0. Maximum day (Max Day) demand is estimated to be 1.90 times the ADD and the maximum hourly (Max Hour) usage is estimated to be 2.50 times the ADD. Water Supply and Water Delivery peaking factors are based on a combination of historic billing data and discussions with SAWS staff.

Fire Protection

A direct cost to the water system is fire protection. Fire protection consists of those costs associated with having the capability to provide public (municipal fire hydrants) and private (individual fire sprinklers) fire suppression services. While a small amount of water is actually consumed for fire suppression and fire training, the water system is still designed to accommodate relatively large flows of water for short durations at suitable pressure. Therefore, when allocating O&M and capital expenses to the basic functional costs factors, a pro rata share of O&M and capital expenses is directly assigned to the fire protection category.

Allocation of Revenue Requirements

Tables 16 through 19 summarize the allocation percentages used in the cost of service analysis for both operation and maintenance expenses and capital expenses. This is done for both Water Supply and Water Delivery business units. Table 16 is showing the amount of demand each customer class

places on each cost component of Base, Extra Capacity, and Customers. Recycled Water is solely allocated to its own cost center. For example, the data in Table 16 show that Residential customers comprise 56.4% of the total base demand (average day demand) within the Water Supply core business. Therefore, Residential customers are allocated 56.4% of the costs associated with base demand only. Table 17 shows the percentages of demand each customer class places on the total Water Supply core business by cost component compared to other customer classes by cost component. For example, Residential customer base demand represents 34.3% of total Water Supply costs. The same data are shown for Water Delivery in Tables 18 and 19. Note that for Water Delivery the Public Fire Protection cost is eventually allocated to all classes in the units of service analysis.

Table 16 Customer Class Water Supply Allocation Percentages within Each Cost Component

Customer Class	Base	Extra Capacity		Customers		Recycled
		Max. Day	Max. Hour	Meters	Billing	
Residential	56.4%	54.0%	57.4%	72.9%	91.4%	0.0%
General	37.3%	25.6%	25.6%	21.9%	6.2%	0.0%
Wholesale	0.2%	0.2%	0.3%	0.1%	0.0%	0.0%
Irrigation	6.1%	20.3%	16.7%	5.1%	2.4%	0.0%
Recycled	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 17 Total Water Supply Allocation Percentages

Customer Class	Base	Extra Capacity		Customers		Recycled	Total Costs
		Max. Day	Max. Hour	Meters	Billing		
Residential	34.3%	7.4%	7.2%	1.5%	2.5%	0.0%	53.0%
General	22.7%	3.5%	3.2%	0.5%	0.2%	0.0%	30.1%
Wholesale	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Irrigation	3.7%	2.8%	2.1%	0.1%	0.1%	0.0%	8.8%
Recycled	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%
Total	60.9%	13.8%	12.5%	2.1%	2.8%	8.0%	100.0%

Table 18 Customer Class Water Delivery Allocation Percentages within Each Cost Component

Customer Class	Base	Extra Capacity		Customers		Fire Protection
		Max. Day	Max. Hour	Meters	Billing	
Residential	56.2%	53.9%	57.3%	72.9%	91.4%	0.0%
General	37.4%	25.7%	25.7%	22.0%	6.2%	0.0%
Wholesale	0.2%	0.2%	0.2%	0.1%	0.0%	0.0%
Irrigation	6.1%	20.3%	16.8%	5.1%	2.4%	0.0%
Fire Protection	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 19 Total Water Delivery Allocation Percentages

Customer Class	Base	Extra Capacity		Customers		Fire Protection	Total Costs
		Max. Day	Max. Hour	Meters	Billing		
Residential	29.5%	16.6%	3.3%	5.3%	2.2%	0.0%	56.9%
General	19.6%	7.9%	1.5%	1.6%	0.2%	0.0%	30.8%
Wholesale	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%
Irrigation	3.2%	6.3%	1.0%	0.4%	0.1%	0.0%	10.8%
Fire Protection	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	1.2%
Total	52.5%	30.8%	5.7%	7.3%	2.4%	1.2%	100.0%

Units of Service

To establish the total cost responsibility of each customer class, Black & Veatch developed the unit costs of service for each cost function and assigned those costs to the customer classes based on the respective service requirements of each. Each customer class receives its share of base, maximum day and peak hour costs (as noted earlier, these factors were determined through a review of SAWS planning and design documentation as well as customer consumption records). The number of units of service required by each customer class provides a means for the proportionate distribution of costs previously allocated to respective cost categories.

The cost of service responsibility for base costs varies with the volume of water requirements and may be distributed to customer classes on that basis. Extra-capacity costs are those costs associated with meeting peak rates of water use, and are distributed to customer classes based on their respective system capacity requirements in excess of average daily demand. For example, residential water consumption during morning work week time periods is typically much higher, relative to average demand, than is the demand of a large manufacturing facility that typically exhibits fairly uniform consumption patterns throughout the year. Table 20 presents the customer class peaking factors used in the water cost of service analysis.

Table 20 Customer Peaking Factors

Customer Class	Max Day Factors	Max Hour Factors
Residential	195%	325%
Commercial	165%	250%
Apartments	180%	270%
Industrial	135%	225%
Wholesale	170%	300%
Municipal (City Accounts)	160%	250%
Irrigation	430%	780%

Finally, customer costs, which consist of meter related costs, billing, collection and accounting costs, are allocated based on the number of equivalent meters and number of customer bills. Private fire protection costs are allocated based on equivalent fire hydrants.

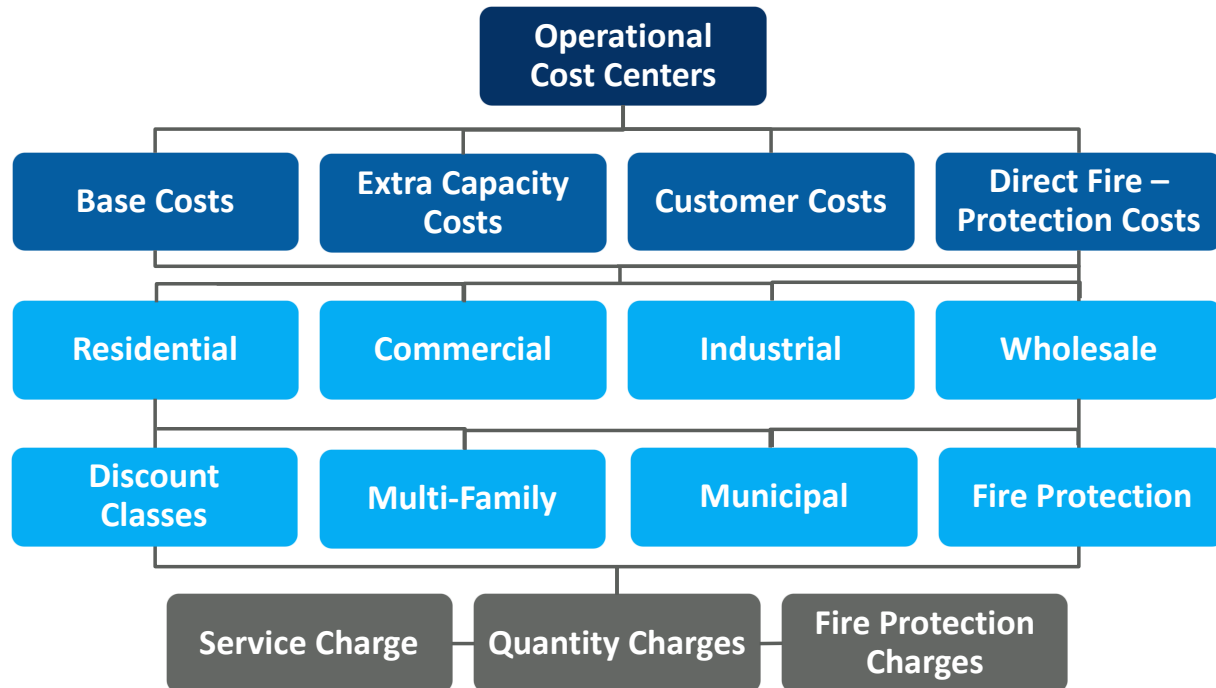
In the overall rate-setting process, there is a need to establish a base level of cost for which the cost of all customers can be measured. Customer-related meter and service costs are allocated based on the number of equivalent 5/8" meters because these meter sizes are the most prevalent meter sizes found in many water utilities. Included in the development of meter cost ratios is the direct cost of the various categories of labor involved in the installation, fringe benefit related overhead and other appropriate administrative overhead applicable to the labor costs, all direct materials and supplies costs, and the cost of equipment used in the installation.

Generally, equivalent meter cost ratios should be used when assigning elements of costs specifically related to meters among the various sizes of meters used by the customer in the system. SAWS' most prevalent meter size is 5/8" and therefore is considered equal to one-meter equivalent. All larger meters are given a meter equivalent ratio based on hydraulic capacity.

Cost of Service Allocations to Customer Classes

Costs of service are allocated to the customer classes by application of unit costs of service to respective service requirements. Unit costs of service are based upon the total costs previously allocated to functional components and the total number of applicable units of service. Dividing the costs allocated to functional cost components by the respective total units of service requirements develops unit costs of operation and maintenance expense, and net capital costs. Figure 8 presents this process in an illustrative manner.

Figure 8 Distribution of Costs to Customer Classes



Unit Costs of Service

The analysis described in the previous sections essentially takes the net O&M, capital costs, and depreciation for FY 2015 and breaks these costs into their respective cost components. This section summarizes the process to derive the unit costs for each of the cost components. The test year unit cost of service for each functional cost component is based on the demand parameters by customer class. The customer class responsibility for service is obtained by applying the unit costs of service to the number of units for which the customer class is responsible.

Adequacy of Existing Rates to Meet Costs of Service

Presented in Tables 21 and 22 are a comparison of the allocated costs of service and revenues under existing rates for Water Supply and Water Delivery. As the tables indicate, there were significant differences in the way that customer classes were recovering their fair share of system costs. The last column in the tables indicates the approximate adjustment to customer class rate levels necessary to recover 100 percent of the allocated costs of service in comparison to revenue under existing rates.

Table 21 FY 2015 Adjusted Cost of Service with Revenues under Existing Rates – Water Supply

Description	Allocated COS	Beneficial Reallocation	Adjusted COS	Rev Under Existing Rates	Indicated Rate Adjustment
	(\$)	(\$)	(\$)	(\$)	(%)
Customer Class					
Residential	65,668,208	2,333,033	68,001,240	58,730,318	15.79%
General	37,234,964	1,322,868	38,557,833	45,264,104	-14.82%
Wholesale	257,017	9,131	266,148	262,114	1.54%
Irrigation	10,856,351	4,179,621	15,035,972	17,604,658	-14.59%
Recycled	9,876,229	(7,844,653)	2,031,576	2,031,576	0.00%
Total	\$123,892,770	\$0	\$123,892,770	\$123,892,770	0.00%

The revenue generated from recycled water customers is significantly less than the cost to operate the recycled water system. Therefore, the unrecovered portion of recycled water costs is reallocated to other customer classes. A further discussion of the recycled water rates and cost recovery is contained within the Other Financial Recommendations section of this report.

Table 22 FY 2015 Adjusted Cost of Service with Revenues under Existing Rates – Water Delivery

Description	Allocated COS	Beneficial Reallocation	Adjusted COS	Rev Under Existing Rates	Indicated Rate Adjustment
	(\$)	(\$)	(\$)	(\$)	(%)
Customer Class					
Residential	76,063,687	0	76,063,687	81,284,936	-6.42%
General	41,107,462	0	41,107,462	38,542,159	6.66%
Wholesale	257,091	0	257,091	208,905	23.07%
Irrigation	14,476,314	0	14,476,314	11,907,628	21.57%
Fire Protection	1,667,114	0	1,667,114	1,628,041	2.40%
Total	\$133,571,668	\$0	\$133,571,668	\$133,571,668	0.00%

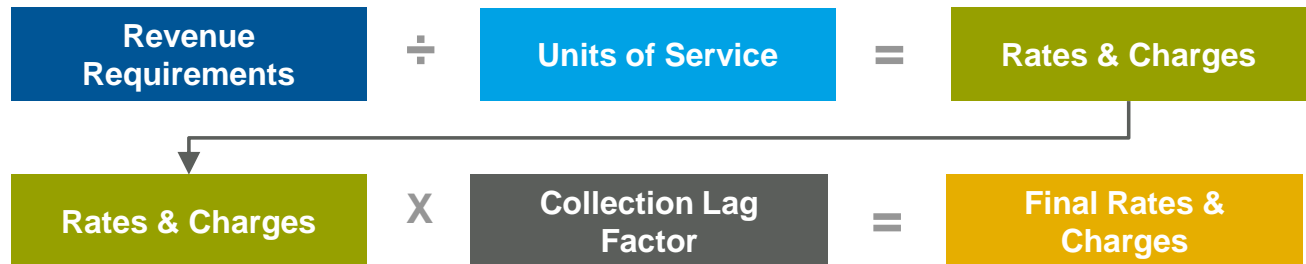
Multi-Family Customer Class

One of the primary rate setting objectives identified by the RAC was to review and update the cost of service allocations for all customer classes in the water and wastewater systems. Initially, the RAC anticipated that the cost of service analysis might show that multi-family customers (currently part of the General customer class) exhibit different demand patterns than other General class customers due to their residential nature (other General class customer are categorized as non-residential). After Black & Veatch performed the comprehensive cost of service analysis, the results showed that multi-family consumption patterns, both average day and maximum day and hour, were not significantly different than those of the other General class customer categories. Furthermore, there is no indication of significant cross-subsidization between the various sub-customer classes that comprise the General customer class category. Therefore, the RAC agreed that multi-family customers should remain within the General customer class.

WATER RATE DESIGN

The initial consideration in the derivation of water rate schedules for utility service is the establishment of equitable charges to the customers commensurate with the cost of providing that service. While the cost of service allocations to customer classes should not be construed as literal or exact determinations, they offer a guide to the necessity for, and the extent of, rate adjustments. See Figure 9 for the process of setting rates. Practical considerations sometimes modify rate adjustments by taking into account additional factors such as the extent of change from previous rate levels, existing contracts, and past local policies and practices.

Figure 9 Rate Design Process



Rate Options

Before presenting the proposed rates for FY 2015, the following lists the recommended changes to the water rate structure for Residential, General and Irrigation customer classes. Recycled Water and Wholesale customer rate recommendations are included in the following section under Other Financial Recommendations.

These recommendations were presented to the Rate Advisory Committee during several meetings in early 2015 in concert with the rate setting objectives established by the RAC early in the rate study process.

- Development of a Residential Lifeline Supply rate block to incentivize very efficient use of water and to provide all residential customers with a very low rate for life essential uses of water. This proposal would change the rate structure by reducing the volumetric rate for the first 2,992 gallons of consumption and lower the fixed charge for customers with no usage above 2,992 gallons.
- Expand Residential volumetric blocks from four to eight blocks and expand the number of Irrigation customer blocks from three to four blocks. This change would send a price signal sooner to high water users and further encourage conservation among these customer classes. More blocks would also benefit customers by affording them the opportunity to move down the rate blocks with moderate reductions in usage.

SAWS staff and Black & Veatch analyzed billing frequencies for all residential and irrigation customers to understand customer usage patterns. The billing frequency analysis examines each customer’s monthly bill and assists in analyzing the effectiveness of the existing blocks. Upon review of the billing frequency analysis, it was recommended by the RAC that the blocks for residential and irrigation customers be expanded in order to promote conservation among all users and to emphasize a reduction in discretionary water consumption. Tables 23 and 24

summarize the usage and billing frequency for each of the existing and proposed Residential and Irrigation rate blocks.

Table 23 Existing and Proposed Residential Block Structure & Bill Frequency

Description	Existing Structure			Proposed Structure		
	Block Threshold	Percent Usage	Bills	Block Threshold	Percent Usage	Bills
Block 1	5,985	64.0%	58.7%	2,992	38.2%	26.5%
Block 2	12,717	22.7%	30.4%	4,489	14.7%	17.3%
Block 3	17,205	4.9%	5.6%	5,985	11.1%	14.9%
Block 4	Above	8.4%	5.3%	7,481	7.6%	11.2%
Block 5				10,473	10.8%	13.7%
Block 6				14,962	7.6%	8.9%
Block 7				20,133	4.1%	4.0%
Block 8				Above	5.9%	3.5%
		100.0%	100.0%		100.0%	100.0%

Table 24 Existing and Proposed Irrigation Block Structure & Bill Frequency

Description	Existing Structure		Proposed Structure	
	Block Threshold	Percent Usage	Block Threshold	Percent Usage
Block 1	6,732	13.5%	8,229	15.7%
Block 2	17,205	14.2%	17,954	12.5%
Block 3	Above	72.3%	162,316	50.6%
Block 4			Above	21.2%
		100.0%		100.0%

- Apply consistent block pricing differentials to both the water delivery rates and the water supply fee within each customer class. The pricing differential between blocks for Residential, General and Irrigation classes will further incentivize customer conservation efforts. The proposed block pricing differentials for both water delivery rates and the water supply fee are summarized in the table below.

Table 25 Proposed Water Block Pricing Differentials

Block	Residential	General	Irrigation
1	1.00	1.00	1.00
2	1.75	1.15	1.40
3	2.25	1.50	1.80
4	2.75	1.75	2.30
5	3.25	n/a	n/a
6	3.75	n/a	n/a
7	4.50	n/a	n/a
8	6.50	n/a	n/a

- Eliminate the seasonal rate structure. At the time that the seasonal structure was implemented by SAWS, the Edwards Aquifer Authority (EAA) controlled water permits on a quarterly basis. Currently, the EAA controls water permits on an annual basis. As a result, seasonal rates have lost much of their effectiveness. Additionally, because weather patterns do not consistently

follow seasonal trends, there can be quite a bit of revenue volatility for SAWS during the seasonal rate time period.

The proposed FY 2015 water rates for Residential, General and Irrigation inside city limits (ICL) customer classes are shown in Tables 26 through 28 in which water supply fee and water delivery rates are combined into the single volumetric rate for each class.

Table 26 Proposed FY 2015 Water Rates – Residential (ICL)

Description	Residential ICL			
	Existing		Proposed FY 2015	
Availability Charge (meter size)*	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"		\$7.57		\$9.76
3/4"		\$10.63		\$12.91
1"		\$16.72		\$19.19
1 1/2"		\$31.94		\$34.88
2"		\$50.18		\$53.69
3"		\$92.80		\$97.63
4"		\$153.67		\$160.38
6"		\$305.86		\$317.27
8"		\$488.47		\$505.54
10"		\$701.52		\$725.18
12"		\$1,310.24		\$1,352.74
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Combined Water Volumetric Rate				
Block 1	5,985	\$0.2291	2,992	\$0.1379
Block 2	12,717	\$0.3315 - \$0.3442	4,489	\$0.2413
Block 3	17,205	\$0.4675 - \$0.4977	5,985	\$0.3103
Block 4	Above	\$0.8185 - \$0.9469	7,481	\$0.3792
Block 5			10,473	\$0.4482
Block 6			14,962	\$0.5171
Block 7			20,199	\$0.6206
Block 8			Above	\$0.8964

* Proposed Residential Availability Charge will be reduced by \$1.95 if usage does not exceed 2,992 gallons.

Table 27 Proposed FY 2015 Water Rates – General (ICL)

Description	General ICL	
	Existing	Proposed FY 2015
Availability Charge (meter size)	<i>(per bill)</i>	
5/8"	\$10.53	\$10.54
3/4"	\$15.05	\$15.06
1"	\$24.08	\$24.08
1 1/2"	\$46.65	\$46.62
2"	\$73.74	\$73.63
3"	\$136.96	\$136.73
4"	\$227.28	\$226.84
6"	\$453.06	\$452.12
8"	\$723.99	\$722.49
10"	\$1,040.08	\$1,037.89
12"	\$1,943.21	\$1,939.07
Combined Water Volumetric Rate (per 100 gal)		
Base	\$0.3194	\$0.2918
101% - 125% of Base	\$0.3433	\$0.3356
126% - 175% of Base	\$0.4018	\$0.4377
176% of Base and Above	\$0.4967	\$0.5107

Table 28 Proposed FY 2015 Water Rates – Irrigation (ICL)

Description	Irrigation ICL			
	Existing		Proposed FY 2015	
Availability Charge (meter size)*	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$10.53		\$10.54	
3/4"	\$15.05		\$15.06	
1"	\$24.08		\$24.08	
1 1/2"	\$46.65		\$46.62	
2"	\$73.74		\$73.63	
3"	\$136.96		\$136.73	
4"	\$227.28		\$226.84	
6"	\$453.06		\$452.12	
8"	\$723.99		\$722.49	
10"	\$1,040.08		\$1,037.89	
12"	\$1,943.21		\$1,939.07	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Combined Water Volumetric Rate				
Block 1	6,732	\$0.3689	8,229	\$0.4519
Block 2	17,205	\$0.4675 - \$0.5006	17,954	\$0.6326
Block 3	Above	\$0.8572 - \$0.9912	162,316	\$0.8134
Block 4			Above	\$1.0393

Revenue Sufficiency

Presented in Tables 29 and 30 are comparisons of Test Year allocated cost of service with revenues for each rate structure option. Test year costs of service are utilized and the proposed rates recover essentially 100 percent of the total cost of service.

Table 29 FY 2015 Adjusted Cost of Service with Revenues under Proposed Rates – Water Supply

Description	Adjusted COS	Rev Under Proposed Rates	Cost Recovery
	(\$)	(\$)	(%)
Customer Class			
Residential	68,001,240	68,001,240	100.00%
General	38,557,833	38,557,833	100.00%
Wholesale	266,148	266,148	100.00%
Irrigation	15,035,972	15,035,972	100.00%
Recycled	2,031,576	2,031,576	100.00%
Total	\$123,892,770	\$123,892,770	100.00%

Table 30 FY 2015 Adjusted Cost of Service with Revenues under Proposed Rates – Water Delivery

Description	Adjusted COS	Rev Under Proposed Rates	Cost Recovery
	(\$)	(\$)	(%)
Customer Class			
Residential	76,063,687	76,063,687	100.00%
General	41,107,462	41,107,462	100.00%
Wholesale	257,091	257,091	100.00%
Irrigation	14,476,314	14,476,314	100.00%
Fire Protection	1,667,114	1,667,114	100.00%
Total	\$133,571,668	\$133,571,668	100.00%

CUSTOMER BILL IMPACT

The following charts show the impact of the proposed water rate structure on Residential customers at various levels of water consumption. Figures 10, 11 & 12 present the monthly bill comparison at existing rates versus FY 2015 proposed rates for low, moderate and high levels of consumption, respectively. Existing rates are at both standard and seasonal rates as appropriate. Also shown is the cumulative percentage of residential customer bills that are included at various usage thresholds.

Figure 10 Residential Water Bill Comparison – Low Use

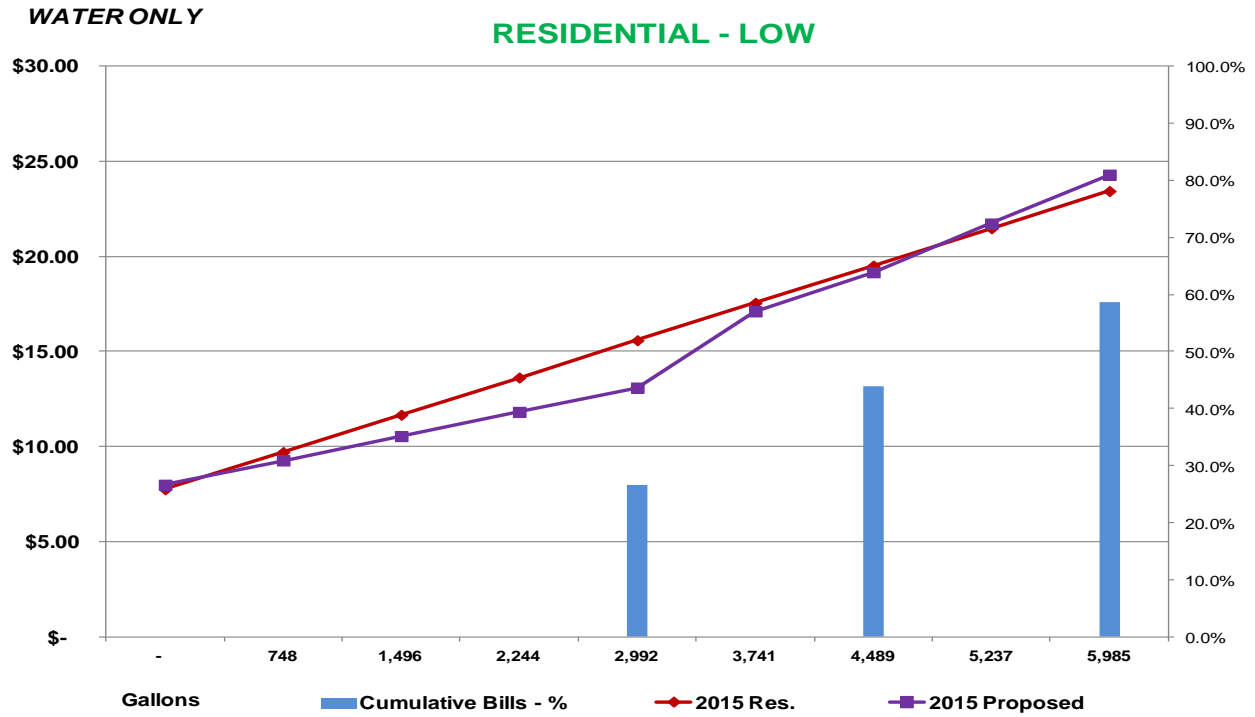


Figure 11 Residential Water Bill Comparison – Medium Use

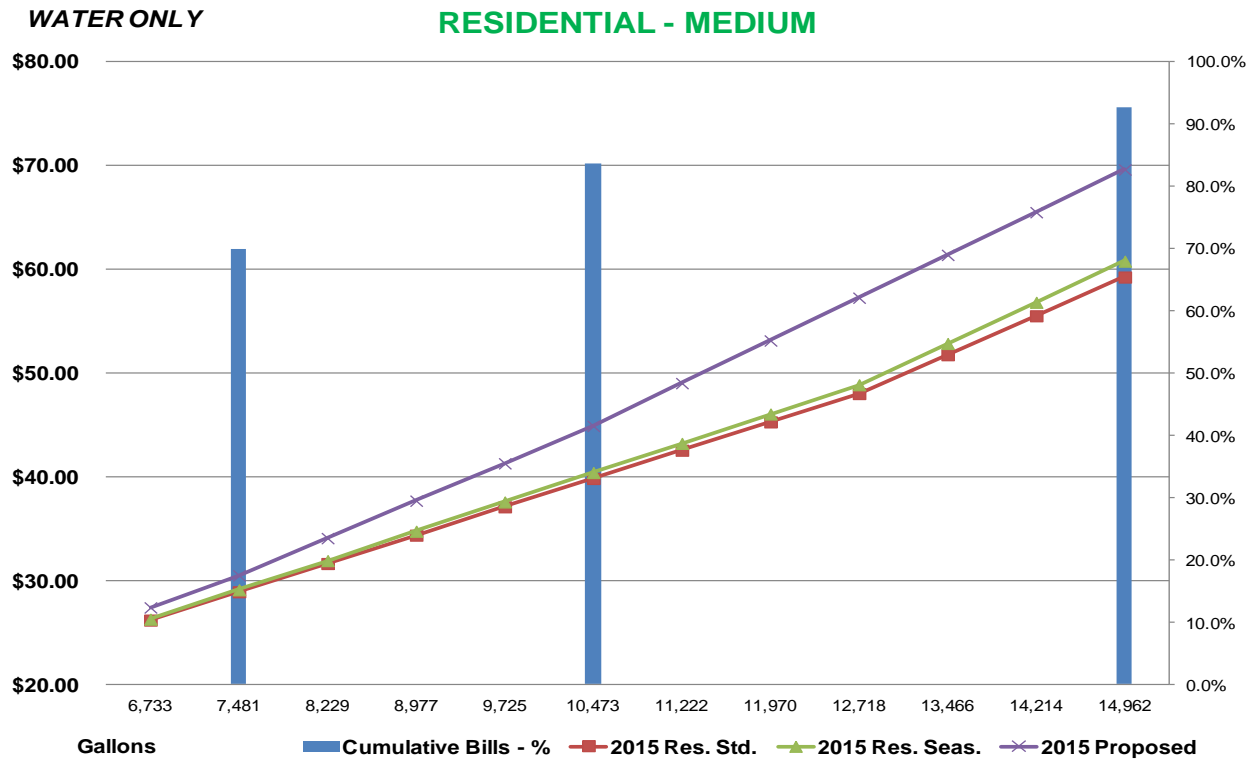


Figure 12 Residential Water Bill Comparison – High Use



Wastewater Rate Study

REVIEW OF EXISTING RATE STRUCTURE

SAWS currently utilizes three primary customer classes in the provision of wastewater services to its customers: Residential, General, and Wholesale. There are two additional designation within each class based on location within the system: Inside-City Limits (ICL) and Outside-City Limits (OCL). Table 31 shows the 2015 projected number of SAWS water accounts and usage by customer class.

Table 31 2015 Projected Wastewater Accounts and Usage by Customer Class

Customer Class	Number of Accounts		Total Accounts	% of Total	Total Contributed Volume (MG)	% of Total
	ICL	OCL				
Residential	347,038	54,131	401,169	94.0%	27.5	54.7%
General*	25,013	435	25,448	6.0%	20.5	40.8%
Wholesale	0	12	12	0.0%	2.3	4.5%
Total	372,050	54,578	426,629	100.0%	50.3	100.0%

* General Class includes Commercial, Multi-family, Industrial and Municipal customers.

Residential customers account for approximately 94% of all customer accounts while accounting for approximately 55% of all wastewater contributed volume. General class customers on the other hand account for approximately 6% of the total customers but account for almost 41% of all contributed volume. SAWS has 12 wholesale wastewater customers that contribute slightly less than 5% of total wastewater volume.

Wastewater Service Availability Charge

The wastewater service availability charge is a fixed monthly fee designed to offset a portion of the costs associated with maintaining the facilities and infrastructure to serve a customer regardless of whether or not the customer actually contributes any wastewater volume during a given month. Residential and General class customers are currently assessed the same service availability charge regardless of the size of their water or wastewater connection but the charge does vary depending whether the customer is within city limits or outside of city limits. The Residential and General class service availability charge covers the first 200 cubic feet (1,496 gallons) of contributed volume.

Wastewater Volumetric Charge

A wastewater volumetric charge is assessed based on the volume of wastewater contributed by each customer during the billing cycle. For Residential customers, the volume of wastewater contributed each month is an estimate based on each customer's average water usage for 90 days during three consecutive billing periods between November 15th and March 15th (Average Winter Consumption). The customer's Average Winter Consumption (AWC) serves as the basis for the volumetric charges for the next 12 months once the AWC is determined in April of each year. General class contributed volume is based on water consumed through the customer's domestic meter, adjusted for the portion, if any, that is assumed to be used for outdoor irrigation.

A summary of both the existing wastewater service availability and volumetric charges is presented in Table 32.

Table 32 Existing Wastewater Charges

Description	Residential/General Class		Wholesale Class	
	ICL	OCL	ICL	OCL
Service Availability Charge*	\$12.69	\$15.25	n/a	\$149.02
Volumetric Charge (per 100 gallons)	\$0.3365	\$0.4038	\$0.3032	\$0.3641

*Residential and General Class charge includes first 1,496 gallons of contributed volume.

Sewer Surcharges

The current wastewater rate structure also includes a high strength component charged to General class customers whose wastewater includes pollutant levels in excess of normal domestic wastewater. The surcharges are intended to recover direct costs associated with removal of biological oxygen demand (BOD) and total suspended solids (TSS). Surcharges also recover direct cost to administer the city's pretreatment program. Without a surcharge, industrial and commercial facilities would be subsidized by residential customers.

REVENUE REQUIREMENTS

With revenue derived from the various sources, SAWS funds the requirements of: operation and maintenance (O&M); recurring annual capital expenditures for replacements, system betterments, and extensions; debt service on outstanding bonds; and reserve levels. O&M expenses are those expenditures necessary to maintain the system in good working order. Capital expenditures consist of recurring routine annual replacements as well as major capital projects to expand the system. Currently, SAWS uses a combination of cash and debt to finance all capital improvements.

Wastewater Revenue Requirements

Wastewater revenue requirements include all costs incurred by SAWS to collect and treat wastewater contributed by each customer. The elements comprising the cost of service analysis are assigned to the two cost categories of operating expense and capital costs. SAWS staff provided a breakdown of costs that are recovered by wastewater rates as shown in the following table.

Table 33 FY 2015 Wastewater Revenue Requirements

Description	Operating Expense	Capital Cost	Total Cost
Operating & Maintenance Expense	\$109,508,549		\$109,508,549
Debt Service		\$79,731,570	\$79,731,570
Transfer to City	\$5,976,386		\$5,976,386
Transfer to R&R	\$5,958,960	\$16,833,783	\$22,792,743
Capital Outlay		\$4,444,113	\$4,444,113
Subtotal	\$121,443,895	\$101,009,466	\$222,453,361
Amounts recovered from sources other than rates	(\$4,716,738)	\$0	(\$4,716,738)
Total Rate Requirements	\$116,727,156	\$101,009,466	\$217,736,623

WASTEWATER COST OF SERVICE ALLOCATION

Similar to the water system cost allocation process, the principle behind a cost of service analysis is to match the cost of providing service to customer classes which leads to the design of rates that equitably recover these costs. The first step in the process is to allocate the costs of operating the utility to its customers. In accordance with the Water Environment Federation Manual of Practice No. 27 (WEF MOP 27), we use a five-step process to allocate the costs of operating the utility to customers:

1. Select a Test Year
2. Allocate costs to utility functions according to cost causative parameters
3. Estimate total customer class service requirements for each cost function
4. Divide costs by requirements for each function to get unit costs of service
5. Distribute costs to each customer class based on its share of total requirements for each cost function

The purpose of using the revenue requirements for a specific year (Test Year) out of the Financial Plan is to illustrate how the annual revenues and costs are assigned to cost drivers and ultimately, to different customer classes.

The cost of service analysis to be allocated to the various wastewater customer classes consists of the total revenue requirements for FY 2015, which are known as the test year. In determining costs of service to be met from wastewater service charges only, other operating revenues (such as interest income and other revenue and financing sources) are deducted from total revenue requirements. The FY 2015 costs to be recovered from wastewater rates are approximately \$217 million.

Functional Components of Wastewater System

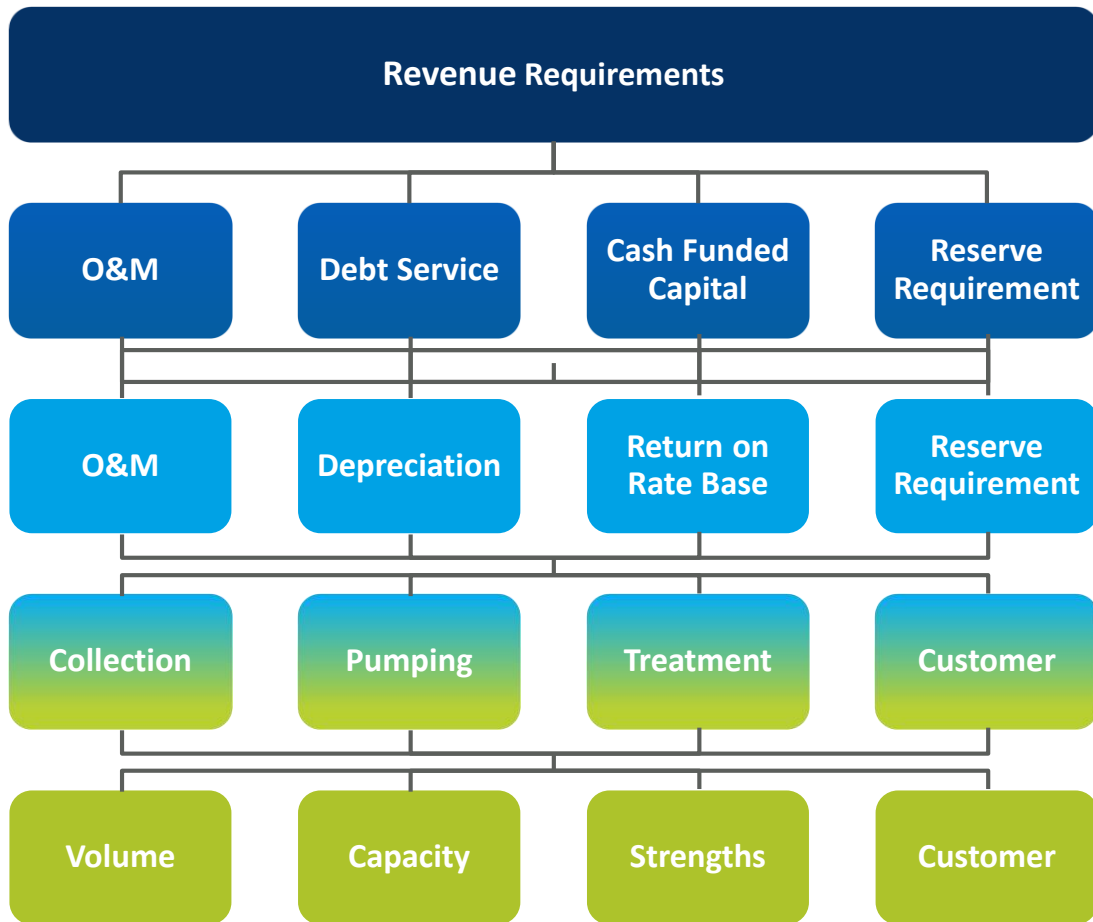
The principles outlined in WEF's MOP 27 recognize that different parts of the wastewater system are designed to address different needs. For example, if the effluent flows contain low levels of pollutants, then the level of treatment needed at the plant may be minimal. Conversely, if the wastewater utility is located in a heavily industrialized area, the level of treatment may be extensive. As a basis for allocating costs of service among customer classes, costs may be separated into the following three basic functional cost components: (1) "Volume"; (2) "Strength"; and (3) "Customer".

- Volume, or flow, costs represent operating and capital costs primarily associated with collection and treatment. Volume also includes infiltration and inflow (I/I) associated with wet weather events and effect on flow volumes.
- Strength costs represent those operating costs primarily associated with treatment. The treatment costs are specifically related to treatment of Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). BOD and TSS relate to the strength of the wastewater which directly affects the energy and cost of wastewater treatment.
- Customer costs are defined as those that tend to vary in proportion to the number of customers connected to the system. These include billing, collecting and accounting.

Allocation to Cost Components

Each element of costs, e.g. treatment, collection, pumping, billing, customer service, is allocated to functional cost components (as defined earlier) on the basis of the parameter or parameters having the most significant influence on the magnitude of that element of cost. In other words, the volume of flow affects the costs to operate the collection and treatment facilities, whereas wastewater strength largely affects treatment facilities. Likewise, the analysis demonstrates a link between number of customer accounts and billing and customer service activities, and the costs of those activities. Figure 13 illustrates the framework of the allocation of revenue requirements to functional cost components.

Figure 13 Wastewater Revenue Requirements Allocation to Functional Costs



Tables 34 and 35 summarize the allocation percentages used in the cost of service analysis for both operations and maintenance expenses as well as capital costs in a similar manner as that for Water Supply and Water Delivery. Table 34 shows the amount of demand each customer class places on each cost component of Flow, BOD, TSS, Customers and Equivalent Meters. For example, the data in Table 34 shows that Residential customers comprise 56.6% of the total flow compared to the other customer classes. Therefore, Residential customers are allocated 56.6% of the costs associated with flow. Table 35 shows the percentages of demand each customer class places on the total

wastewater system by cost component compared to other customer classes by cost component. For example, Residential customer flow demand represents 38.4% of total wastewater system costs.

Table 34 Customer Class Wastewater Allocation Percentages within Each Cost Component

Customer Class	Flow	BOD	TSS	Customers	Equivalent Meters
Residential	56.6%	36.8%	50.4%	94.0%	77.7%
General	39.0%	30.6%	41.2%	6.0%	22.3%
Wholesale	4.4%	3.4%	4.7%	0.0%	0.0%
Surcharge	0.0%	29.2%	3.7%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Table 35 Total Wastewater Allocation Percentages

Customer Class	Flow	BOD	TSS	Customers	Equivalent Meters	Total
Residential	40.4%	3.1%	3.8%	11.7%	0.3%	59.3%
General	27.8%	2.5%	3.1%	0.7%	0.1%	34.3%
Wholesale	3.2%	0.3%	0.3%	0.0%	0.0%	3.8%
Surcharge	0.0%	2.4%	0.3%	0.0%	0.0%	2.7%
Total	71.3%	8.3%	7.5%	12.4%	0.4%	100.0%

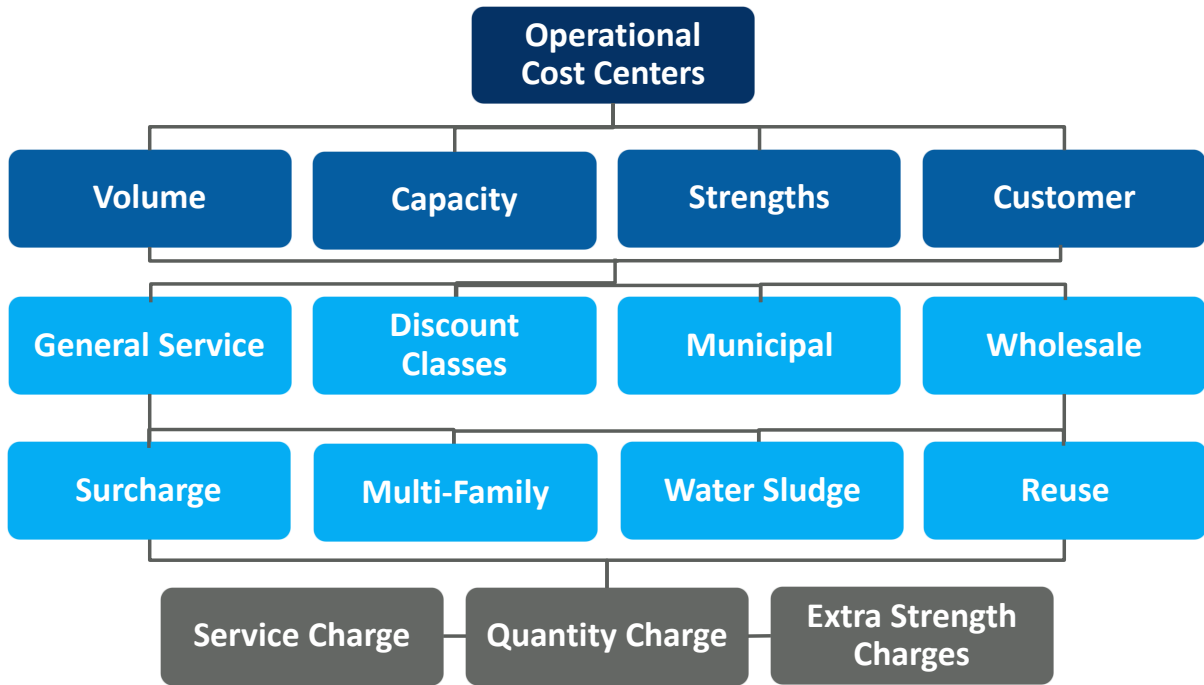
To establish the total cost responsibility of each class of service, Black & Veatch developed the unit costs of service for each cost function and assigned those costs to the customer classes based on the respective service requirements of each. Each customer class receives its share of flow, capacity, effluent strength, and customer costs (as noted earlier, these factors were determined through a review of SAWS planning and design documentation as well as customer flow records). The number of units of service required by each customer class provides a means for the proportionate distribution of costs previously allocated to respective cost categories.

In the overall rate-setting process, there is a need to establish a base level of cost for which the cost of all customers can be measured. Customer-related service costs are allocated based on the customer's water meter size as this provides a proxy for the size of the customer's connection to the wastewater system. Generally, equivalent meter cost ratios should be used when assigning elements of costs specifically related to meters among the various sizes of meters used by the customer in the system. SAWS' most prevalent water meter size is 5/8" and therefore is considered equal to one-meter equivalent. All larger meters are given a meter equivalent ratio based on hydraulic capacity.

Cost of Service Allocations to Customer Classes

Costs of service are allocated to the customer classes by application of unit costs of service to respective service requirements. Unit costs of service are based upon the total costs previously allocated to functional components and the total number of applicable units of service. Dividing the costs allocated to functional cost components by the respective total units of service requirements develops unit costs of operation and maintenance expense, and net capital costs. Figure 14 presents this process in an illustrative manner.

Figure 14 Distribution of Costs to Customer Classes



Adequacy of Existing Rates to Meet Costs of Service

Presented in Table 36 is a comparison of the allocated costs of service and revenues under existing rates for the wastewater system. As the table indicates, there were differences in the way that customer classes were recovering their fair share of system costs. The last column in the tables indicates the approximate adjustment to customer class rate levels necessary to recover 100 percent of the allocated costs of service in comparison to revenue under existing rates.

Table 36 Comparison of Allocated Costs of Service with Revenues under Existing Rates – FY 2015

Description	Allocated COS (\$)	Rev Under Existing Rates (\$)	Indicated Rate Adjustment (%)
Customer Class			
Residential	129,016,870	133,056,632	-3.04%
General *	74,590,751	71,784,903	3.91%
Wholesale	8,251,604	7,980,405	3.40%
Surcharge	5,877,399	4,914,684	19.59%
Total	\$217,736,623	\$217,736,624	0.00%

Multi-Family Customer Class

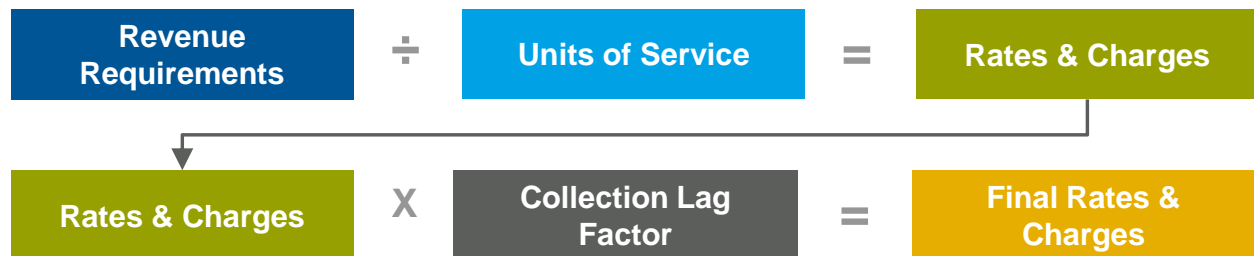
One of the primary rate setting objectives identified by the RAC was to review and update the cost of service allocations for all customer classes in the water and wastewater systems. Initially, the RAC anticipated that the cost of service analysis would show that multi-family customers (currently part of the General customer class) exhibit different wastewater flow and strength characteristics than other General class customers due to their residential nature (other General class customers are categorized as non-residential). After Black & Veatch performed the comprehensive cost of

service analysis, the results showed that multi-family wastewater characteristics were not significantly different than those of the other General class customer categories. Furthermore, there is no indication of significant cross-subsidization between the various sub-customer classes that comprise the General customer class category. Therefore, the RAC agreed that multi-family customers should remain within the General customer class.

WASTEWATER RATE DESIGN

The initial consideration in the derivation of wastewater rate schedules for utility service is the establishment of equitable charges to the customers commensurate with the cost of providing that service. While the cost of service allocations to customer classes should not be construed as literal or exact determinations, they offer a guide to the necessity for, and the extent of, rate adjustments. See Figure 15 for the process of designing rates. Practical considerations sometimes modify rate adjustments by taking into account additional factors such as the extent of change from previous rate levels, existing contracts, and past local policies and practices.

Figure 15 Rate Design Process



Rate Options

Before presenting the proposed rates for FY 2015, the following lists the recommended changes to the wastewater rate structure for Residential and General customer classes. Wholesale customer rate recommendations are included in the following section under Other Financial Recommendations.

These recommendations were presented to the Rate Advisory Committee during several meetings in early 2015 in concert with the rate setting objectives established by the RAC early in the rate study process.

- Expand the number of volumetric blocks associated with the Residential class. Instead of a flat volumetric charge applied to all flow amounts, Residential customers would be subject to a two block structure. The breakpoint between Block 1 and 2 rates would be 2,992 gallons per month of wastewater flow. The lower block 1 rates provides for a wastewater Lifeline Supply rate block, similar to that created in the residential water rate structure, and helps to ensure that basic water and wastewater services are available to customers at a relatively low cost for life essential uses of water. This change may also provide further incentive to Residential customers to reduce overall water consumption (a majority of water use is returned to the wastewater system). All other customer classes would remain on a flat, uniform volumetric structure.

- Transition the wastewater service availability charge structure from a flat or uniform monthly fee regardless of meter size to a meter-based tiered structure tied to the size of the water meter. Similar to the water availability charge, larger meters would have a larger charge than would smaller meters. The minimum allowance of 1,496 gallons imbedded in the availability charge would remain in place. This change would more appropriately reflect the capital and operating costs to provide the available capacity associated with each size of meter.
- New residential customers with no established average winter consumption are currently charged a wastewater service charge based on an assumed consumption of 11 ccf (8,229 gallons). After 3 months, the customer is charged the lesser of actual average water usage or the unaveraged rate. Consider reducing the unaveraged rate by 1 ccf (748 gallons) each year for the next 3 years in order to bring the unaveraged rate more closely in line with the system-wide Average Winter Consumption.

The proposed FY 2015 wastewater rates for Inside City Residential and General customer classes are shown in Table 37. Wholesale customer rate recommendations are included in the following section under Other Financial Recommendations.

Table 37 Proposed FY 2015 Wastewater Rates – Residential & General (ICL)

Description	Existing Residential & General	Proposed FY 15 Residential	Proposed FY 15 General
Availability Charge (meter size)*	<i>(per bill)</i>		
5/8"	\$12.69	\$11.67	\$11.67
3/4"	\$12.69	\$12.84	\$12.84
1"	\$12.69	\$14.59	\$14.59
1 1/2"	\$12.69	\$20.43	\$20.43
2"	\$12.69	\$29.18	\$29.18
3"	\$12.69	\$58.36	\$58.36
4"	\$12.69	\$87.54	\$87.54
6"	\$12.69	\$145.90	\$145.90
8"	\$12.69	\$233.43	\$233.43
10"	\$12.69	\$350.15	\$350.15
12"	\$12.69	\$466.87	\$466.87
Wastewater Volumetric Rate	<i>(per 100 gal)</i>		
Block 1**	\$0.3365	\$0.2495	\$0.3343
Block 2	n/a	\$0.3743	n/a

*Service availability charge includes a minimum allowance of 1,496 gallons.

**The proposed Residential volumetric rates consist of two blocks with Block 1 ending at 2,992 gallons.

Revenue Sufficiency

A comparison of the Test Year allocated cost of service with revenues is presented in Table 38. Test year costs of service are utilized and the proposed rates recover essentially 100 percent of the total cost of service.

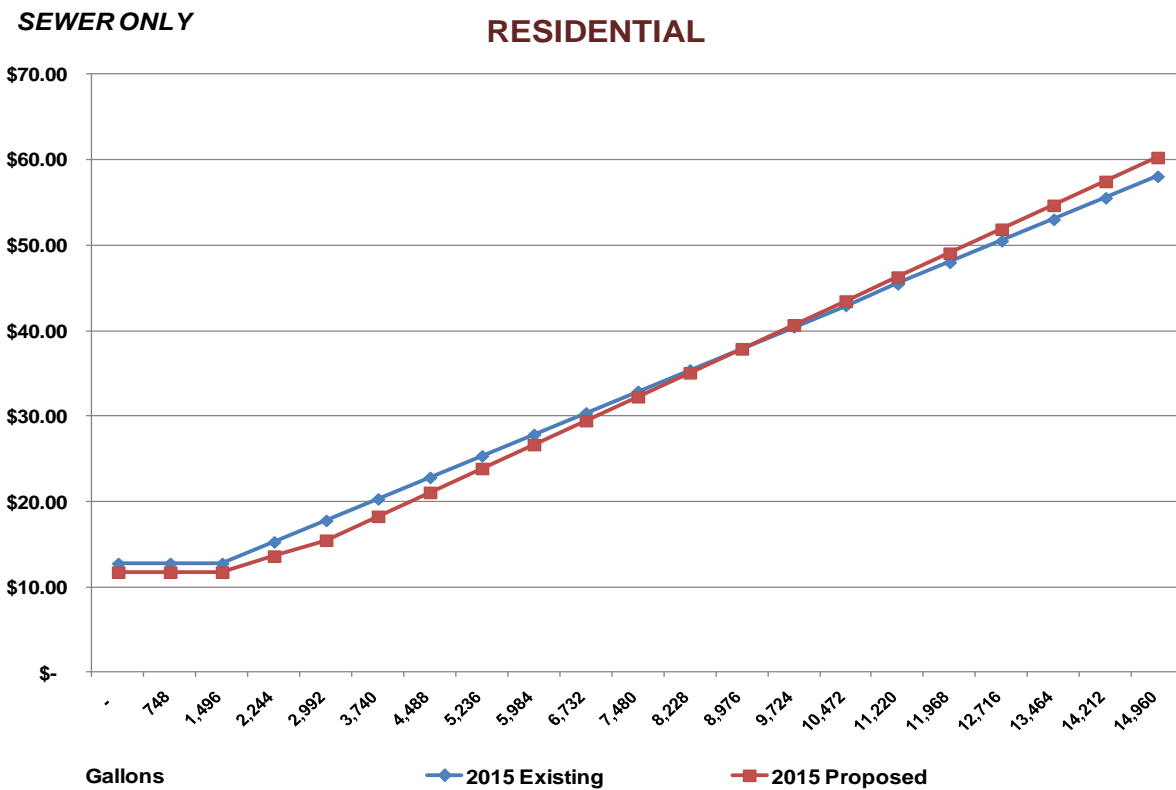
Table 38 FY 2015 Allocated Cost of Service with Revenue under Proposed Wastewater Rates

Description	Allocated COS	Rev Under Proposed Rates	Cost Recovery
	(\$)	(\$)	(%)
Customer Class			
Residential	129,016,870	129,016,870	100.00%
General	74,590,751	74,590,751	100.00%
Wholesale	8,251,604	8,251,604	100.00%
Surcharge	5,877,399	5,877,399	100.00%
Total	\$217,736,623	\$217,736,623	100.00%

CUSTOMER BILL IMPACT

The following chart shows the impact of the proposed wastewater rate structure on Residential customers at various levels of flow. Figure 16 presents the monthly bill comparison at existing rates versus FY 2015 proposed rates.

Figure 16 Residential Wastewater Bill Comparison



Other Financial Recommendations

The following sections provide summary descriptions of the analysis and future recommendations for the following initiatives:

- Revenue Stability Strategy
- Recycled Water Rates
- District Special Project (DSP) Rates
- Wholesale Rates
- Irrigation Non-Compliance
- Future Rate Adjustments and Price Elasticity

REVENUE STABILITY STRATEGY

Weather in San Antonio can be highly variable from year to year. Extended periods of very dry weather periodically occur resulting in drought as do the occasional periods of very wet weather. As SAWS develops its annual budget each year, forecasting weather can be difficult, if not impossible. Historically, SAWS has set revenue projections and determined the need for rate adjustments based on projected water sales during normal conditions. Normal conditions generally reflect average annual rainfall and no or very limited restrictions on water usage. During periods of very wet or very dry weather customers' water usage and resulting operating revenues can be highly volatile, resulting in more or less revenue than required to operate the system. Table 39 depicts the variability of customer water usage over the last five years.

Table 39 Variability of Customer Water Usage

Description	2014 Actual	2013 Actual	2012 Actual	2011 Actual	2010 Actual
Annual Rainfall (in inches)	27.63	32.27	39.4	17.58	37.39
Average Monthly Use per Customer Connection (in gallons)	12,016	12,090	12,413	13,740	12,339
Budgeted Average Monthly Use (in gallons)	12,632	12,508	12,490	12,547	12,969
% Variance	-4.9%	-3.3%	-0.6%	9.5%	-4.9%

Since a major source of SAWS water supply comes from the Edwards Aquifer, permit reductions imposed by the Edwards Aquifer Authority during drought can have a significant impact on the availability of Edwards Aquifer water in deeper stages of drought. SAWS has successfully pursued the development of additional water supplies to reduce its reliance on the Edwards Aquifer. SAWS has also established restrictions on outdoor water use during various stages of drought in order to ensure that customer demand does not exceed the available water supplies.

When drought restrictions are in effect for an extended period of time actual water usage can be significantly less than the amount budgeted, resulting in revenue shortfalls. Since 2011, SAWS customers have been under some form of drought restrictions due to a persistent drought in the region. As a result, SAWS water related revenues have fallen short of budget for the last several

years. These shortfalls, if significant, have the potential to negatively impact SAWS financial metrics and credit ratings.

As SAWS continues to add non-Edwards water supplies, the impact of Edwards Aquifer permit reductions during drought will have less impact on SAWS total water portfolio, particularly once the brackish desalination and the Vista Ridge water projects come online during the next five years. However, very wet weather will continue to reduce customers' water usage and result in revenue shortfalls.

Revenue Stability Strategy

SAWS should develop a revenue stability strategy to address revenue volatility associated with extreme weather. This strategy might include the following:

- Reducing the projected amount of water sales when budgeting revenue and determining the need for rate adjustments in order to minimize the impacts of reduced water usage during very wet years or dry years with modest drought restrictions.
- Automatically adjusting rates during periods when significant drought restrictions are in effect to further incentivize additional reductions in water usage as well as offset revenue losses from a significant reduction in customer usage.

RECYCLED WATER

SAWS recycled water system is the largest direct-use recycled water system in the nation and is recognized globally by water policymakers and distinguished water management experts for the innovative reuse of treated wastewater effluent for irrigation, industrial, and environmental purposes. Up to 25,000 acre feet of effluent treated at SAWS three recycling centers can be distributed through the more than 130 miles of pipeline that circles the City in order to provide high-quality water for use by golf courses, parks, commercial and industrial customers, as well as San Antonio's famous River Walk. SAWS has invested millions of dollars in building the necessary infrastructure to distribute recycled water to customers in an effort to help conserve potable water.

Current Rates and Cost Recovery

The existing recycled water rate structure is comprised of a monthly service availability fee that varies by meter size and a two-tiered volumetric rate structure. Seasonal volumetric rates apply to recycled usage between May 1 and September 30th. Standard volumetric rates are applied to usage in the other months.

SAWS has two different tiered rate structures. SAWS has a few recycled water customers that transferred their Edwards Aquifer rights (in acre feet or "AF") to SAWS. In exchange for these rights, SAWS charges these customers the "Edwards Exchange Customer" Block 1 rate for all usage that is up to the amount of AF transferred to SAWS. The customer is then assessed the Block 2 rate for all usage above the AF transferred to SAWS. The majority of SAWS' customers are Non-Edwards Exchange Customers. These customers are assessed a tiered standard and seasonal volumetric rate structure. The Block 1 threshold for these customers is 748,000 gallons. The current rates charged to recycled water customers are provided in Table 40.

Table 40 Existing Recycled Water Rates

Description	Edwards Exchange Customers		Non-Edwards Exchange Customers	
	Existing		Existing	
Availability Charge (meter size)	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$9.51		\$9.51	
3/4"	\$12.37		\$12.37	
1"	\$16.11		\$16.11	
1 1/2"	\$25.61		\$25.61	
2"	\$37.45		\$37.45	
3"	\$99.61		\$99.61	
4"	\$148.06		\$148.06	
6"	\$282.44		\$282.44	
8"	\$425.73		\$425.73	
10"	\$583.77		\$583.77	
12"	\$720.27		\$720.27	
Supply & Delivery Volumetric Rate	<i>Threshold</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Block 1	Transferred	\$0.0250	748,000	\$0.1004 - \$0.1079
Block 2	Excess	\$0.0938 - \$0.0997	Above	\$0.1026 - \$0.1089

The total estimated annual cost to operate the recycled water distribution system in 2015 is \$9.9 million. This only includes the cost to distribute recycled water to customers and does not include any of the cost to treat the effluent, which is covered by wastewater rates. Revenue generated by direct-use recycled customers currently recovers approximately 20% of the operating and capital costs associated with SAWS' recycled water distribution system. As a result, approximately 80% of the recycled water system costs are subsidized by potable water customers.

Table 41 Recycled Water Allocated Costs

Allocated Costs	Revenus Under Existing Rates	Cost Recovery %	Unrecovered Costs
\$9,876,229	\$2,031,576	20.6%	\$7,844,653

Non-exchange recycled water rates are approximately 30% of the potable water rates paid by general class customers and approximately 10% to 25% of the potable water rates paid by irrigation class customers. Recycled water users also incur additional costs in order to utilize recycled water in their industrial or landscape irrigation processes.

Recycled water rates were initially set at levels to incentivize commercial customers to switch from potable water to recycled water. SAWS currently has some unused capacity in the recycled water system and continues to pursue potential new recycled customers. If recycled water rates were set at a level that fully recovered the annual cost of the recycled water system, recycled water rates would have to increase nearly 500%, at which point recycled water customers would likely be paying more for water than potable water customers. If the cost of recycled water along with any additional costs incurred by the customer to utilize recycled water is greater than the cost of potable water, recycled water customers could decide to switch from recycled water to potable water.

Recommendations

The objective should be to set recycled water rates at a level that both maximizes cost recovery and ensures that customers view recycled water as an economically viable alternative to potable water. Understanding the manner in which existing customers utilize recycled water as well as the additional costs incurred by those customers is critical to determining the appropriate level for recycled water rates.

In order to meet this objective, SAWS should form a user group of recycled water customers within the next 12 months to study possible recycled water rate structure modifications. These modifications may include the development of separate recycled water rates for industrial use and irrigation use. Until final recommendations are developed and approved, adjusting recycled water rates annually based on the average adjustments applied to potable water rates will ensure that the percentage of costs recovered and the relative differences between recycled and potable water rates do not deteriorate. As long as full cost recovery is not achievable, potable water users must continue to subsidize recycled water users; however, the amount of recycled costs being subsidized by potable water users is less than the cost associated with replacing recycled water with a potable water source.

SAN ANTONIO WATER SYSTEM - DISTRICT SPECIAL PROJECT RATES

San Antonio Water System – District Special Project (DSP) was created on January 28, 2012 upon the dissolution of Bexar Metropolitan Water District (BexarMet). DSP includes all water resources, properties, facilities, and plants relating to the supply, storage, treatment, transmission, and distribution of treated potable water for customers located in the former BexarMet service area. SAWS DSP provides potable water service to more than 101,000 customer connections.

DSP has been fully integrated into SAWS for operational purposes but remains a separate legal entity under the management of SAWS. DSP customers pay rates for water service based on the rates established by the former BexarMet at the time BexarMet was dissolved. By state law, SAWS and SAWS DSP are required to be fully integrated by January 1, 2017 unless an extension is requested from the Texas Commission on Environmental Quality (TCEQ) of no more than 3 years. Full integration is considered to be achieved when DSP no longer operates as a separate legal entity and the customers of both SAWS and DSP pay the same rates for water service (“rate consolidation”).

The San Antonio City Council ordinance that provided for the creation of DSP stipulates that the integration of DSP should have no adverse impact to SAWS customers. If DSP customers had been converted to SAWS rates for water service at the time that BexarMet was dissolved in 2012, annual revenue generated would have been approximately \$19 million less than revenue generated under the existing BexarMet rates. Additionally, if the outstanding BexarMet debt had been refunded at that time with SAWS debt, a condition necessary to eliminate the SAWS DSP entity, an additional loss of \$12 million would have been incurred. Both of these actions would have had a significant detrimental financial impact to SAWS customers. Therefore, SAWS announced its intention to hold the DSP rates constant until such time as the DSP cost structure could be reduced and rates charged to SAWS water customers could catch up more closely to the DSP rates. The current rates charged to DSP customers are provided in Appendix C.

Based on current projections, more revenue would be generated if SAWS projected water rates for residential and irrigation customers are applied to DSP customers in 2017; however, less revenue would be generated if SAWS projected general class rates are applied to DSP commercial customers. SAWS management believes that any net shortfall in revenue as a result of converting DSP customers to SAWS rates in 2017 will have been fully mitigated by cost savings that have benefited SAWS customers as a result of the operational integration of SAWS and DSP. Therefore, SAWS expects to achieve rate consolidation between SAWS and DSP no later than January 2017.

WHOLESALE RATES

SAWS provides wholesale water and wastewater services to neighboring communities. Wholesale customers own and maintain the water and wastewater infrastructure within their service areas. SAWS owns and maintains water and wastewater infrastructure up to the wholesale customer's connection point. Table 42 provides information about the number of wholesale customers and water provided or wastewater treated for these customers in 2014.

Table 42 SAWS Wholesale Customer Profile

Utility	Number of Customers	2014 Volume (million gallons)	2014 Revenue (\$000)
Water	3	177	\$554
Wastewater	12	2,291	\$7,848

SAWS has also provided water to DSP customers over the last several years as the DSP water supplies have been inadequate to meet customers' demand. SAWS charges the DSP for this water based on published wholesale water rates. Water sales to DSP have been excluded from the wholesale rate analysis.

SAWS has published rates for both inside city limit (ICL) and outside city limit (OCL) wholesale customers. All current wholesale water and wastewater customers are charged OCL rates. Therefore, it no longer appears necessary to differentiate between ICL and OCL for wholesale class customers.

Wholesale Water

Wholesale water customers are charged a fixed meter charge depending on the size of the water connection and water delivery and water supply volumetric charges for all water provided through the connection. The water delivery volumetric rates are assessed using an increasing block rate structure that is tied to the customer's prior year water use. As long as monthly water usage does not exceed the prior year average monthly usage, the water is charged at the base volumetric rate. Water use above the prior year average is charged at the higher block rates depending on the percentage that water use exceeds the prior year average. The water supply fee is assessed based on a flat volumetric rate for all usage.

SAWS has already converted or is in the process of converting the wholesale water customers to take or pay contracts. Under these take or pay contracts, base usage will be defined by the contract and all water usage above the base will be priced at a significantly higher rate to discourage wholesale usage above the take or pay level. This approach requires a reduction in the current number of volumetric blocks (four) to two blocks and will apply to both the water delivery and water supply fee charges. This structure will allow SAWS to better plan for wholesale water

demands and more closely tie water usage above the take or pay amount to the cost of new water supplies.

The cost of service analysis indicates that existing wholesale water rates only recover 90% of the costs allocated to wholesale water service. The proposed restructured rates in Table 43 are based on 100% cost recovery for both water delivery and water supply costs.

Table 43 Existing and Proposed Wholesale Combined Water Rates – FY 2015

Description	Wholesale			
	Existing		Proposed FY 2015	
Availability Charge (meter size)	<i>(per bill)</i>		<i>(per bill)</i>	
6"	\$397.62		\$409.92	
8"	\$635.03		\$654.67	
10"	\$911.98		\$940.20	
12"	\$1,703.33		\$1,756.03	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Combined Water Volumetric Rate				
Block 1	Base	\$0.3074	Base	\$0.3604
Block 2	101% - 125% of Base	\$0.3626	Greater than Base	\$1.0811
Block 3	126% - 175% of Base	\$0.4359		
Block 4	176% of Base and Above	\$0.5345		

Wholesale Wastewater

Wholesale wastewater customers are charged a monthly fixed service availability charge and a volumetric charge for all wastewater delivered to SAWS for treatment. No changes are proposed to the wholesale wastewater structure. The proposed restructured rates in Table 44 are based on 100% cost recovery and shift more of the wholesale wastewater revenue from variable to fixed.

Table 44 Wholesale Wastewater Rates

Description	Wholesale	
	Existing	Proposed FY 2015
Availability Charge	<i>(per bill)</i>	
All Meter Sizes	\$149.02	\$273.33
Wastewater Volumetric Rate	<i>(per 100 gal)</i>	
Uniform	\$0.3641	\$0.3567

IRRIGATION NON-COMPLIANCE

Sections 34-271 and 34-425 in Chapter 34 of the San Antonio City Code require that certain irrigation customers conduct annual inspections of their irrigation systems. The purpose of the annual inspections is to reduce water waste that can result from malfunctioning or damaged irrigation systems. Customers who make repairs to their systems generally see reductions in their water usage and in their bills. Despite the potential for individual cost savings, a large percentage of customers still fail to comply with this requirement. There are not any specific consequences currently in the Code for non-compliance. It is proposed that a set of fees be established to create a more meaningful incentive for owners of systems falling under the inspection requirement.

Specifically, the annual inspection requirement applies to irrigation customers who meet either of the following criteria:

- Large Property Customers: Owners of five-acre properties which have irrigation systems covering all or a portion of each property, or
- Large Use Customers: Owners of irrigation systems that use one million gallons or more of water annually.

Approximately 2,500 customers meet these criteria. The City Code requires that inspections from these customers be submitted to SAWS by May 1 of each year. As of August 2014, the rate of non-compliance with this requirement was 60.5%. In order to encourage compliance with the requirements and recover the costs associated with non-compliance the following recommendations are made:

- Assess a fee of \$160 when a customer fails to conduct the annually required inspection in order to recover the enforcement costs incurred by SAWS to identify irrigation system owners who are not complying with the requirement. This fee would continue to be assessed on an annual basis for as long as the owner is non-compliant.
- Assess an additional volumetric fee of \$0.0969 per 100 gallons be applied to monthly water use by the non-compliant customer's irrigation system for so long as the inspection of the system is not performed or repairs identified by the inspection are not completed. This additional volumetric charge approximates the true cost of water estimated to be wasted by inefficient irrigation systems.

FUTURE RATE ADJUSTMENTS AND PRICE ELASTICITY

Although this report does not show the overall analysis beyond FY 2015, the analysis performed does show that rate revenue increases will likely be needed each year of the FY 2016 through FY 2020 period due to capital requirements associated with maintaining and expanding water and wastewater infrastructure as well as the development of additional water supplies. The biggest impact on future rates over this five year horizon will likely be associated with wastewater infrastructure improvements required under the consent decree with the Environmental Protection Agency and the Vista Ridge water supply project that is projected to begin delivery water to San Antonio by 2019 or 2020. The Vista Ridge project will result in significant operating and capital related costs, some of which may be offset by the sale of Vista Ridge water to other water retailers. The project will provide significant benefit to SAWS customers as a result of locking in a significant long-term, drought resistant water source at today's prices and reducing San Antonio's reliance on the Edwards Aquifer.

The economic theory of elasticity is one whereby any movement in price of a good or service will affect a corresponding movement in demand of the good or service. In the case of water rates, this relationship is an inverse one, meaning that any increase in water rates typically translates to a decrease in water consumption. For example, a 10% increase in water rates may have the effect of reducing water consumption by 5%. There have been numerous studies of this relationship performed by utility economists yet there is wide disagreement of the precise factors a utility should use.

The recommended course of action when incorporating elasticity into a rate design model is to examine consumption responses to past rate increases and to choose elasticity factors within the ranges produced by the economic studies. Black & Veatch has incorporated price elasticity of demand factors into the multi-year financial model. This will allow SAWS to adjust projected customer demand in future years to account for customers' response to future rate adjustments to both water and wastewater rates. In order to ensure that projected revenue requirements are fully recovered and financial stability maintained, properly assessing the appropriate elasticity factors to apply to customer demand will be critical when evaluating the need for rate adjustments in the future.

Appendix A - Affordability Program Analysis



Subject: Review of Low Income Customer Assistance Programs

Date: May 4, 2015

To: Black and Veatch

From: K Bealer Consulting, Inc.

ANALYSIS

The San Antonio Water System (SAWS) provides assistance to its low-income customers through a variety of programs. As part of its current Rate Study process SAWS wants to benchmark its customer assistance programs (CAPs) to both industry standards and programs in place at peer water or wastewater utilities across the United States. Although the utility industry has a strong history of benchmarking many performance criteria, there is currently no “standard” CAP by which to compare SAWS program. Seven peer cities were reviewed to examine the programs being implemented in areas in the United States that face similar socioeconomic and environmental challenges.

Each selected city faces similar challenges to support low-income customers in a growing metropolitan service area, as demonstrated by their population and poverty rate in Table A-1. Houston, Austin, and Nashville all appear on the 2015 Forbes Top 20 fastest growing cities list along with San Antonio, which indicates that they will face similar challenges to accommodate a growing population using existing resources. Philadelphia and Washington, DC are large, metropolitan areas that are currently dealing with the financial pressures associated with large investment programs. Albuquerque was included because the city faces similar environmental and socioeconomic challenges and Portland was included because it reports on the participation in and cost of its CAP.

Each program reviewed has eligibility requirements that must be met in order to qualify for assistance. Applications are used to determine eligibility; they can be submitted in person, by mail or online. Below is a summary of the major eligibility requirements and enrollment procedure for each city:

Table A-1. Summary of Eligibility and Enrollment Requirements					
City	Population (2)	Poverty Rate (1)	Low Income Program Eligibility Requirements	Low Income Enrollment Requirements	Low Income Discount Amount
San Antonio	1,359,033	24.5%	125% of current Federal Poverty Guidelines	Apply In-Person	\$3.63-\$13.63 monthly
Houston	2,134,707	25.1%	Customer Age and Income within the Federal Poverty Guidelines	Apply by Mail	Up to \$100 biannually

Table A-1. Summary of Eligibility and Enrollment Requirements					
City	Population (2)	Poverty Rate (1)	Low Income Program Eligibility Requirements	Low Income Enrollment Requirements	Low Income Discount Amount
Austin	836,800	23.4%	Customer participation in qualifying federal aid program	Apply by Mail	Up to \$22 monthly
Albuquerque	549,812	26.2%	133% of current Federal Poverty Guidelines	Apply by Mail	Case by Case Basis
Philadelphia	1,536,704	36.4%	175% of current Federal Poverty Guidelines	Apply In-Person or by Mail	Up to \$200
Washington D.C.	619,371	22.7%	150% of current Federal Poverty Guidelines	Apply by Phone	\$32.08 per month
Nashville	614,908	25.4%	Customer participation in qualifying federal, state or local aid program	Apply by Mail	Ability to delay bill payment
Portland	594,687	24.3%	Less than 60% of MHI	Apply by In-Person	\$23.40 per month

(1) Reported poverty rate is the percentage of households below 125% of the federal poverty rate.

(2) All Population and MHI data was collected from the 2013 ACS 5-year estimates for each city.

In addition to comparing eligibility requirements between cities, we also compared median household income (MHI), billing rates and CAP discounts between SAWS and the peer utilities as shown in Table A-2.

City	MHI	Avg. Bill	Max Bill Discount	Net Bill	% of MHI	Emergency Aid
San Antonio	\$45,722	\$702	\$172	\$530	1.16%	\$100
Houston	\$45,010	\$1,080	\$200	\$880	1.96%	\$200
Austin	\$53,946	\$1,332	\$264	\$1,068	1.98%	-
Albuquerque	\$47,989	\$635	-	\$635	1.32%	-
Philadelphia	\$37,192	\$809	\$202	\$607	1.63%	\$200
Washington D.C.	\$65,830	\$1,022	\$385	\$637	0.97%	\$350
Nashville	\$46,686	\$1,170	-	\$1,170	2.51%	-
Portland	\$52,657	\$783	\$281	\$502	0.95%	\$300

Of the eight cities included in the comparison, San Antonio has the 6th highest MHI, the 2nd lowest average annual bill, the lowest available discount of the programs that offer discounts, and 4th highest discount as a percentage of the average bill of the programs that offer discounts.

The available discount is not the only metric by which to judge a CAP. The number of eligible households served as well as the overall investment in the program are also applicable metrics. Table A-3 presents this information for SAWS, DC Water, and Portland which were the only peer utilities that reported information about their programs.

City	Households					Annual Program Cost	Revenue	Program Cost as a % of Revenue
	Customer	< 125% Federal Poverty Guidelines	Potential CAP Participants	Actual CAP Participants	Participants as a % of eligible			
San Antonio	450,000 (1)	148,000	79,000	19,000	24%	\$3.1M	\$497M	0.6%
Washington D.C.	104,000(1)	60,000	23,000 (2)	5,600	24%	\$1.4M	\$473M	0.3%
Portland	163,000	61,000	24,000	9,300	38%	\$1.6M	\$137M	1.2%

(1) The number listed is for residential accounts.

(2) The potential customer accounts is lower for DC Water because the percentage of single family residences was <40% which is much lower than the 60%-70% of single family homes found in the other communities

Eligibility in SAWS CAP is determined based on income and meter requirements. Customers that do not have a meter are not eligible to participate in the CAP which is why the number of potential program participants has been reduced to account for the percentage of single family residences. This requirement is typical throughout the country which means that residents of multi-family units served

by a single meter are ineligible for participation in CAPs except in situations where water may be provided by a multiple utility provider, such as the Los Angeles Department of Water and Power. Their customers are billed for both water and power by the same utility, so it is possible to identify low income customers through their metered power service and provide them with assistance for their water bills, even though they are not served by an individual water meter.

Although there is limited data available to benchmark SAWS CAP to either an industry standard or to peer utilities, from the information that is available it appears that the assistance programs available to SAWS customers are in line with the CAPs available to customers at peer utilities.

FINDING AND RECOMMENDATION

Finding

The SAWS programs share many similarities with the programs reviewed in this memo, except for the application process required for certain SAWS assistance programs. SAWS requires that customers apply in-person through a visit to a case worker at the City's Human Services Department for assistance from the Project Agua, Plumbers to People and Laterals to People programs, which is not required by any of the other cities. The addition of an office visit during the application process could be a barrier to participation for low-income customers (i.e. those who have limited transportation options or a fear of entering the City's Human Services Department). Applications for other SAWS CAPs may be made by mail or fax machine.

Recommendation

SAWS should expand the application process for the Project Agua, Plumbers to People, and Laterals to People programs. Allowing customers to initiate the process via a bill insert, on-line, or over the phone has the potential to increase participation. Low-income residents who might otherwise not be able to apply in person could now have access to this program. In 2014, SAWS transferred \$263,160 to the City of San Antonio for program administration. Expanding the application process has the potential to increase program participation without increasing the administrative costs of the program.

SAWS SUMMARY

The San Antonio Water System serves residents of the City of San Antonio and other surrounding areas. The City has a population of 1,359,033 with a MHI of \$45,722¹. Approximately 24.5% of city residents fall below 125% of the poverty guidelines established by the United States Department of Health and Human Services. The water system serves more than 1.6 million people in Bexar County, as well as parts of Medina and Atascosa counties. This includes more than 473,000 water customers and 420,000 wastewater customers.

SAWS offers a variety of affordability programs to reduce the burden of utility costs for customers who qualify. The Affordability Programs include: Project Agua, Plumbers to People, Affordability Discount, Senior Citizen Billing Program, Disability Billing Program, and the Courtesy Notice Program. In order to qualify for a program customers must meet certain eligibility requirements. These requirements are specific to the program and generally require participants to fall either within a certain age or within the income guidelines determined by the City of San Antonio Department of Human Services.

SAWS Programs Summary

Project Agua

Project Agua is designed to provide one-time assistance to residential SAWS customers who are having difficulty paying their water bill and who meet Federal Income Assistance Guidelines. Funds for this program are provided by voluntary contributions from SAWS customers (residential and commercial) and SAWS employees.

In order to qualify for the program customers must meet certain eligibility requirements. These requirements may include income, family size, age, location of residence, disability, and degree of need or emergency. Requirements are determined by the City of San Antonio Department of Human Services. For customers to apply they must contact Human Services by phone and locate an office nearest them.

Plumbers to People


The Plumbers to People Program provides assistance to low-income residential customers seeking repairs for leaking plumbing fixtures in their homes. SAWS water customers (wastewater-only do not qualify) that are the occupant and owner of the home in which they reside are eligible for the program. In addition, customers must meet the income eligibility requirements established by the City of San Antonio Department of Human Services. There is a corresponding wastewater-related program called “Laterals to People” that has similar eligibility requirements.

¹ 2009-2013 American Community Survey 5-Year Estimates

To apply for these programs, customers must contact the Human Services office by phone to schedule an appointment that will determine if they qualify. If a customer qualifies, Human Services will notify SAWS with the customers contact information. SAWS then contacts a plumber under contract who then will call the customer to schedule an appointment.

Affordability Discount

SAWS offers Affordability Discounts to its low-income residential customers who meet income eligibility requirements (less than or equal to 125% of the Federal Poverty Guidelines)². The discount amount a customer receives is based upon the household size, household income, and type of service provided. The Affordability Discount Program is summarized in the table below from the 2015 SAWS Budget Briefing.



Affordability Discount Program

Poverty Level	2014 Bill Discount	2015 Bill Discount	2015 Bill Discount
50%	\$ 13.63	\$ 14.35	25%
75%	\$ 9.53	\$ 10.04	17%
100%	\$ 6.82	\$ 7.18	12%
125%	\$ 5.43	\$ 5.72	10%

Based on 7,788 gallons water/9,173 gallons sewer usage

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The 2015 discount ranges from \$5.72 to \$14.35 per month based on the above criteria. The discount is in effect for two years following the date of certification. In order to renew customers must recertify their income and family size prior to receiving the discount. SAWS provides information to the customer when it is time for the customer to reapply.

Senior Citizen Billing Program

The Senior Citizen Billing program offers residential customers 60 years of age and older an exemption from the late payment penalties for both water and wastewater service charges. Applicants must complete an application and must submit a document stating their date of birth. Acceptable forms of identification are a Texas driver’s license, Texas Department of Public Safety Identification Card, or a Birth certificate. Applications can be retrieved online and must be mailed in.

Disability Billing

SAWS customers who receive monthly federal Supplemental Security Income (SSI) for disabilities may apply for a time extension to pay their utility bills. Qualified disabled residential customers will receive an extension of 25 days from the normal 15 days. This program is only applicable to the customer’s principal residence and requires annual recertification.

² Based upon household size

Applicants must provide certification that they are receiving SSI benefits from the Social Security Administration (SSA). Applicants have the following items to choose from: Social Security Administration Notification of Award Letter, Social Security Administration Third Party Query (TPQY), or Social Security Administration Consent for Release of Information Form. Applications can be retrieved from any SAWS Customer Service center or by phone call. Completed applications must be mailed in.

Courtesy Notice Program

SAWS Courtesy Notice Program offers residential customers with medical necessity 24 hours’ notice prior to interruption of service due to nonpayment. Customers eligible for this program must be under a physician’s care or have a household member residing at the property under a physician’s care and they must have documentation of medical necessity on file with SAWS.

The applicant must be the account holder and the application must include the medical condition that exists at home, name of person and relation to account holder for which the service is medically required and the doctors name, address, telephone and license number. Applications are available at any SAWS Customer Service center or can be obtained by calling. Applications must be mailed in.

Peer City Programs

Overview

The seven cities chosen for the peer review were selected to provide a diverse comparison group for the SAWS program. Nashville, Houston, and Austin all face similar population growth demands that will place pressure on existing infrastructure and rates. Philadelphia and Washington, DC are large metropolitan areas that are currently in the process of constructing and financing large capital improvement programs. Albuquerque is the smallest peer city, but the climate and socioeconomic challenges faced by the area are similar to those of San Antonio. Portland was included because it reports on the participation in and cost of its CAP. A description of other types of low-income affordability programs can be found in Appendix 2.



Houston, TX

City Overview

The City of Houston, TX has a population of roughly 2,134,707 with a MHI of \$45,010³. Approximately 25.10% of city residents fall within 125% of the poverty guidelines established by the United States Department of Health and Human Services.

Program Summary

The Houston Water Department offers a low-income program through the Water Aid To Elderly Residents Fund (W.A.T.E.R Fund). This program is administered by the City of Houston and is designed to provide financial assistance to senior citizens, the disabled, and other customers who qualify as low income households. It is funded through voluntary contributions from customers, charities, and businesses while all administrative costs are paid for by the City of Houston.

The funds primary intent is to support low-income senior citizens. This category includes any individual 60 years of age or older who falls within the 2015 Health and Human Services Poverty Guidelines. Limited assistance is also available to low-income disabled or other low-income customers. The applicant must live in a single family dwelling and service must be in their name.

Applications for the program must be submitted through the mail and can be found online. Additional information must be provided with the application depending on the applicant. Low-income disabled must provide proof of disability while Senior Citizens must provide a photo ID. All applicants must include a copy of the birth certificate or Social Security card for each household member. Lastly, proof of total household income must accompany all applications.

Customers who complete the application process and meet the eligibility requirements may receive up to \$100 in assistance for each six month period. At the end of six months, customers may re-apply for further assistance. Late fee exemptions are also available to these applicants but additional information must be provided with the application.⁴ In addition, veterans with a service related disability are eligible for the exemption regardless of their level of income.

³ 2009-2013 American Community Survey 5-Year Estimates

⁴ For all applicants a copy of City of Houston residential water/wastewater bill, and a Texas driver's license or ID, must be submitted. Low-Income disabled must provide current award letters for Veterans, Railroad or Teachers Pension or disability benefit of all individuals living in the home, current check stubs from employers of all person(s) living in the home and current Social Security or Supplemental Security income award letters for all person(s) living in the home.

Austin, TX

City Overview

The Austin Water Utility falls within the City of Austin, TX. The City has a population of roughly 836,800 with a MHI of \$53,946⁵. Approximately 23.40% of city residents fall within 125% of the poverty guidelines established by the United States Department of Health and Human Services. The utility serves nearly 890,000 retail and wholesale customers over a utility service area that covers approximately 538 square miles⁶. It currently has three water treatment plants which draw water from the Colorado River.

Program Summary

The City of Austin offers assistance for its utility customers via Customer Assistance Program Discounts (CAP Discounts). This program offers customers on low or fixed incomes who participate in certain state, federal, or local assistance programs discounts on utility bills. In addition to the CAP Discounts program, the City also offers assistance through the Financial Support Plus 1 program. This program provides emergency financial aid to customers having temporary problems paying bills. It is funded entirely by voluntary contributions and funds are distributed by local social service agencies.

In order to qualify for the CAP Discount program customers must currently participate in a state, federal or local assistance program. These programs include the Medicaid Program, Supplemental Nutrition Assistance Program (SNAP), Children's Health Insurance Program (CHIP), Telephone Lifeline Program, Travis County Comprehensive Energy Assistance Program (CEAP), Medical Access Program (MAP), or Supplemental Security Income (SSI). Eligibility for the Financial Support Plus 1 program is determined by the local social service agency administering the funds.

Applications for the CAP Discount program can be found online and must be submitted through the mail. Additional information must be provided with the application. This includes one of the following: Medicaid Notice of Case Action Letter from Texas Department of Health & Human Services, Supplemental Nutrition Assistance Program (SNAP) Notice of Case Action Letter from Texas Department of Health & Human Services (also known as Food Stamps), Children's Health Insurance Program (CHIP) Confirmation Enrollment Letter from Texas Department of Health & Human Services, Telephone Lifeline Program Enrollment Letter or phone bill reflecting Lifeline enrollment, Travis County Comprehensive Energy Assistance Program (CEAP) Notice of Payment Letter, Medical Access Program (MAP) Clinic Card,

⁵ 2009-2013 American Community Survey 5-Year Estimates

⁶ Austin Water Utility Statistics; www.austintexas.gov/department/water

or Supplemental Security Income (SSI) Award Letter. Additional information needed for Financial Support Plus 1 determined by local social services agency distributing the assistance funds.

Customers who complete the application and meet the eligibility requirements for the CAP Discount program may receive about \$22 in monthly discounts to their utility bill. The discounts that are available for water/wastewater customers include a water service customer charge waiver, a water tiered fixed charge waiver, a water volume charge discount and a wastewater service customer charge waiver. Financial Support Plus 1 program eligibility and discounts are determined by the local social service agency administering the funds.

Albuquerque, NM

City Overview

The City of Albuquerque has a population of roughly 549,812 with a MHI of \$47,989⁷. Approximately 26.2% of city residents fall within 125% of the poverty guidelines established by the United States Department of Health and Human Services. The Albuquerque Water Authority serves approximately 656,000 retail and wholesale customers.

Program Summary

The Water Authority's Low Income Water Credit Program is managed by The Storehouse of Greater Albuquerque. The Storehouse is the largest food pantry in New Mexico that exists to aid poor residents of New Mexico. Customers meeting household income requirements may qualify for assistance with their water and wastewater bills. Customers are taken on a case by case examination.

Along with the application, residents must submit proof of income, proof of property, their most current water bill, and the number of people residing in the household. The income requirement for the program is 133% of the federal poverty rate. Applications for the Low Income Water Credit program can be found online at The Storehouse's website.

⁷ 2009-2013 American Community Survey 5-Year Estimates

Philadelphia, PA

City Overview

The City of Philadelphia has a population of roughly 1,536,704 with a MHI of \$37,192⁸. Approximately 36.4% of city residents fall within 125% of the poverty guidelines established by the United States Department of Health and Human Services.

Program Summary

The City of Philadelphia offers a Water Revenue Assistance Program (WRAP) and a Senior Citizen Water Bill discount to qualifying senior citizens. In order to qualify for WRAP, customers must have a household income at or below 175% of the Federal Poverty Guidelines. In order to qualify for the Senior Citizens program the applicant must be a customer of record, must be at least 65 years of age, and have a total household income below \$32,000.

WRAP is administered by the Water Revenue Board. The Water Revenue Board (WRB) will help the customer find assistance in paying their water or wastewater bill. The WRAP program offers up to \$200 in grants to help customers avoid a water shut-off. The level of assistance will be based on the customer's water usage, ability to pay current water and wastewater bills and status as a property owner, tenant or occupant.

To qualify for the Low Income Agreement, applicants must live in the property for which the application is being made, verify that their total household income is within Federal Poverty Guidelines, submit social security numbers for each person who lives with them and provide evidence of all expenses such as utility bills, gas bills, and rent or mortgage payments or allow a current meter read. Customers can apply by mail or in person.

For the Senior Citizen Water Bill discount, applicants must submit proof of age along with the application. The following types of documents will generally be accepted as proof of age: valid driver's license, a document issued by the Social Security Administration clearly showing date of birth (a Medicare Card or Social Security card will not be acceptable), birth certificate/hospital birth record during the first few years of life and certified by the custodian of the record, passport or naturalization papers, and military discharge papers. Applications can either be mailed in or delivered in person. If the customer qualifies, then they are eligible for a 25% discount on their water bill.

⁸ 2009-2013 American Community Survey 5-Year Estimates

Washington, DC

City Overview

Washington, D.C. has a population of roughly 619,371 with a MHI of \$65,830⁹. Approximately 22.7% of city residents fall within 125% of the poverty guidelines established by the United States Department of Health and Human Services. The District of Columbia Water Authority serves approximately 700,000 retail and wholesale customers across a 725 square mile service area.

Program Summary

The District of Columbia Water and Sewer Authority has two programs in place to provide financial assistance to customers in need. The Customer Assistance Program (CAP) and the Serving People by Lending A Supporting Hand (SPLASH) help eligible individuals pay their water and sewer bills when they are experiencing financial difficulties.

CAP is administered by the District of Columbia's Department of the Environment (DDOE) Energy office. It provides eligible customers with a discount of up to 400 cubic feet of water and up to 400 cubic feet of sewer services per month. This savings is currently estimated at \$32.08 for water and sewer services. Eligibility is determined based on Federal Poverty Guidelines, specifically a customer's income must not exceed 150% of the guidelines. Applicants must provide proof of income, current utility bill, and proof of age with the application.

SPLASH is funded solely by contributions from DC water customers and the community. SPLASH helps customers maintain critical water and sewer service in times of financial emergencies. Qualified water customers who meet low income criteria are eligible to receive a maximum of \$350 per household in a 12-month period. Applicants are encouraged to call to find out more about the assistance program.

Nashville, TN

City Overview

The City of Nashville has a population of roughly 614,908 with a MHI of \$46,686¹⁰. Approximately 25.4% of city residents fall within 125% of the poverty guidelines established by the United States Department of Health and Human Services. Nashville Metro Water Services provides water to approximately 700,000 retail and wholesale customers across a 725 square mile service area.

⁹ 2009-2013 American Community Survey 5-Year Estimates

¹⁰ 2009-2013 American Community Survey 5-Year Estimates

Program Summary

Nashville' Flexible Payment Date Program offers low-income customer the ability to delay payment of their water bills until they have received income from federal or state-run income programs. The program income sources recognized include social security income, service pension benefits, retirement benefits, and monthly payments from local, state, or federal agencies. In order to qualify for the Flexible Payment Date Program customers must provide proof of participation in one of the qualifying programs, they must have proof of a primary residence, and they must have an account in good standing. Nashville does not provide a discount on water rates because their program is focused on the cash flow needs of the customer base. Customer must submit an application and the appropriate documentation through the mail.

Portland, OR

City Overview

The City of Portland has a population of roughly 594,687 with a MHI of \$52,647¹¹. Approximately 24.3% of city residents fall within 125% of the poverty guidelines established by the United States Department of Health and Human Services. The utility serves nearly 950,000 over a utility service area that covers approximately 143 square miles.

Program Summary

The goal of Portland's program is to aid financially vulnerable groups, which includes low-income residents, elderly residents, and the disabled. Disconnecting and reconnecting accounts is expensive and Portland's program seeks to avoid those costs by providing discounts to minimize overdue bills.

Portland's bill discount program is available to customers whose household income is less than 60% of the State of Oregon's median household income; eligibility varies by household size. Multnomah County, which administers other low-income programs including federally and state-funded energy assistance, determines eligibility. Candidates apply at any of nine Community Service Centers throughout the bureau's 143 square mile service area.

The discount is half of the bill for those consuming 5 CCF (500 cubic feet) or less a month. Some utilities discount a percentage of the total bill. Portland, however, opted for a flat maximum credit to encourage conservation. Approximately 9,300 households participate in the program and the total program cost is \$1.6 million. Portland also offers an emergency assistance program with a maximum assistance level of \$300 per year. Households can acquire emergency assistance under 3 scenarios: 1) employment status

¹¹ 2009-2013 American Community Survey 5-Year Estimates

change (i.e. termination or pay reduction, 2) family status change (i.e. divorce or death of spouse), and 3) extraordinary medical expense.

APPENDIX TO MEMORANDUM – 2015 FEDERAL POVERTY GUIDELINES

Persons in family/ household	100%	133%	150%	200%	300%	400%
1	\$ 11,770	\$15,654	\$17,655	\$23,540	\$ 35,310	\$ 47,080
2	\$ 15,930	\$21,187	\$23,895	\$31,860	\$ 47,790	\$ 63,720
3	\$ 20,090	\$26,720	\$30,135	\$40,180	\$ 60,270	\$ 80,360
4	\$ 24,250	\$32,253	\$36,375	\$48,500	\$ 72,750	\$ 97,000
5	\$ 28,410	\$37,785	\$42,615	\$56,820	\$ 85,230	\$113,640
6	\$ 32,570	\$43,318	\$48,855	\$65,140	\$ 97,710	\$130,280
7	\$ 36,730	\$48,851	\$55,095	\$73,460	\$110,190	\$146,920
8	\$ 40,890	\$54,384	\$61,335	\$81,780	\$122,670	\$163,560

APPENDIX TO MEMORANDUM – LOW-INCOME AFFORDABILITY PROGRAM TYPES

Common Customer Assistance Programs	
Assistance Program	Program Description
Discount rate (lower fee per unit)	Rates for eligible customers are lower than all other residential customers.
Discounted bill (percentage discount on gross bill)	Total bill calculation is based upon same rates as similarly situated customers but a discount given on the total bill amount based on eligibility.
Fee Exemption based on eligibility	Free service based on eligibility criteria.
Life-line credit (minimum use credit)	Life line credit provided on bill up to a specified maximum level. Eligible residential customers would receive credit for minimal units of service if used. Consumption above the credit level would be due and payable at the same rate as every other residential customer.
Bill round-up program	Voluntary donations are received from other customers by rounding up their bills to include an amount above their consumption payment that is then dedicated to an assistance program.
3 rd party administration referral (usually provides maximum annual bill assistance)	Can be either a simple referral service to non-profit groups or can provide funding to a 3 rd party that administers a bill payment program for customers needing one-time bill assistance no more than once annually.

Appendix B – Special Services Fee Analysis



Subject: Analysis of Special Service Fees
Date: November 14, 2014
To: Black & Veatch
From: K Bealer Consulting, Inc.

PROJECT OVERVIEW

Black & Veatch (BV) was retained by San Antonio Water System (SAWS) to perform a Rate Design Study Analysis. As part of the project team, K Bealer Consulting (KBC) was responsible for performing a cost assessment of certain special service fees. Initially, the fees to be examined included the following:

- Industrial Discharge Sampling Fees
- Industrial Waste Permit Fees
- Laboratory Test Fees
- Liquid Waste Hauler Permit and Disposal Fees
- Fire Hydrant Meter Fees
- Fats, Oils, and Grease (FOG) Fees

With respect to the FOG fees, SAWS subsequently determined that the changes needed would be more complex than anticipated requiring additional consultation with affected groups and more time than allocated to the Rate Study process. As a result, the FOG fees were dropped from the list of fees analyzed. Changes to the FOG fees will be handled outside of the Rate Study process.

The results of this assessment are presented below.

SPECIAL SERVICES FEES ANALYSIS

The objective of the analysis is to provide cost estimates for the selected special service fees to aid SAWS in their effort to recover the full cost of for providing services related to these fee programs. Estimates have been developed for the 2015 costs of each service program in order to identify the gaps between the unit cost of service and the current service fee levels.

The following sections provide a description of the major cost components of the pricing models, the current rates for each service, a description of the methodology used to update the models, and cost changes since the last modeling effort. Diagrams are provided that explain the flow of information for each of the models used in the analysis.

Assumptions

Two assumptions appear in all of the pricing models: allocation of overhead services and a transfer of a share of revenue to the City in accordance with City Ordinance 75686 which created SAWS. SAWS provided an overhead calculation for budgeted general management and administrative activities that are normalized as a percent of the total budget, including capital outlays, in 2014. The resulting overhead cost share of total budget was utilized to calculate the amount of overhead spending allocated to each special service fee rate model. Table B-1 below is the result of that analysis.

Table B-1 – Overhead Allocation per Budget Dollar

Group	Sum of Total O&M Expense	Sum of Capital Outlay	Sum of Overhead O&M and Capital Outlay
Board of Trustees and Pres/CEO	\$2,289,753	\$1,881	\$2,291,634
Customer Service	\$13,543,257	\$207,000	-
Distribution and Collection Operations	\$34,741,956	\$249,000	-
Engineering and Construction	\$1,858,125		\$165,625
Financial Services	\$4,711,649		\$4,711,649
Human Resources	\$3,862,259		\$3,862,259
Information Systems	\$13,332,383	\$2,307,070	\$15,631,553
Legal	\$5,490,229		\$4,862,912
Operations	\$3,690,425	\$4,000	\$574,295
Operations Services	\$33,688,675	\$4,326,880	\$20,846,642
Other Requirements	\$26,984,546		\$26,984,546
Production and Treatment Operations	\$63,431,167	\$1,393,000	-
Public Affairs	\$3,363,486		\$3,363,486
Wastewater System Improvements	\$21,463,072	\$180,000	\$781,932
Water Resources and Conservation	\$76,262,710		-
(blank)	-		-
Grand Total	\$308,713,690	\$8,668,831	\$84,076,532
Overhead Assumption			26.5%

The overhead budget as a percent of the total SAWS budget is 26.5% for 2014. We have assumed that overhead cost allocation is distributed evenly across the activities at SAWS.

The second overhead assumption applied in each special service fee model is a required transfer of a share of revenue to the City; consequently, 2.7% of the revenue from each fee is assumed to be remitted to the City. This cost has been accounted for in our models.

Industrial Discharge Sampling Fee

Industrial Discharge Sampling Fees are assessed to recover the costs for the sampling of industrial user discharges. All industrial customers subject to the City’s Industrial Waste Ordinance are subject to these fees. There are two categories of customers in this program and two types of fees: Significant Industrial Users (SIUs) who are subject to U.S. Environmental Protection Agency (EPA) pre-treatment standards and/or who discharge significant amounts of industrial wastewater; and Non-Significant Industrial Users (NSIUs) who are not subject to EPA standards, but do discharge waste into the wastewater system that exceeds normal domestic wastewater standards for solids content.

The SIU Sampling Fee is \$600 per SIU sample and the NSIU Sampling Fee is \$5.76 per month which is assessed on each NSIU customer’s bill. Total SIU and NSIU revenues in 2015 are projected to be \$640,547 with costs anticipated to be \$929,773 for a total shortfall of \$289,227, or a negative 31.1% of costs. These fees were last increased in 2012. Table B-2 contains a summary of costs associated with these fees.

Table B-2 – Summary of Industrial Discharge Sampling Total Costs

Cost Type	2015
Personnel	\$537,007
Non-Personnel	\$198,459
City Transfer	\$25,104
Overhead	\$169,203
TOTAL:	\$929,773

As seen in Table B-3 below, the current cost of service per SIU sample is \$575 for SIUs and the cost of service per month per NSIU customer is \$12.96. The fee per SIU sample is recovering the cost of the SIU sampling program. However, for NSIUs, the cost of service is currently 55.6% more than the revenue collected from the monthly fee being assessed for NSIU sampling.

Table B-3 – Summary of Industrial Discharge Sampling Fee

Activity/Cost	2015		
	SIU Sampling Fee Revenue	NSIU Sampling Fee Revenue	Total Sampling Program
Number of Samples (SIU) / Participants (NSIU)	660	3.538	
Current Fee Amount	\$600	\$5.76	
Annual Revenue	\$396,000	\$244,257	\$640,547
Proportion of Effort	40.82%	59.18%	
Expenditures	\$379,543	\$550,230	\$929,773
Cost per Sample (SIU)/Month (NSIU)	\$575	\$12.96	
Difference	\$16,457	-\$305,683	-\$289,227
Margin amount	4.3%	-55.6%	-31.1%

It is recommended that the SIU sampling fee not be changed for 2016 and remain at \$600 per sample. However, it is recommended that the NSIU monthly fee be increased in 2016 to \$12.57 a month to recover the full costs of service to NSIU customers.

For each year beyond 2016, it is further recommended that both the SIU and NSIU fees be automatically increased using the annual change in the U.S. Consumer Price Index (CPI) as the basis for the increase.

Industrial Waste Permit Fees

Industrial Waste Permit Fees are assessed to recover the costs for the administration of the industrial waste permitting program. All industrial customers subject to the City's Industrial Waste Ordinance are subject to these fees. There are two categories of customers in this program and two types of fees: (1) Categorical customers who must pretreat their industrial waste prior to discharge in accordance with EPA categorical pre-treatment standards, and (2) Non-Categorical customers who discharge industrial strength waste, but who do not have to comply with EPA categorical pre-treatment standards.

The current fee for a five-year permit for a Categorical user is \$9,000. The current fee for a five-year permit for a Non-Categorical user is \$6,750. These fees were last increased in 2012. Total revenue in 2015 is projected to be \$141,750, while actual total costs are anticipated to be \$516,173, creating a shortfall of \$374,423, or a negative 72.5% of costs. Table B-5 contains a summary of costs associated with these fees.

Table B-4 – Summary of Total Industrial Waste Permit Costs

Cost Type	2015
Personnel Costs	\$390,084
Non-Personnel	\$14,493
City Transfer	\$3,827
Overhead	\$107,299
TOTAL	\$516,173

As seen in Table B-5 below, the current cost of service per permit is significantly larger than the fee being charged for the service. Each fee is currently 264% lower than the estimated unit cost for 2014.

Table B-5 – 2014 Unit Cost of Industrial Waste Permit

Category	Fee	Cost per Permit
Current Non-Categorical Permit Fee	\$6,750	\$24,580
Current Categorical Permit Fee	\$9,000	\$32,773

It is acknowledged that increasing the permit fees to match the cost of service per permit would be burdensome on current industrial waste permit customers. To recover at least a portion of the full cost of service, it is recommended that both fees be increased by 50% in 2016 with the five-year Categorical Permit Fee increasing from \$9,000 to \$13,000 and the five-year Non-Categorical Permit Fee increasing from \$6,750 to \$10,125.

For each year beyond 2016, it is further recommended that both the Categorical and Non-Categorical Permit fees be automatically increased using the annual change in the U.S. Consumer Price Index (CPI) as the basis for the increase.

Laboratory Test Fees

Various fees are assessed for different laboratory tests on samples taken from Industrial Discharge Sampling Program participants. The rate schedule for the laboratory test fees is based on a survey conducted in 2007 of various public and private laboratories across the U.S. to determine the charges to be assessed the Industrial Discharge Sampling Program Customers. The fees derived from the survey were approved by City ordinance for implementation beginning in 2008. The fees have not been updated since that time.

Laboratory operating costs have never been intended to be recovered in full or in part through the assessment of lab fees. Most tests conducted by the laboratory are in support of wastewater treatment plant reporting requirements. In order to have a basis for proposing fee adjustments, this analysis assumes that all tests are performed for external clients who would be charged the existing fees to determine if the fees would recover the full cost of service. Laboratory test fee revenues are collected from 23 unique charges that correspond to 85 specific tests for varying costs of services. In total, the 85 tests are anticipated to be conducted nearly 128,980 times in 2015, generating \$2.6 million in revenue if the fees were fully assessed. Per Table B-6, total costs incurred to conduct these tests amount to \$3.1 million, causing a shortfall of \$476,762, or negative 15.3% of cost when compared with the projected revenue (see Table B-7).

Table B-6 – Summary of Total Laboratory Costs

Cost Type	2015
Personnel	\$1,768,344
Non-Personnel	\$635,024
Overhead	\$636,667
City Transfer	\$71,129
TOTAL	\$3,111,164

Table B-7 – Unit Cost of Laboratory Tests

Category	2015
Total Lab Tests	128,980
Lab Test Fee Revenue	\$2,634,402
Average Fee	\$20.42
Total Lab Costs	\$3,111,164
Cost per Test	\$24.12
Surplus / (Deficit)	(476,762)

The estimated average fee charged for a laboratory test of \$20.42 is \$3.70 less than the cost per test, which is a shortage of approximately 15.3% per test.

To adjust the laboratory fees to better reflect the cost of service, it is recommended that all lab fees be increased in 2016 across-the-board by 18.1% which is the increase needed to the average fee of \$20.42 per test to recover the \$24.12 cost per test amount.

For each year beyond 2016, it is further recommended that all lab fees be automatically increased using the annual change in the U.S. Consumer Price Index (CPI) as the basis for the increase.

Liquid Hauler Permit and Disposal Fee

There are four different fees associated with the Liquid Waste Hauler and Disposal Program. This program manages and regulates the direct disposal of liquid waste by tank trucks at the SAWS Dos Rios Water Recycling Center. Three of the fees are associated with Liquid Waste Haulers and the remaining fee is the Liquid Waste Disposal Fee.

The three fees associated with Liquid Waste Haulers are: Vehicle Permit Fee, Vehicle Re-Inspection Fee, and Manifest Book Fee sold. The estimated total revenue connected with these fees to be realized in 2015 is projected to be \$131,768. Estimated costs in 2015 associated with regulating the Liquid Waste Haulers is anticipated to be \$148,521 as shown in Table B-8.

Table B-8 – Summary of Total Costs

Cost Type	2014
Personnel	\$86,800
Non-Personnel	\$12,700
City Transfer	\$3,600
Overhead	\$26,400
TOTAL:	\$129,500

The projected shortfall in the program is 11.3% of the full cost of service. Table B-9 provides a comparison between the existing fees and the associated actual unit cost of service. The existing fees were implemented in 2012.

Table B-9 – Summary of 2015 Liquid Waste Hauler Fee

Fee Type	Fees	Unit Cost
Vehicle Permit Fee	\$304.00	\$342.65
Vehicle Re-inspection Fee	\$170.00	\$191.61
Cost of Manifest Book	\$40.00	\$45.09
Unit Type	Units	Cost Allocation
Number of Vehicle Permits	192	44.30%
Number of Vehicle Re-inspections	48	6.19%
Number of Manifest Books Sold	1,631	49.51%
Category	Total Revenue	Total Cost
Permits	\$58,368	\$65,789
Re-inspections	\$8,160	\$9,197
Manifest Books	\$65,240	\$73,535
Estimated 2015 Total:	\$131,768	\$148,521

It is recommended that the Liquid Waste Hauler fees be increased in 2016 as follows to fully recover the cost of service:

- Vehicle Permit: \$343.00
- Vehicle Re-inspection: \$192.00
- Manifest Book: \$45.00

The purpose of the Liquid Waste Disposal Fee is to recover the cost of disposing of hauled liquid waste at the Dos Rios Water Recycling Center. The current fee of \$5.76 per 100 gallons was last updated in 2005. Since then, the costs for this service have increased by 56%. It is recommended that this fee be increased to \$8.99 per 100 gallons in 2016. For each year beyond 2016, it is further recommended that all Liquid Waste Hauler and Disposal Fees be automatically increased using the annual change in the U.S. Consumer Price Index (CPI) as the basis for the increase.

Fire Hydrant Meter Fees

The purpose of Fire Hydrant Fees is to recover the cost of administering the fire hydrant rental program and of the cost of the water consumed. The program is directed to construction contractors who need to obtain temporary water service for their construction projects when there is no other availability of water. Fire hydrant meter fee revenue is divided into two functional sources, meter rental/deposit fees and water consumption fees. Customers that have main offices inside Bexar County are required to pay a \$910 deposit while customers outside Bexar County are required to pay a deposit of \$1,060 for a meter rental. The daily rental charge, called the Daily Availability Charge, for a meter is \$6.50 per day. There are three separate consumption charges to capture the cost of water presented Table B-10 below.

Table B-10 – Customer Volumetric Fees

Cost per 100 Gallons	
Metered Water Sales	\$0.1529
Water Supply Fee	\$0.1880
Edwards Aquifer Authority Permit Fee	\$0.0330
Total Cost per 100 gallons	\$0.3739

The data provided for the analysis included workforce costs, revenues since 2012, and water consumption since 2012.

Total revenue to be collected is estimated to be \$1.9 million in 2015 with costs anticipated to be \$1.7 million with a projected surplus of \$250,000. The fees charged to existing hydrant meter customers are used to approximate water supply costs to SAWS. The total costs for 2015 in Table B-11.

Table B-11 – Summary of Hydrant Costs

Cost Type	2015
Salaries and Benefits	\$80,300
Water Supply Cost	\$1,191,000
Overhead	\$395,600
City Transfer	\$51,000
Total Cost	\$1,717,900

Revenue has been consistently growing, from \$1.6 million in 2012 up to projected total revenue of \$1.9 million in 2015. While the lease rate and deposit charges have not changed since 2008, the volumetric rates have been automatically adjusted in conjunction with other SAWS Water Delivery, Water Supply Fee, and EAA rate adjustments over the years. Given that revenues are recovering the cost of the service, no adjustments in the lease rate or deposit charge are being proposed for 2016.

SUMMARY

Table B-12 below summarizes the Special Service Fees recommendations.

Table B-12 – Special Service Fees Recommendations

Line	Description	Current Fee	Unit Cost	Recommended Fee
	Industrial Waste Permit:			
1	Categorical Permit	\$9,000	\$35,600	\$13,500
2	Non-Categorical Permit	\$6,750	\$26,700	\$10,125
	Industrial Discharge Sampling:			
3	SIU Sampling	\$600/sample	\$575/sample	\$600/sample
4	NSIU Sampling	\$5.76/month	\$12.96/month	\$12.57/month
	Liquid Waste Hauler Fees:			
5	Hauler Permit	\$305	\$343	\$343
6	Hauler Re-inspection	\$170	\$192	\$192
7	Hauler Manifest book	\$40	\$45	\$45
8	Liquid Waste Hauler Disposal Fee	5.74/100 gal.	\$8.99/100 gal.	\$8.99/100 gal.
	Fire Hydrant Fees:			
9	Hydrant Deposit	\$910 Inside \$1,060 Outside	N/A	\$910 inside \$1,060 outside
10	Hydrant Rental	\$6.50/day	\$6.50/day	\$6.50/day
11	Hydrant Metered Water	\$0.374/100 gal.	\$0.374/100 gal.	Updated water rate
12	Laboratory Fees	\$20.42 Average	\$24.15 Average	\$24.15 Average

Appendix C – Additional Report Tables

Table C-1 – Proposed FY 2015 Residential Inside City Water Rates

Description	Residential ICL			
	Existing		Proposed FY 2015	
Availability Charge (meter size)*	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$7.57		\$9.76	
3/4"	\$10.63		\$12.91	
1"	\$16.72		\$19.19	
1 1/2"	\$31.94		\$34.88	
2"	\$50.18		\$53.69	
3"	\$92.80		\$97.63	
4"	\$153.67		\$160.38	
6"	\$305.86		\$317.27	
8"	\$488.47		\$505.54	
10"	\$701.52		\$725.18	
12"	\$1,310.24		\$1,352.74	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Water Delivery Volumetric Rate				
Block 1	5,985	\$0.1006	2,992	\$0.0563
Block 2	12,717	\$0.1457 - \$0.1584	4,489	\$0.0985
Block 3	17,205	\$0.2053 - \$0.2355	5,985	\$0.1266
Block 4	Above	\$0.3596 - \$0.4880	7,481	\$0.1548
Block 5			10,473	\$0.1829
Block 6			14,962	\$0.2111
Block 7			20,199	\$0.2533
Block 8			Above	\$0.3658
Water Supply Fee Volumetric Rate				
Block 1	5,985	\$0.1285	2,992	\$0.0816
Block 2	12,717	\$0.1858	4,489	\$0.1428
Block 3	17,205	\$0.2622	5,985	\$0.1836
Block 4	Above	\$0.4589	7,481	\$0.2245
Block 5			10,473	\$0.2653
Block 6			14,962	\$0.3061
Block 7			20,199	\$0.3673
Block 8			Above	\$0.5305
Combined Water Volumetric Rate				
Block 1	5,985	\$0.2291	2,992	\$0.1379
Block 2	12,717	\$0.3315 - \$0.3442	4,489	\$0.2413
Block 3	17,205	\$0.4675 - \$0.4977	5,985	\$0.3103
Block 4	Above	\$0.8185 - \$0.9469	7,481	\$0.3792
Block 5			10,473	\$0.4482
Block 6			14,962	\$0.5171
Block 7			20,199	\$0.6206
Block 8			Above	\$0.8964

* Proposed Residential Availability Charge will be reduced by \$1.95 if usage does not exceed 2,992 gallons.

Table C-2 – Proposed FY 2015 Residential Outside City Water Rates

Description	Residential OCL			
	Existing		Proposed FY 2015	
Availability Charge (meter size)*	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$9.86		\$12.69	
3/4"	\$13.82		\$16.78	
1"	\$21.72		\$24.95	
1 1/2"	\$41.52		\$45.34	
2"	\$65.26		\$69.79	
3"	\$120.66		\$126.92	
4"	\$199.78		\$208.49	
6"	\$397.62		\$412.46	
8"	\$635.03		\$657.20	
10"	\$911.98		\$942.73	
12"	\$1,703.33		\$1,758.56	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Water Delivery Volumetric Rate				
Block 1	5,985	\$0.1310	2,992	\$0.0732
Block 2	12,717	\$0.1894 - \$0.2060	4,489	\$0.1280
Block 3	17,205	\$0.2671 - \$0.3062	5,985	\$0.1646
Block 4	Above	\$0.4675 - \$0.6341	7,481	\$0.2012
Block 5			10,473	\$0.2378
Block 6			14,962	\$0.2744
Block 7			20,199	\$0.3293
Block 8			Above	\$0.4756
Water Supply Fee Volumetric Rate				
Block 1	5,985	\$0.1285	2,992	\$0.0816
Block 2	12,717	\$0.1858	4,489	\$0.1428
Block 3	17,205	\$0.2622	5,985	\$0.1836
Block 4	Above	\$0.4589	7,481	\$0.2245
Block 5			10,473	\$0.2653
Block 6			14,962	\$0.3061
Block 7			20,199	\$0.3673
Block 8			Above	\$0.5305
Combined Water Volumetric Rate				
Block 1	5,985	\$0.2595	2,992	\$0.1548
Block 2	12,717	\$0.3752 - \$0.3918	4,489	\$0.2709
Block 3	17,205	\$0.5293 - \$0.5684	5,985	\$0.3483
Block 4	Above	\$0.9264 - \$1.0930	7,481	\$0.4257
Block 5			10,473	\$0.5031
Block 6			14,962	\$0.5804
Block 7			20,199	\$0.6965
Block 8			Above	\$1.0061

* Proposed Residential Availability Charge will be reduced by \$2.54 if usage does not exceed 2,992 gallons.

Table C-3 – Proposed FY 2015 General Class Water Rates

Description	General ICL		General OCL	
	Existing	Proposed FY 2015	Existing	Proposed FY 2015
Availability Charge (meter size)	<i>(per bill)</i>	<i>(per bill)</i>	<i>(per bill)</i>	<i>(per bill)</i>
5/8"	\$10.53	\$10.54	\$13.69	\$12.88
3/4"	\$15.05	\$15.06	\$19.56	\$18.35
1"	\$24.08	\$24.08	\$31.29	\$29.25
1 1/2"	\$46.65	\$46.62	\$60.65	\$56.50
2"	\$73.74	\$73.63	\$95.87	\$89.15
3"	\$136.96	\$136.73	\$178.06	\$165.43
4"	\$227.28	\$226.84	\$295.46	\$274.36
6"	\$453.06	\$452.12	\$588.98	\$546.72
8"	\$723.99	\$722.49	\$941.20	\$873.57
10"	\$1,040.08	\$1,037.89	\$1,352.11	\$1,254.86
12"	\$1,943.21	\$1,939.07	\$2,526.17	\$2,344.31
Water Delivery Volumetric Rate				
Base	\$0.1218	\$0.1378	\$0.1584	\$0.1792
101% - 125% of Base	\$0.1457	\$0.1585	\$0.1893	\$0.2061
126% - 175% of Base	\$0.2042	\$0.2067	\$0.2654	\$0.2688
176% of Base and Above	\$0.2991	\$0.2412	\$0.3887	\$0.3136
Water Supply Fee Volumetric Rate				
Base	\$0.1976	\$0.1540	\$0.1976	\$0.1540
101% - 125% of Base	\$0.1976	\$0.1771	\$0.1976	\$0.1771
126% - 175% of Base	\$0.1976	\$0.2310	\$0.1976	\$0.2310
176% of Base and Above	\$0.1976	\$0.2695	\$0.1976	\$0.2695
Combined Water Volumetric Rate (per 100 gal)				
Base	\$0.3194	\$0.2918	\$0.3560	\$0.3332
101% - 125% of Base	\$0.3433	\$0.3356	\$0.3869	\$0.3831
126% - 175% of Base	\$0.4018	\$0.4377	\$0.4630	\$0.4997
176% of Base and Above	\$0.4967	\$0.5107	\$0.5863	\$0.5830

Table C-4 – Proposed FY 2015 Irrigation Inside City Water Rates

Description	Irrigation ICL			
	Existing		Proposed FY 2015	
<i>Availability Charge (meter size)*</i>	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$10.53		\$10.54	
3/4"	\$15.05		\$15.06	
1"	\$24.08		\$24.08	
1 1/2"	\$46.65		\$46.62	
2"	\$73.74		\$73.63	
3"	\$136.96		\$136.73	
4"	\$227.28		\$226.84	
6"	\$453.06		\$452.12	
8"	\$723.99		\$722.49	
10"	\$1,040.08		\$1,037.89	
12"	\$1,943.21		\$1,939.07	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Water Delivery Volumetric Rate				
Block 1	6,732	\$0.1713	8,229	\$0.2504
Block 2	17,205	\$0.2053 - \$0.2384	17,954	\$0.3505
Block 3	Above	\$0.3596 - \$0.4936	162,316	\$0.4507
Block 4			Above	\$0.5759
Water Supply Fee Volumetric Rate				
Block 1	6,732	\$0.1976	8,229	\$0.2015
Block 2	17,205	\$0.2622	17,954	\$0.2821
Block 3	Above	\$0.4976	162,316	\$0.3627
Block 4			Above	\$0.4635
Combined Water Volumetric Rate				
Block 1	6,732	\$0.3689	8,229	\$0.4519
Block 2	17,205	\$0.4675 - \$0.5006	17,954	\$0.6326
Block 3	Above	\$0.8572 - \$0.9912	162,316	\$0.8134
Block 4			Above	\$1.0393

Table C-5 – Proposed FY 2015 Irrigation Outside City Water Rates

Description	Irrigation OCL			
	Existing		Proposed FY 2015	
Availability Charge (meter size)*	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$13.69		\$12.88	
3/4"	\$19.56		\$18.35	
1"	\$31.29		\$29.25	
1 1/2"	\$60.65		\$56.50	
2"	\$95.87		\$89.15	
3"	\$178.06		\$165.43	
4"	\$295.46		\$274.36	
6"	\$588.98		\$546.72	
8"	\$941.20		\$873.57	
10"	\$1,352.11		\$1,254.86	
12"	\$2,526.17		\$2,344.31	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Water Delivery Volumetric Rate				
Block 1	6,732	\$0.2225	8,229	\$0.3255
Block 2	17,205	\$0.2670 - \$0.3100	17,954	\$0.4557
Block 3	Above	\$0.4675 - \$0.6416	162,316	\$0.5859
Block 4			Above	\$0.7486
Water Supply Fee Volumetric Rate				
Block 1	6,732	\$0.1976	8,229	\$0.2015
Block 2	17,205	\$0.2622	17,954	\$0.2821
Block 3	Above	\$0.4976	162,316	\$0.3627
Block 4			Above	\$0.4635
Combined Water Volumetric Rate				
Block 1	6,732	\$0.4201	8,229	\$0.5270
Block 2	17,205	\$0.5292 - \$0.5722	17,954	\$0.7378
Block 3	Above	\$0.9651 - \$1.1392	162,316	\$0.9486
Block 4			Above	\$1.2121

Table C-6 – Proposed FY 2015 Wholesale Water Rates

Description	Wholesale			
	Existing		Proposed FY 2015	
Availability Charge (meter size)	<i>(per bill)</i>		<i>(per bill)</i>	
6"	\$397.62		\$409.92	
8"	\$635.03		\$654.67	
10"	\$911.98		\$940.20	
12"	\$1,703.33		\$1,756.03	
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Water Delivery Volumetric Rate				
Block 1	Base	\$0.1098	Base	\$0.1597
Block 2	101% - 125% of Base	\$0.1650	Greater than Base	\$0.4792
Block 3	126% - 175% of Base	\$0.2383		
Block 4	176% of Base and Above	\$0.3369		
Water Supply Fee Volumetric Rate				
Block 1	Base	\$0.1976	Base	\$0.2006
Block 2	101% - 125% of Base	\$0.1976	Greater than Base	\$0.6019
Block 3	126% - 175% of Base	\$0.1976		
Block 4	176% of Base and Above	\$0.1976		
Combined Water Volumetric Rate				
Block 1	Base	\$0.3074	Base	\$0.3604
Block 2	101% - 125% of Base	\$0.3626	Greater than Base	\$1.0811
Block 3	126% - 175% of Base	\$0.4359		
Block 4	176% of Base and Above	\$0.5345		

Table C-7 – District Special Project (former BexarMet) Water Rates

Description	D S P Residential		D S P Commercial	
	Existing		Existing	
Monthly Meter Charge	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"		\$7.93		\$24.41
3/4"		\$10.38		\$30.51
1"		\$15.87		\$48.82
1 1/2"		\$39.64		\$122.06
2"		\$63.47		\$195.30
3"				\$317.35
4"				\$439.31
6"				\$781.18
8"				\$1,708.83
10"				\$2,929.43
	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>	<i>Thres hold (gal)</i>	<i>(per 100 gal)</i>
Water Delivery Volumetric Rate				
Block 1	5,000	\$0.0890	40,000	\$0.2540
Block 2	10,000	\$0.1430	150,000	\$0.4950
Block 3	17,000	\$0.3950	Above	\$0.8000
Block 4	Above	\$0.6300		
Water Supply Fee Volumetric Rate				
Block 1	5,000	\$0.1840	40,000	\$0.1840
Block 2	10,000	\$0.1840	150,000	\$0.1840
Block 3	17,000	\$0.1840	Above	\$0.1840
Block 4	Above	\$0.1840		
Combined Water Volumetric Rate				
Block 1	5,000	\$0.2730	40,000	\$0.4380
Block 2	10,000	\$0.3270	150,000	\$0.6790
Block 3	17,000	\$0.5790	Above	\$0.9840
Block 4	Above	\$0.8140		

Table C-8 – Proposed FY 2015 Residential & General Class Inside City Wastewater Rates

Description	Existing Residential & General	Proposed FY 15 Residential	Proposed FY 15 General
Availability Charge (meter size)*	<i>(per bill)</i>		
5/8"	\$12.69	\$11.67	\$11.67
3/4"	\$12.69	\$12.84	\$12.84
1"	\$12.69	\$14.59	\$14.59
1 1/2"	\$12.69	\$20.43	\$20.43
2"	\$12.69	\$29.18	\$29.18
3"	\$12.69	\$58.36	\$58.36
4"	\$12.69	\$87.54	\$87.54
6"	\$12.69	\$145.90	\$145.90
8"	\$12.69	\$233.43	\$233.43
10"	\$12.69	\$350.15	\$350.15
12"	\$12.69	\$466.87	\$466.87
Wastewater Volumetric Rate	<i>(per 100 gal)</i>		
Block 1**	\$0.3365	\$0.2495	\$0.3343
Block 2	n/a	\$0.3743	n/a

*Service availability charge includes a minimum allowance of 1,496 gallons.

**The proposed Residential volumetric rates consist of two blocks with Block 1 ending at 2,992 gallons.

Table C-9 – Proposed FY 2015 Residential & General Class Outside City Wastewater Rates

Description	Existing Residential & General	Proposed FY 15 Residential	Proposed FY 15 General
Availability Charge (meter size)*	<i>(per bill)</i>		
5/8"	\$15.25	\$14.01	\$14.01
3/4"	\$15.25	\$15.41	\$15.41
1"	\$15.25	\$17.51	\$17.51
1 1/2"	\$15.25	\$24.51	\$24.51
2"	\$15.25	\$35.02	\$35.02
3"	\$15.25	\$70.03	\$70.03
4"	\$15.25	\$105.05	\$105.05
6"	\$15.25	\$175.08	\$175.08
8"	\$15.25	\$280.12	\$280.12
10"	\$15.25	\$420.18	\$420.18
12"	\$15.25	\$560.24	\$560.24
Wastewater Volumetric Rate	<i>(per 100 gal)</i>		
Block 1**	\$0.4038	\$0.2994	\$0.4011
Block 2	n/a	\$0.4491	n/a

*Service availability charge includes a minimum allowance of 1,496 gallons.

**The proposed Residential volumetric rates consist of two blocks with Block 1 ending at 2,992 gallons.

Table C-10 – Proposed FY 2015 Wholesale Wastewater Rates

Description	Wholesale	
	Existing	Proposed FY 2015
Availability Charge	<i>(per bill)</i>	
All Meter Sizes	\$149.02	\$273.33
Wastewater Volumetric Rate	<i>(per 100 gal)</i>	
Uniform	\$0.3641	\$0.3567

Table C-11 – Recycled Water Rates

Description	Edwards Exchange Customers		Non-Edwards Exchange Customers	
	Existing		Existing	
Availability Charge (meter size)	<i>(per bill)</i>		<i>(per bill)</i>	
5/8"	\$9.51		\$9.51	
3/4"	\$12.37		\$12.37	
1"	\$16.11		\$16.11	
1 1/2"	\$25.61		\$25.61	
2"	\$37.45		\$37.45	
3"	\$99.61		\$99.61	
4"	\$148.06		\$148.06	
6"	\$282.44		\$282.44	
8"	\$425.73		\$425.73	
10"	\$583.77		\$583.77	
12"	\$720.27		\$720.27	
Supply & Delivery Volumetric Rate	<i>Threshold</i>	<i>(per 100 gal)</i>	<i>Threshold (gal)</i>	<i>(per 100 gal)</i>
Block 1	Transferred	\$0.0250	748,000	\$0.1004 - \$0.1079
Block 2	Excess	\$0.0938 - \$0.0997	Above	\$0.1026 - \$0.1089