AUSTIN WATER

Water and Wastewater Cost of Service Study

FINAL REPORT November 13, 2017

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November 13, 2017

David Anders
Assistant Director of Finance & Business Services
Austin Water Utility
625 E. 10th Street
Austin, TX 78701

Subject: Water and Wastewater Cost of Service Study

Mr. Anders,

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Water and Wastewater Cost of Service Study (study) report to Austin Water (AW). The primary objectives of the study included:

- Updating the cost of service analysis and assessing the customer class cost of service compared to existing class cost of service.
- Developing new cost of service models and supporting information that clearly and concisely illustrate the budget, cost of service, and rate results.
- Establishing a process with supporting schedules that succinctly and transparently identify costs that are shared by retail and wholesale customers and those that are borne solely by retail customers, and the subsequent determination of rates for retail and wholesale classes both for this study and future rate adjustments.
- Engaging AW's customer base by convening retail customer public involvement and wholesale involvement committees (PIC and WIC, respectively) to discuss cost of service and rate issues and challenges faced by the utility and the community.

This report summarizes the study results for each of these objectives by providing a comprehensive comparison of the FY 2017 customer class revenue requirements and rates calculated using AW's existing water and wastewater cost of service models to those calculated for FY 2017 using the new cost of service models developed by Raftelis for this study. It has been a pleasure working with you and other members of AW Staff. Thank you for the support during this study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Richard D. Giardina

Richard D. Giardina
Executive Vice President

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TABLE OF CONTENTS

LIST OF TABLES

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

In 2016, Austin Water (AW) engaged Raftelis Financial Consultants, Inc. and their Team (Raftelis Team[1]) to conduct a comprehensive cost of service study of AW's water and wastewater operations. AW staff annually updates its water and wastewater cost of service models to analyze the proportionate share of system costs that should be allocated to each customer class, which is then used to determine the budget year's rates for each class. The City of Austin operates on a fiscal year (FY) that runs from October 1st to September 30th; i.e. "FY 2017" refers to the 12 months ended September 30, 2017. AW engaged the Raftelis Team to conduct a comprehensive cost of service study that included the development of new water and wastewater cost of service models and the review of key assumptions and parameters involved in the cost of service process. The work performed by the Raftelis Team was conducted concurrently with the update of AW's existing FY 2017 model to provide a clear understanding of how modifications to the cost of service process may impact different customer classes.

1.2 PROJECT OBJECTIVES

This study began in June, 2016 with the primary objectives of:

- Updating the cost of service analysis and assessing the customer class cost of service compared to existing class cost of service.
- Developing new cost of service models and supporting information that clearly and concisely illustrate the budget, cost of service, and rate results.
- Establishing a process with supporting schedules that succinctly and transparently identify costs that are shared by retail and wholesale customers and those that are borne solely by retail customers, and the subsequent determination of rates for retail and wholesale classes both for this study and future rate adjustments.
- Engaging AW's customer base by convening retail customer public involvement and wholesale involvement committees (PIC and WIC, respectively) to discuss cost of service and rate issues and challenges faced by the utility and the community.

While the study incorporated many other goals during the year-long process, these objectives remained the focus of the study. This report summarizes the study results for each of the above objectives by providing a comprehensive comparison of the FY 2017 customer class revenue requirements and rates calculated using AW's existing water and wastewater cost of service models to those calculated for FY 2017 using the new cost of service models developed by Raftelis for this study.

[1] Raftelis Financial Consultants, Inc. is the prime contractor with AW for this study. Other Raftelis Team members include: Laura Raun Public Relations and Alan Plummer Associates, Inc.

It's important to note the primary objective of the study was to refine the current water and wastewater cost of service methodologies and then reflect these refined methodologies in new water and wastewater cost of service models to be used for future annual updates. Therefore, the cost of service results and corresponding customer class rates shown within this document are provided for demonstrative purposes only. When presenting the water and wastewater study results, the current cost of service models that were used to set FY 2017 rates as approved by City Council are documented as the "Existing Cost of Service Model". The primary deliverable of this study was new water and wastewater cost of service models. Thus, the FY 2017 results developed using the new water and wastewater cost of service models are documented as "New Cost of Service Model" results. The new water and wastewater cost of service models feature the same FY 2017 budget used in AW's existing cost of service models and FY 2017 approved rates. In other words, the analysis was 'revenue neutral' to the existing approach.

1.3 PUBLIC INVOLVEMENT

To ensure full transparency and effective customer input, AW again utilized a public involvement process for the study. This process, employed in AW's prior rate studies, included the creation of the PIC (the public involvement committee for retail customers) and for the first time, the WIC (the wholesale customer involvement committee). In previous studies a single public involvement committee was comprised of both retail and wholesale customers. While separate committees were utilized, the goal of each committee was the same: to provide representation for their customer class, review and assess the water and wastewater cost of service processes, and provide input and recommendations to the AW Executive Team. Section 4 of this report provides a detailed description of the PIC and WIC process.

1.4 WATER ANALYSIS

1.4.1 WATER COST OF SERVICE ANALYSIS

The Raftelis Team conducted a comprehensive cost of service analysis to allocate total water revenue requirements equitably among customer classes. The process and results are detailed in Sections 6 and 7 of this report. **Table 1.1** presents a comparison of the test year FY 2017 customer class cost of service calculated in the existing AW water cost of service model and the new water cost of service model developed by the Raftelis Team.

Table 1.1: Water – Comparison of 2017 Customer Class Cost of Service Results

Customer Class	Existing AW Cost of Service Model	New Cost of Service Model	Dollar Difference	Percentage Difference
Retail				
Residential	$115,622,785	$116,276,873	$654,088	0.6%
Multi-Family	61,577,212	61,374,974	(202,238)	-0.3%
Commercial	81,732,841	81,725,593	(7,247)	0.0%
Residential CAP	6,736,309	6,029,242	(707,066)	-11.7%
Spansion	1,867,455	1,873,565	6,110	0.3%
NXP - Ed Bluestein Blvd	2,500,224	2,553,878	53,654	2.1%
NXP - W William Cannon	1,917,286	1,881,343	(35,943)	-1.9%
Samsung	10,772,330	10,846,602	74,272	0.7%
Novati	418,994	418,632	(362)	-0.1%
University of Texas	2,429,072	2,424,255	(4,817)	-0.2%
Total Retail	285,574,508	285,404,957	(169,551)	-0.1%
Wholesale				
Creedmore-Maha	392,036	381,817	(10,219)	-2.7%
High Valley	36,455	32,163	(4,292)	-13.3%
Manor, City of	780	784	4	0.5%
Mid Tex Utilities	151,138	163,408	12,270	7.5%
Marsha Water	66,613	56,291	(10,322)	-18.3%
Morningside	12,252	9,757	(2,495)	-25.6%
Nighthawk	66,369	81,651	15,282	18.7%
North Austin MUD	1,587,954	1,581,663	(6,291)	-0.4%
Northtown MUD	1,317,778	1,355,356	37,577	2.8%
Rivercrest	661,544	663,793	2,250	0.3%
Rollingwood	680,314	685,530	5,216	0.8%
Shady Hollow	1,047,844	1,041,858	(5,987)	-0.6%
Sunset Valley MUD	569,208	617,428	48,220	7.8%
Village of San Leanna	21,848	21,245	(602)	-2.8%
Water District 10	4,183,574	4,273,911	90,337	2.1%
Wells Branch MUD	2,107,515	2,108,514	998	0.0%
Southwest Water	27,405	25,010	(2,395)	-9.6%
Total Wholesale	12,930,627	13,100,178	169,551	1.3%
Total Revenue Requirement	$298,505,135	$298,505,135	($0)	0.0%

1.4.2 WATER RATE STRUCTURE

Modified water fixed and volumetric user charges for each customer class were calculated based on the revised cost of service (Table 1.1) and are provided in comparison to FY 2017 adopted rates in Section 8 of the report.

1.5 WASTEWATER ANALYSIS

1.5.1 WASTEWATER COST OF SERVICE ANALYSIS

Like the water process, the Raftelis Team conducted a comprehensive cost of service analysis to allocate total wastewater revenue requirements equitably among customer classes. The process and results are detailed in Sections 9 and 10 of this report. **Table 1.2** presents a comparison of the test year FY 2017 customer class cost of service calculated in the existing AW wastewater cost of service model and the new wastewater cost of service model developed by the Raftelis Team.

Table 1.2: Wastewater – Comparison of 2017 Customer Class Cost of Service Results

Customer Class	Existing AW Cost of Service Model	New Cost of Service Model	Dollar Difference	Percentage Difference
Retail				
Residential	$92,245,079	$92,875,703	$630,624	0.7%
Multi-Family	72,814,555	73,200,253	385,698	0.5%
Commercial	68,812,005	69,300,270	488,265	0.7%
Residential CAP	6,924,518	5,254,235	(1,670,283)	-31.8%
Spansion	1,700,551	1,717,177	16,626	1.0%
NXP - Ed Bluestein Blvd	2,016,637	2,048,692	32,055	1.6%
NXP - W William Cannon	2,035,874	2,052,445	16,571	0.8%
Samsung	11,050,730	11,161,480	110,750	1.0%
Novati	347,720	351,391	3,671	1.0%
University of Texas	1,773,823	1,785,689	11,866	0.7%
Extra Strength Surcharge	4,758,925	4,847,657	88,732	1.8%
Total Retail	264,480,416	264,594,992	114,575	0.0%
Wholesale				
Mid Tex Utilities (Avana Sub)	105,741	103,886	(1,855)	-1.8%
Comanche Canyon (WCID17)	24,460	24,044	(415)	-1.7%
Manor, City of	532,325	523,623	(8,702)	-1.7%
North Austin MUD	1,367,042	1,344,804	(22,238)	-1.7%
Northtown MUD	1,372,882	1,350,548	(22,335)	-1.7%
Rollingwood	234,917	231,089	(3,828)	-1.7%
Shady Hollow	500,996	492,928	(8,068)	-1.6%
Sunset Valley MUD	417,118	410,332	(6,787)	-1.7%
Steiner Ranch (WCID17)	116,625	114,807	(1,818)	-1.6%
Wells Branch MUD	2,126,581	2,091,996	(34,585)	-1.7%
Westlake Hills	242,701	238,757	(3,944)	-1.7%
Total Wholesale	7,041,388	6,926,813	(114,576)	-1.7%
Total Revenue Requirement	$271,521,805	$271,521,805	($0)	0.0%

1.5.2 WASTEWATER RATE STRUCTURE

Modified wastewater fixed and volumetric user charges for each customer class were calculated based on the revised cost of service (Table 1.2) and are provided in comparison to FY 2017 adopted rates in Section 11 of the report.

1.6 SUMMARY

New and enhanced water and wastewater cost of service models were the primary deliverables of this study. The models were developed to provide a more transparent, step-wise approach to the cost of service process. Stakeholder interaction, education, and communication was equally important to this project, and AW and the Raftelis Team conducted 13 meetings with the PIC and 12 meetings with the WIC in addition to providing electronic versions of the rate models and presentation packages explaining the methodologies and key decisions points.

2. INTRODUCTION

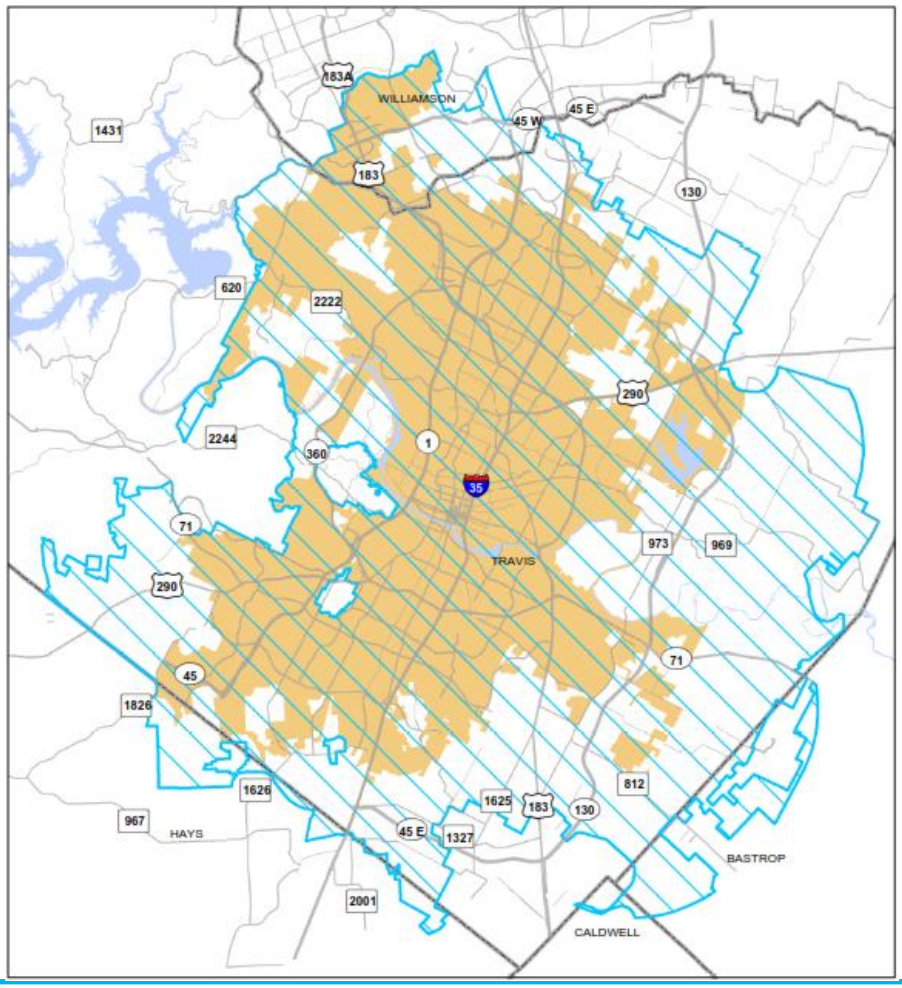
2.1 INTRODUCTION

Austin Water (AW) is a municipal utility providing water, wastewater, and reclaimed water service to the city of Austin (City) and surrounding areas. AW provides service to approximately one million residents in a service area that spans 544 square miles. AW serves a diverse customer base including residential, commercial, industrial, and several wholesale customers. AW operates as an Enterprise Fund, is a department of the City of Austin and employs 1,170 people.

2.2 AUSTIN WATER SYSTEM AND SERVICE AREA

AW's overall service area is the greater Austin metropolitan area and is shown in blue shading in **Figure 2.1**. The yellow shaded area represents the inside city retail service area.

Figure 2.1: AW Service Area



The following provides a brief history of the development of the current AW system.

2.2.1 WATER SYSTEM

The City's first water system was established when a private company, the City Water Company, was chartered in 1875. Operational in 1876, and granted a 25-year franchise in 1877, the City Water Company diversified to provide electrical lighting in 1882, eventually becoming the Austin Water, Light, and Power Company, which provided most of Austin's water and electricity.

In 1890, the City voted to approve a $1.4 million bond issue to build a 60-ft high dam, to lower electricity prices and increase industry in the region. When the dam failed in April 1900, due to a poor foundation and other challenges, the City bought out the Austin Water, Light, and Power Company, and formed what is now Austin Energy (AE) and Austin Water (AW). In 1940, the Tom Miller Dam replaced the original dam, creating Lake Austin. The dam is currently leased to the Lower Colorado River Authority (LCRA), which will operate and maintain the dam through 2020.

AW relies exclusively on the Colorado River to meet its water needs. In 1925, AW's first water treatment facility, the Thomas C. Green Water Treatment Plant, was constructed in an area just west of the downtown and decommissioned in 2008. Since 1925, three other water treatment plants (WTP) were constructed to draw water from the Colorado River: Davis, Ullrich, and Water Treatment Plant 4. AW's current water treatment rated capacity is 335 million gallons per day (MGD), with an average daily demand or billed water sales of 109 MGD. The transmission and distribution system consists of approximately 3,800 miles of pipe, and includes 31 reservoirs, 21 pump stations, and more than 27,000 fire hydrants.

2.2.2 WASTEWATER SYSTEM

Austin's first wastewater treatment plant (WWTP) was built in 1919 using a tank to settle wastewater solids. The 1930s was Austin's largest population growth decade in the 20th century – approximately 66% growth from 1930 to 1940. This population growth necessitated additional wastewater infrastructure, causing the tank system to be replaced by the Govalle WWTP in 1937.

The Govalle WWTP was funded via a $500,000 grant and loan package from the Federal Public Works Administration, which allowed the City to purchase 31 acres along the Colorado River, design, and build the plant. The plant was revolutionary, in that it was designed to use activated sludge as a treatment process, which was relatively new at the time. Originally, the Govalle WWTP was designed to treat 6 MGD, but was upgraded to treat 10 MGD. This plant was decommissioned in 2006, and is now used for training purposes.

The City has subsequently commissioned two other wastewater treatment plants: Walnut Creek WWTP, which has a 75 MGD treatment capacity and a 55 MGD average daily flow; and the South Austin Regional

WWTP, which has a 75 MGD treatment capacity and a 45 MGD average daily flow. The collection and conveyance system has a combined 2,776 miles of pipe and 134 lift stations.

Additionally, the Hornsby Bend Biosolids Management Plant (Hornsby Bend) was established in the 1950s as a series of stabilization ponds used to treat wastewater sludge. This plant receives biosolids from both wastewater treatment plants, and has become a nationally recognized biosolids recycling facility, which serves as a model for innovative approaches for reducing waste, producing compost, and protecting ecosystems. "Dillo Dirt," compost has been produced at Hornsby Bend since 1989, and has been donated to landscape public places and sold to commercial vendors.

2.2.3 RECLAIMED WATER SYSTEM

Reclaimed water is recycled from wastewater, and treated for almost any use that does not require high-quality drinking water, including irrigation, cooling towers, some industrial uses, and toilet flushing. The City's reclaimed water system is one of the largest in the United States, with estimated drinking water savings of more than 1.3 billion gallons per year.

The City began its reclaimed water system in the 1970s for golf course irrigation, with construction and reclaimed water use increasing substantially in the late 2000s when City Officials were forced to weigh the necessity of constructing a new water treatment plant. The reclaimed water distribution system currently consists of more than 50 miles of distribution mains. In 2013, the City announced its plan to add 20 miles of reclaimed mains by 2020, and its 25-year plan to increase the system to 168.1 miles of mains. In addition to piping, the reclaimed system includes 3 reservoirs and 3 pump stations.

2.3 OVERVIEW OF CUSTOMER DEMAND CHARACTERISTICS

AW meets 100% of its customer demands with supplies from the Colorado River system, i.e., surface water. AW has water rights to 325,000 acre feet of water through multiple contracts with the Lower Colorado River Authority (LCRA). Of this supply, in 2015, AW pumped approximately 133,438 acre feet, or 43.48 billion gallons. Of this total pumpage, AW recorded water sales of 37.74 billion gallons. The difference in water produced to water billed is likely water loss in the system. **Table 2.2** shows the breakdown of water sales and the number of accounts by customer class.

Table 2.2 also presents the total wastewater volume billed of 26.25 billion gallons in contrast to the water sold. While AW billed this level of volume, AW treated 38.48 million gallons at its two wastewater treatment facilities. This difference is due in part to inflow and infiltration, but also due to AW's rate structure that bills wastewater volume upon water usage during the wastewater averaging period, or monthly consumption, whichever is lower. Therefore, there is a disconnect between billed volume and treated volume. This disconnect is a common occurrence in the wastewater industry.

Table 2.2: AW Customer Class Overview

Customer Class	Number of Customers as of August 2016	% of Total	Consumption/Flows FY 2015 (Gallons)	% of Total
Water Utility				
Residential	204,193	89.6%	13,725,719,800	36.4%
Multifamily	6,398	2.8%	8,874,018,594	23.5%
Commercial	17,266	7.6%	9,824,283,300	26.0%
Large Volume	5	0.0%	3,027,842,400	8.0%
Wholesale	18	0.0%	2,287,012,224	6.1%
Total	227,880	100%	37,738,876,318	100.0%
Wastewater Utility				
Residential	197,485	91.9%	8,968,044,214	34.2%
Multifamily	5,301	2.5%	7,636,472,200	29.1%
Commercial	12,079	5.6%	6,344,315,002	24.2%
Large Volume	5	0.0%	2,097,738,972	8.0%
Wholesale	11	0.0%	1,202,488,818	4.6%
Total	214,881	100%	26,249,059,206	100.0%

2.4 COST OF SERVICE RATE DISCLAIMER

As noted previously, the primary objective of the study was to refine the current water and wastewater cost of service methodologies and then reflect these methodologies in new water and wastewater rate models to be used for future annual updates. Therefore, the cost of service results and corresponding customer class rates shown within this document are provided for demonstrative purposes only. Study results documented in this report provide insight into what FY 2017 rates would have been if the new models and methodologies were used rather than AW's existing model and methodologies. Additionally, rates presented in subsequent sections as "New Model Rates" represent full cost of service rates by class. AW rates currently includes a partial subsidy of residential customers by the commercial and industrial customer classes. While AW has committed to phasing-out this subsidy within five years, the FY 2017 rates calculated by Raftelis do not reflect any subsidy of the residential class by the commercial and industrial classes. In addition, wholesale rates, which are currently frozen at previous years' rates are reflected under full cost of service when shown as "New Model Rates".

3. RATE STUDY PROCESS

3.1 INTRODUCTION TO THE RATE STUDY PROCESS

Due to the diversity of customer demand characteristics, recovering the cost of providing service to each customer class in an equitable manner is very important to AW and its stakeholders. For this reason, rather than applying across the board rate adjustments to all rates to meet annual revenue needs (i.e., the same percentage rate increase to all user charges for all classes), AW staff annually updates its water and wastewater cost of service models to analyze the proportionate share of system costs that should be allocated to each customer class. Every 6-8 years, AW engages a consulting firm to conduct a comprehensive cost of service analysis that develops a new rate model and reviews all the assumptions and parameters involved in the cost of service determination process. In 2016, AW engaged the Raftelis Team to conduct a similar study.

3.1.1 HISTORY OF AW RATE STUDIES

The Austin City Council made a commitment to the use of cost of service principles in 1992. Studies in 1999 and 2007 updated the cost of service methodologies used by AW and City Council adopted the rate-setting methods that have been used since that time.

During the three previous studies, there had been certain objectives or drivers; these included:

- 1992 Rate Study
    - Settlement to wholesale rate challenge
    - Rate structure changes to create inclining block volume rates for residential customers
    - Transition to cost based rates
    - Individual wholesale customer rates
- 1999 Rate Study
    - Add a 5th block to residential inclining block volume rates
    - Use of non-coincident peak method to allocate peak costs
- 2007 Rate Study
    - Disaggregated Large Volume customers
    - Allocation of fire demand charges by meter size
    - Allocation of Inflow and Infiltration by volume

3.1.2 STUDY OBJECTIVES

This study began in June, 2016 with the primary objectives of:

- Updating the cost of service analysis and assessing the customer class cost of service compared to existing class cost of service.
- Developing new cost of service models and supporting information that clearly and concisely illustrate the budget, cost of service, and rate results.
- Establishing a process with supporting schedules that succinctly and transparently identify costs that are shared by retail and wholesale customers and those that are borne solely by retail

customers, and the subsequent determination of rates for retail and wholesale classes both for this study and future rate adjustments.

- Engaging AW's customer base by convening retail customer public involvement and wholesale involvement committees (PIC and WIC) to discuss cost of service and rate issues and challenges faced by the utility and the community.

While the study incorporated many other goals during the year-long process, these objectives remained the focus of the study.

3.2 PUBLIC INVOLVEMENT PLAN

During the study process, AW was continually committed to making its customers aware of the rate study and providing opportunities for the public to offer input. The focus of the public involvement plan was to convene separate stakeholder groups for retail and wholesale customers. Additionally, AW created a website for all stakeholders to view study documents and provide comments, questions, and input via the web.

3.2.1 PUBLIC INVOLVEMENT COMMITTEE

AW invited members of the community to serve on the Public Involvement Committee (PIC). Each retail customer class was represented on the PIC. The mission statement of the PIC was:

> The purpose of the PIC is to examine the methodology being developed to determine cost of service for all customer classes with a primary focus on only the retail customer classes, discuss the impacts of key cost of service decision points, and advise the Austin Water Executive Team in their decision-making process.

Section 4 provides more discussion on the formation, members, and role of the PIC.

3.2.2 WHOLESALE INVOLVEMENT COMMITTEE

AW invited representatives of each wholesale customer to serve on the Wholesale Involvement Committee (WIC). Additionally, if requested, wholesale customer's consultants and attorneys were also welcome to participate on the WIC. The mission statement of the WIC was:

> The purpose of the WIC is to examine the elements of the revenue requirements, the methodology used to determine wholesale revenue requirements, the methodology being developed to determine cost of service for retail and wholesale classes, discuss the impacts of key revenue requirement and cost of service decision points, and advise the Austin Water Executive Team in their decision-making process.

Section 4 provides more discussion on the formation, members, and role of the WIC.

3.2.3 DECISION POINT PROCESS

The PIC and WIC members were provided opportunities via the meetings' discussion and the web to provide input on the study for consideration by AW's Executive Team. Additionally, the primary product of the PIC and WIC processes were the compilation and contribution on various decision points AW staff and the Raftelis Team addressed during the study. These included key items such as financial benchmarks and costs included in the wholesale customers' revenue requirements.

Section 4 provides more discussion on the decision point process and outcomes.

3.3 COST OF SERVICE STUDY

3.3.1 STUDY OVERVIEW

AW conducted the study to update and improve its methods for determining fair and defensible rates for its services. The study was conducted using industry accepted cost of service principles that seek the most equitable ways to correlate the costs incurred to serve each water and wastewater customer class (e.g., residential, multi-family, commercial, industrial or wholesale) with the amount of revenue recovered via their utility rates.

In conducting a rate study, AW's goal is to balance and reconcile the interests of all its customers. This means allocating costs to customer classes based on their unique demand characteristics, and recognizing that any costs not covered by one customer class must be borne by the others. Rate studies can be controversial because each customer class would like to shoulder less of the total burden by having other customer classes shoulder more.

3.3.2 COST OF SERVICE METHODOLOGY

The industry accepted process for conducting a water utility cost of service study is detailed in the American Water Works Association (AWWA) Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges (AWWA Manual M1). The industry accepted process for conducting a wastewater utility cost of service study is detailed in the Water Environment Federation (WEF) Manual of Practice No. 27, Financing and Charges for Wastewater Systems published by the WEF. The study followed the industry accepted practices as presented in these publications with appropriate modifications to reflect the unique service characteristics and objectives of the AW customer base and service area. Such modifications are customary in any cost of service study and allow for the recognition of AW attributes while still conforming to general industry practices.

3.3.3 COST OF SERVICE MODEL DEVELOPMENT

AW's existing water and wastewater cost of service models have been updated each year since FY 2008. The Raftelis Team reviewed AW's existing FY 2017 water and wastewater cost of service models and then developed entirely new models designed to better address AW's objective of achieving the maximum possible model transparency and ease of understanding. A detailed discussion of the new water cost of service model is provided in Sections 6 (revenue requirements), Section 7 (cost allocations), and Section

8 (rate design). A detailed discussion of the new wastewater cost of service model is provided in Section 9 (revenue requirements), Section 10 (cost allocations), and Section 11 (rate design).

3.3.4 RATE DEVELOPMENT

After the customer class cost of service has been determined, rate design is the final step in the rate study process. Overall, AW was satisfied with its existing FY 2017 rate structure, including the fixed charge by meter size, the tiered fixed charge, and the volumetric structures for residential, multi-family, commercial, and wholesale. The only change was to update the rate structures based on the updated cost of service for each customer class and ensure that the appropriate level of fixed revenue was to be recovered from the fixed charges.

As part of this study the significant change to both the water and wastewater rate designs was the introduction of a new volumetric uniform rate for all retail customers called the Community Benefit Charge (CBC). Revenue from this charge is designated to pay for the discounts for customers in the customer assistance program, or CAP. The Community Benefit Charge will not be implemented until FY 2018. Rate design for water and wastewater will be discussed in more detail in Sections 8 and 11, respectively.

3.4 POTENTIAL INDEPENDENT HEARINGS EXAMINER PROCESS

During the rate study process, the Executive Team announced that AW may be conducting an Independent Hearings Examiner (IHE) process after the conclusion of the rate study. Like the IHE process completed by Austin Energy in 2016, this process would mimic a litigated rate case proceeding before the Public Utility Commission of Texas (PUCT). Like a PUCT rate case proceeding, AW customers participating in the IHE process would have the opportunity to file testimony relating to any aspect of the rate study before an independent hearing examiner. This process would be meant to encourage transparency and goodwill toward all customers in hopes of reaching a consensus so that AW could then move forward with its new rate model and any modifications to the cost of service determination. Details regarding this potential process are still being developed and, at this writing, the IHE process, if it moves forward, may begin during the fall of 2017.

4. PUBLIC INVOLVEMENT PROCESS

4.1 PUBLIC INVOLVEMENT PROCESS OVERVIEW

To ensure full transparency and effective customer input, AW developed a public involvement process for the study. This process included the creation of the PIC (the public involvement committee for retail customers) and the WIC (the wholesale customer involvement committee). The goal of each committee was to provide representation for their customer class, review and assess the water and wastewater cost of service processes, and provide input and recommendations to the AW Executive Team.

Public Involvement Goals

- To provide clear, timely, and accurate information for the public;
- To promote involvement by representatives of all AW customer classes in reviewing issues, weighing tradeoffs, and advising AW on the study;
- To define roles in the rate study process so that the public understands who has responsibility for decision-making; and,
- To provide opportunities for public comment and input throughout the study.

4.2 PUBLIC INVOLVEMENT COMMITTEES

AW was committed to making its customers aware of the rate study process and to provide opportunities for input. Toward that end, AW provided each customer class a seat on an advisory committee whose role was to examine issues related to the study and advise the AW Executive Team and staff.

4.2.1 PUBLIC INVOLVEMENT COMMITTEE MEMBERS

The PIC Members include representatives from residential, multi-family, commercial, and large volume customers.

Residential:
Lanetta Cooper, Texas Legal Services, Low Income Advocate
Karyn Keese, Independent Rate Consultant, Austin Residential Customer
Grant Rabon/David Yanke, NewGen Strategies & Solutions, LLC, Residential Rate Advocate

Multi-family:
Kristan Arrona, Austin Apartment Association/Chuck Loy, GDS Associates, Inc.
Marcia Stokes, Arboretum Park HOA

Commercial:
Mary Guerrero-McDonald, Managers Association of Austin (BOMA)

Industrial/Large Volume:
Todd Davey, NXP Semiconductor

Dave Schneider/ Dan Wilcox, Samsung

Environmental Community:
Luke Metzger, Environment Texas

Commissioners:
James Dwyer, Resource Management Commission
Chien Lee, Water & Wastewater Commission, Vice Chair
Jesse Penn, Water & Wastewater Commission, Commissioner

4.2.2 WHOLESALE INVOLVEMENT COMMITTEE MEMBERS

The WIC members include representatives from each of Austin Water's wholesale customers served.

Representatives of Wholesale Customers
Mike Tuley, City of Manor
Charles Winfield, City of Rollingwood
Clay Collins, City of Sunset Valley
Katy Phillips, City of Sunset Valley
Robert Wood, City of Westlake Hills
Charles Laws, Creedmoor-Maha WSC
Tony Graf, Manville WSC
Randall Raemon, Marsha WSC
Brent Reeh, Morningside Subdivision/Rivercrest Water Systems
Glen Lewis, Night Hawk WSC
Gary Spoonts, North Austin MUD #1
Robert Anderson, Northtown MUD/Wells Branch MUD
Phillip Haag, Shady Hollow MUD
Gary Rose, Southwest Water Co.
Mike Morin, Travis County MUD #4
Carla Glass, Travis County WCID #10
Kathleen Lessing, Village of San Leanna
Howard Hagemann, Wells Branch MUD
Shirley Ross, Wells Branch MUD
Melissa Helton, Windermere Utilities

In addition to the representatives listed above, wholesale customer representatives, i.e., consultants and attorneys, were also invited to participate in the process. Jay Joyce of Expergy, was a frequent participant on behalf of several wholesale customers.

4.3 MEETING SCHEDULE, LOGISTICS, AND DISCUSSION TOPICS

4.3.1 ORIENTATION

During the first meeting for both the PIC and WIC on September 27th, 2016, the Raftelis Team, led by Laura Raun of Laura Raun Public Relations, conducted an extensive orientation process for participants. The orientation packet is provided in Appendix A. The orientation included an introductory description of the public involvement process, the roles of the consultants, staff, and committee members, and the topics for discussion for future meetings. Additionally, the Raftelis Team highlighted etiquette rules for conducting meetings, specifically discussion times during the meetings. Finally, the members were briefed on the various opportunities for them to provide feedback.

4.3.2 MEETING SCHEDULE

Initially the PIC was scheduled to meet on ten separate occasions. Toward the middle of the process, it was recognized that additional time would be needed, and ultimately three more meetings were added. In similar fashion, the WIC was initially scheduled for only five meetings, but early in the process, the Raftelis Team also realized that the interests of the wholesale community would be best served if WIC meetings ran concurrently with PIC meetings. The WIC ultimately met 12 times during the process.

PIC and WIC meetings were audio-recorded and in some cases, video-recorded for official record and to allow members that may have missed a meeting to experience firsthand the conversation that took place.

WIC meetings were scheduled from 9:30-11:30 am, and PIC meetings were schedule for the same day from 4:00-6:30 pm. These meetings were predominantly held on Tuesdays, with an occasional Wednesday meeting due to scheduling conflicts. A summary of the meetings is provided in Table 4.1.

Table 4.1: PIC/WIC Meetings Schedule and Topics

Meeting	Date	Objective
1	Sept 27	Orientation
2	Oct 5	Revenue Requirements
3	Oct 25	Revenue Requirements/Reclaimed Water (no WIC meeting)
4	Nov 8	Revenue Requirements/Reclaimed Water
5	Nov 29	Revenue Requirements
6	Dec 13	Water Cost Allocation
7	Jan 4	Introduction of Decision Points
8	Jan 17	Decision Points
9	Jan 31	Wastewater Cost Allocation/Financial Benchmarks
10	Feb 21	Customer Assistance Program/Financial Benchmarks
11	Mar 6	Decision Points Recommendations
12	Apr 25	Overview of Study Results
13	May 23	Overview of Rate Model and Wrap-up (PIC-WIC joint meeting)

4.3.3 MEETING PRESENTATIONS

For each of the meetings above, the Raftelis Team developed a meeting packet, which included an agenda, a presentation package to facilitate discussion for the specified topics, and in some cases, supporting

material for the discussion or to provide the committee members background material. The meeting packets were posted online prior to each meeting, and a printed version was provided at the meeting for committee members. The meeting packets are provided in Appendix B.

4.3.4 THE STUDY WEBSITE

A web page on the AW website was maintained by AW to provide the public and stakeholder committees with information. Through the web page, the public and stakeholders could access meeting dates and locations, meeting agendas, presentations, and posts regarding study issues.

This website was the active forum for providing official or formal feedback throughout the process. While PIC and WIC members were provided opportunities during the meetings to discuss and submit input, it was requested that they then do so on the website to "officially" submit a recommendation or request. In addition to attending meetings and providing comment during the "public comment" period, the other stakeholders could also use this website for their own inquiries. AW received approximately 160 comments, questions, and recommendations on the website during the study process.

The project web page address was http://www.austintexas.gov/department/2016-cost-service-rate-study. It will remain publicly available for the near future.

4.4 DECISION POINT PROCESS

During the study, the Raftelis Team identified several areas of consideration, or decision points. These were introduced to the PIC and WIC for discussion, consideration, and recommendation. The initial set of decision points were the 14 disallowances ruled by the PUCT that AW did not meet their burden of proof to justify these costs were just and reasonable to provide service to wholesale customers and could not include in the determination of rates for service to wholesale customers. However, as the study progressed, several other items were included for a total of 24 decision points.

A summary of the decisions points is provided below, including the issue, the historical methodology, and the final decision made by AW's Executive Team. For more detail, please see Appendix C which provides the full handout distributed and discussed during the PIC and WIC meetings. This handout includes an evaluation of the advantages and disadvantages, consultant and committee comments, and the decision of the Executive Team.

Table 4.2: Key Decision Points

Item #1	How should the revenue requirements for wholesale customers be determined?
Status Quo	AW has historically used the Cash Basis revenue requirement determination for wholesale customers.
Executive Team Decision	AW will continue to use the Cash Basis revenue requirement determination for wholesale customers.

Item #2	How should the revenue requirements for outside city retail customers be determined?
Status Quo	AW has historically used the Cash Basis revenue requirement determination for outside city customers.
Executive Team Decision	AW will continue to use the Cash Basis revenue requirement determination for outside city customers.

Item #3	Should the General Fund Transfer be a part of the revenue requirements for wholesale?
Status Quo	AW has historically incorporated the General Fund Transfer in the wholesale revenue requirement.
Executive Team Decision	AW will continue to incorporate the General Fund Transfer in the wholesale revenue requirement.

Item #4, which considered AW's current and target financial benchmarks, was broken down for clarity.

Item #4a	Should AW continue to include costs to maintain and/or improve debt service coverage in rate revenue requirements?
Status Quo	AW has historically incorporated this 'cost' in rate revenue requirements to comply with bond covenants and improve the bond rating of the utility.
Executive Team Decision	AW will continue to include this cost until reaching the target of 1.85x, but will do so slowly over 5-10 years.

Item #4b	Should AW continue to include costs to improve cash reserves in rate revenue requirements?
Status Quo	AW has historically incorporated this 'cost' in rate revenue requirements to improve cash reserves of the utility and improve its bond rating.
Executive Team Decision	AW will include this cost until reaching 245 days for both water and wastewater over 5-10 years, and 120 days in the Revenue Stability Fund.

Item #4c	Should AW continue to include costs to increase cash financing of CIP in rate revenue requirements?
Status Quo	AW has historically incorporated this 'cost' in rate revenue requirements to lessen the utility's reliance on debt financing capital projects.
Executive Team Decision	AW will include this cost slowly over 5-10 years, until reaching 50% use of cash to fund CIP projects for both water and wastewater.

Item #5	Should AW allocate a portion of rate case expenses to wholesale customers?
Status Quo	AW has operated that if AW incurs rate case expenses, they will not be allocated to wholesale customers.
Executive Team Decision	AW will continue to remove rate case expenses from wholesale customers' revenue requirements, except for direct recovery from those incurred from challenging parties.

Item #6	Should AW allocate a portion of reclaimed water costs to wholesale customers?
Status Quo	AW has historically allocated a portion of costs related to reclaimed water service to wholesale customers.
Executive Team Decision	AW will continue to allocate a portion of costs related to reclaimed water service to wholesale customers.

Item #7	Should AW allocate a portion of SWAP and commercial paper costs (annual operating costs associated with financing) to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will continue to allocate a portion of these costs related to wholesale customers.

Item #8	Should AW allocate a portion of Green Water Treatment Plant capital costs to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will not include Green Water Treatment Plant capital costs in wholesale customers' revenue requirements.

Item #9	Should AW allocate a portion of Revenue Stability Reserve Fund costs to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will continue to include Revenue Stability Fund associated costs in wholesale customers' revenue requirements.

Item #10	Should AW allocate a portion of costs associated with the Barton Springs/Edwards Aquifer Conservation District to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will no longer include these costs in wholesale customers' revenue requirements.

Item #11	Should AW allocate a portion of Govalle Wastewater Treatment Plant Operating and Capital costs to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will continue to include these costs in wholesale customers' revenue requirements.

Item #12	Should AW allocate a portion of Utility-Wide Contingency costs to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will no longer include Utility-Wide Contingency costs in wholesale customers' revenue requirements.

Item #13	Should AW allocate a portion of Water Treatment Plant No. 4 costs to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will continue to include these costs in wholesale customers' revenue requirements.

Item #14	Should AW allocate a portion of Green Choice electricity costs to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will continue to include these costs in wholesale customers' revenue requirements.

Item #15	Should AW modify its peaking factor determination methodology?
Status Quo	Maintain the methodology used in the 2017 cost of service rate model.
Executive Team Decision	AW will continue to use to the current methodology.

Item #16	Should AW modify its current methodology of allocating inflow and infiltration costs to customers by 100% volume?
Status Quo	Maintain the methodology used in the 2017 cost of service rate model.
Executive Team Decision	AW will continue to use to the current methodology.

Item #17	Should AW add additional wastewater strength parameters in the wastewater cost of service determination?
Status Quo	Maintain the methodology used in the 2017 cost of service rate model, which incorporates only BOD (biological oxygen demand) and TSS (total suspended solids).
Executive Team Decision	AW will continue to use to the current methodology.

Item #18	Should AW allocate a portion of drainage fees to wholesale customers?
Status Quo	AW has historically allocated a portion of these costs to wholesale customers.
Executive Team Decision	AW will continue to include these costs in wholesale customers' revenue requirements.

Item #19	Should AW continue to provide discounts through the existing customer assistance program?
Status Quo	AW has historically provided assistance to customers that have challenges paying their bills.
Executive Team Decision	AW will continue to provide assistance and will recommend the creation of a separate customer charge, called the Community Benefit Charge (CBC). AW will also recommend adding a discount to the wastewater volumetric charges. AW will not include these costs in wholesale customers' revenue requirements.

Item #20	Should AW modify their billing practice for multi-family customers of assessing the fixed charge on the larger portion of the fire demand meter?
Status Quo	AW has historically assessed the fixed charge based on the larger meter size.
Executive Team Decision	AW will modify their billing practice and assess fixed charges to multi-family customers with compound meters for fire protection on the smaller meter size.

Item #21	Should AW modify their current allocation methodology of fire protection costs to customers, which is based on average use by meter size?
Status Quo	Maintain the methodology used in the 2017 cost of service rate model.
Executive Team Decision	AW will modify the current methodology so that fire protection is allocated to customers based on meter flow equivalency ratios, consistent with fixed cost recovery.

Item #22	Should AW eliminate commercial and large volume subsidy of residential customers?
Status Quo	Maintain the current level of subsidy used in the 2017 cost of service rate model.
Executive Team Decision	AW will phase out this subsidy over 3-5 years.

Item #23	What test year should AW use to determine total revenue requirements?
Status Quo	AW has historically used the budget year as the test year revenue requirements.
Executive Team Decision	AW will modify the current methodology by using a historical year's actuals and then incorporate known and measurable changes.

Item #24	Should AW create an outside city retail customer class and rates?
Status Quo	Outside city customers are grouped with inside city customers and assessed the same retail rates
Executive Team Decision	AW will establish outside city customer classes and rates specific to these classes (See Note 1).
Note 1: The AW Executive Team initially decided to establish outside city customer classes and rates specific to these classes. Upon further consideration, the AW Executive Team subsequently elected to continue to group outside city retail customers with inside city retail customers. The cost of service results presented in this report reflect this subsequent decision. That is, outside retail customers continue to be grouped with inside city retail customers as has been the longstanding policy of AW.	

4.5 REVIEW OF THE NEW COST OF SERVICE MODELS

From the beginning of the rate study process, AW committed to making the new water and wastewater cost of service models available to PIC and WIC members and interested members of the public. Since the development of the models was influenced, in part, by the discussions and input from the PIC and WIC and decisions by the AW Executive Team, the models were not distributed until after the April, 2017 meeting. In early May, AW staff announced the first version of the models were available if requested, and the models were available for broader distribution at the May 23 meeting. PIC and WIC members

were given the opportunity to provide additional input on the models after the last meeting and were asked to submit, questions, comments, and input by June 9, 2017.

Since the May distribution, the new water and wastewater cost of service models have evolved as a result of an ongoing comprehensive review by AW staff and the Raftelis Team. Although the final cost of service outcomes were refined as part of this process, it did not result in material changes in class cost of service compared to preliminary FY 2017 results. Most notable, however, were changes to rate design. For example, the approach to the development of user charges for customers participating in AW's Customer Assistance Program (CAP) was modified. Previously, it was assumed that 100% of the revenue used to fund the CAP would be recovered via the CBC. This was modified so that while the majority of subsidy will be used to offset user charges, partial revenue will be used for other affordability initiatives related to CAP customers. Other rate design mechanisms were enhanced to provide AW the appropriate adjustments needed to phase in certain customer impacts and phase out current subsidization practice from commercial and industrial to the residential class.

4.6 PUBLIC INVOLVEMENT PROCESS WRAP-UP

During the May 23rd meeting, PIC and WIC members were thanked for their participation and commitment to the rate study vision and process. Additionally, AW staff presented members with certificates of participation signed by the Mayor of the City of Austin.

4.7 PUBLIC INVOLVEMENT FROM NON-COMMITTEE MEMBERS

The focus on public involvement during the study was on the PIC and WIC process. However, stakeholders who were not on the committees had several opportunities to provide input during the study. For example:

- The website: as mentioned above, AW staff provided all meeting materials on the website for all the public to review. Additionally, anyone could post comments, questions, or input through the website for general consideration by AW's Executive Team.
- The PIC and WIC meetings: the meeting times were posted, and during each meeting, there was a public comment period for stakeholders to share their thoughts, comments, and input.
- City Council: stakeholders always have the option to provide comments and input during City Council meetings that relate to Council business.

5. OVERVIEW OF THE COST OF SERVICE MODELS

5.1 TRANSPARENCY OBJECTIVE

As noted previously, the Raftelis Team reviewed AW's existing FY 2017 water and wastewater cost of service models and then developed entirely new models designed to better address AW's objective of achieving the maximum possible model transparency and ease of understanding. This objective will ensure that all stakeholders (AW staff, AW customers, and the PUCT) have the opportunity to understand how the revenue requirement and resulting cost of service rates were developed for each retail and wholesale customer class.

5.2 KEY COMPONENTS OF THE NEW COST OF SERVICE MODELS

The new water and wastewater cost of service models were, to the maximum extent possible, designed to have the same basic layout and appearance as the existing AW models. The key components of the new water and wastewater cost of service models are shown in **Table 5.1**.

Table 5.1: Key Components of the Cost of Service Models

Water Cost of Service Model	Wastewater Cost of Service Model
Wholesale Adjustments	
Summary of Wholesale Adjustments	Summary of Wholesale Adjustments
Revenue at Existing Rates	
Existing Rates	Existing Rates
Fixed Revenues at Existing Rates	Fixed Revenues at Existing Rates
Volumetric Revenues at Existing Rates	Volumetric Revenues at Existing Rates
Summary of Total Revenues at Existing Rates	Summary of Total Revenues at Existing Rates
Cost of Service - Customer Usage Characteristics	
Customer Class Peaking Factors	Customer Class Strength Loadings
Units of Service	Units of Service
Cost of Service - Allocation of Test Year Revenue Requirement to Customer Classes	
Allocation of O&M Costs	Allocation of O&M Costs
Allocation of Other Costs	Allocation of Other Costs
Allocation of Revenue Allocated Costs	Allocation of Revenue Allocated Costs
Summary of Customer Class Revenue Requirements	Summary of Customer Class Revenue Requirements
Rate Design - Test Year Calculated Rates for Customer Classes	
Rate Design - Monthly Fixed Charges	Rate Design - Monthly Fixed Charges
Rate Design - Volumetric Rates	Rate Design - Volumetric Rates
Summary of Total Revenues at New Rates	Summary of Total Revenues at New Rates
Summary of Calculated Rates	Summary of Calculated Rates
Reconciliation / Revenue Proof	
Reconciliation of Cost of Service and Forecast Test Year Revenue	Reconciliation of Cost of Service and Forecast Test Year Revenue
Residential Customer Impacts	
Residential Bills Under Test Year Rates	Residential Bills Under Test Year Rates

5.3 WHOLESALE ADJUSTMENTS

Wholesale adjustments are those water and wastewater test-year revenue requirement items (i.e., test year costs) the AW Executive Team has determined should not be allocated to wholesale customers. Although not included in the costs paid by wholesale customers, such costs are a legitimate part of AW's overall total system test year revenue requirement and as such, these costs must be entirely recovered through the rates paid by retail customers.

The AW Executive Team considered each potential wholesale adjustment during the public involvement process described in Section 4 of this report. The key consideration in the Executive Team's analysis was whether wholesale customers benefited from the specific revenue requirement item in question. If it was determined that no benefit was received by wholesale customers, the cost was excluded from the wholesale revenue requirement. In many cases, the Executive Team elected to include costs in the wholesale customer revenue requirement that had previously been excluded by the PUCT. The rationale for each of these decisions was that, in the judgement of the Executive Team, wholesale customers do receive legitimate benefit from the cost in question and therefore should be recovered from both wholesale and retail rates.

The existing AW water and wastewater cost of service models do not transparently reflect wholesale adjustments. In contrast, the new water and wastewater cost of service models developed by the Raftelis Team were specifically designed to allow for efficient and fully transparent inclusion/exclusion of revenue requirement items from the wholesale customer revenue requirement.

A detailed discussion of the water cost of service model is provided in Section 6 (Water Revenue Requirements), Section 7 (Water Cost of Service Process), and Section 8 (Water Cost of Service Rates). A detailed discussion of the wastewater cost of service model is provided in Section 9 (Wastewater Revenue Requirements), Section 10 (Wastewater Cost of Service Process), and Section 11 (Wastewater Cost of Service Rates).

5.4 INCORPORATION OF RECLAIMED WATER

The annual test-year revenue requirement for reclaimed water service is funded by three sources: 1) rate revenues from reclaimed water service; 2) cash transfers from the water enterprise fund; and, 3) cash transfers from the wastewater enterprise fund. The transfers provided to reclaimed water service by the water and wastewater utilities are funded by AW customers and included within the annual test year revenue requirement of the water and wastewater utilities. A discussion of AW's reclaimed water operations is included in Section 12 of this report.

6. WATER REVENUE REQUIREMENTS

6.1 SUMMARY OF CASH BASIS REVENUE REQUIREMENTS

AW determines the annual test year revenue requirement for its water and wastewater utilities using a cash basis revenue requirement methodology. The test year revenue requirement reflects the total amount of rate revenue that must be collected from AW ratepayers during the fiscal year. A summary of the test year FY 2017 water utility revenue requirement is shown in **Table 6.1**. The water utility revenue requirement is the same in both AW's current water cost of service model and the new water cost of service model developed by the Raftelis Team.

Table 6.1: Summary of the FY 2017 Water Utility Revenue Requirement

Revenue Requirement Component	Amount
Operating and Maintenance Expenses	$131,382,329
General Fund Transfers (Referred to as Revenue Allocated Costs in the Water COS Model)	22,587,681
Other Costs (Watershed Land Purchases, LCRA Water Rights, Reserve Fund Surcharge)	12,659,249
Capital Costs	
Debt Service (Debt Service Payments and Transfers to Defeasance)	108,203,560
Capital Improvement Program Funding (Transfers to Capital Funds and Capital Outlays)	23,173,937
Total Capital Costs	131,377,497
Total Water Utility Gross Revenue Requirement from Rates	298,006,755
Less: Non-Rate Revenues	
Non-Rate Revenues Applicable to O&M Expenses	2,474,468
Non-Rate Revenues Applicable to Capital Costs	4,150,397
Total Non-Rate Revenues	6,624,865
Total Water Utility Net Revenue Requirement from Rates Before Additional Adjustment	291,381,890
Adjustment for Reserve Fund Surcharge (See Sections 7.10 and 8.3 of this Report for a Discussion)	7,123,2456
Total Final Net Water Utility Revenue Before Additional Adjustment	$298,505,136

6.2 OPERATIONS AND MAINTENANCE EXPENSES

AW determines the operating and maintenance (O&M) expenses included in the test year revenue requirements for its water and wastewater utilities as part of its annual budgeting process. A summary of the O&M expenses included in the test year FY 2017 water utility revenue requirement is shown in **Table 6.2**.

Table 6.2: Summary of FY 2017 Water O&M Expenses

Expense	Amount
Operating Expenses	
Treatment	$38,063,429
Pipeline	25,877,347
Engineering	4,912,562
Water Resources	4,031,644
Environmental Affairs	9,016,803
Support Services	13,002,785
One Stop Shop	250,758
Other Operating Expenses	8,502,147
Total Operations	103,657,475
Other Requirements	
Utility Customer Services Office - Austin Energy	12,854,313
Operating Transfers	1,254,414
Public Improvement District	37,500
Other Transfers	10,101,558
Total Other Requirements	24,247,785
Miscellaneous Expenses	
Radio Communications Fund	253,605
Economic Development Fund	1,523,464
Reclaimed Utility Fund	1,700,000
Total Miscellaneous	3,477,069
Total Water Utility O&M Expenses	$131,382,329

6.3 OTHER COSTS

The annual test year revenue requirement for AW's water utility contains three distinct cost items that are reflected separately from O&M expenses, general fund transfers, or capital costs. These cost items, referred to Other Costs in the water cost of service model are:

1. Watershed Land Purchases which represent the annual debt service payments for AW's purchase of land to protect the watersheds that drain into its raw water supply.
2. Lower Colorado River Authority (LCRA) Water Rights which represents the annual debt service payments for AW's purchase of additional LCRA water rights to enhance its water supply portfolio.
3. A transfer to the special reserve fund used by AW to maintain the adequacy of its water utility operational cash reserves.

Note that due to concerns regarding the benefit received by wholesale customers from AW's watershed land purchases, these costs are not allocated to wholesale customers in the existing AW water cost of service model or the new AW water cost of service model developed by the Raftelis Team. **Table 6.3** shows the Other Costs included in the test year FY 2017 water utility revenue requirement.

Table 6.3: Summary of Test FY 2017 Water Other Costs

Cost	Amount
Watershed Land Purchases	$5,690,218
Lower Colorado River Authority Water Rights	4,969,031
Reserve Fund Transfer	2,000,000
Total Water Utility Other Costs	$12,659,249

6.4 GENERAL FUND TRANSFERS (REVENUE ALLOCATED COSTS)

The annual test year revenue requirement for AW's water and wastewater utilities includes a transfer to the City of Austin's General Fund. The rates paid by all water and wastewater utility customers, both retail and wholesale, contribute to the payment of the General Fund transfer which is currently set at 8.2% of the three-year average of AW's total revenue. Within the water and wastewater cost of service models, the General Fund Transfer is referred to as a revenue allocated cost because the amount of the transfer included in the cost of service for each customer class is based on their proportionate contribution to overall system revenue revenues. The test year FY 2017 water utility revenue requirement includes a General Fund transfer of $22,587,681.

6.5 CAPITAL COSTS

The annual test year revenue requirement for AW's water and wastewater utilities includes capital costs for debt service and transfers to capital funds used to pay for capital improvement program expenditures. **Table 6.4** shows the capital costs included in the test year FY 2017 water utility revenue requirement.

Table 6.4: Summary of the FY 2017 Water Utility Capital Costs

Cost	Amount
Debt Service	
Debt Service Payments	$98,453,560
Transfer to Debt Defeasance	9,750,000
Total Debt Service	108,203,560
Capital Improvement Program Funding	
Transfer to Water Construction Fund/Capital Outlay	22,000,000
Capital Project Management Fund	1,173,937
Total Capital Improvement Program Funding	23,173,937
Total Water Utility Capital Costs	$131,377,497

6.6 NON-RATE REVENUES

The annual test year revenue requirement for AW's water and wastewater utilities includes non-rate revenue items which are quantified during AW's annual budgeting process. Some non-rate revenue items such as interest income or capital recovery fees *reduce* the amount of test year revenue that must be recovered through the water and wastewater rates paid by customers. Other non-rate revenue items

increase the amount of test year revenue that must be recovered through the rates paid by customers. For example, if an AW water customer receives a bill credit for water consumption caused by a leak (that is, a reduction in their bill), it will increase the amount of revenue that must be recovered from the water rates paid by customers. In addition to these traditional non-rate revenue items, AW also reflects changes in cash reserve balances as non-rate revenue items. Thus, a reduction in test year cash reserves is considered a non-rate revenue item that *reduces* the amount of test year revenue that must be recovered through the water and wastewater rates paid by customers. Similarly, an increase in test year cash reserve balances is considered a non-rate revenue item that increases the amount of test year revenues that must be recovered through rates. **Table 6.5** shows a summary of test year FY 2017 non-rate revenue items for AW's water utility.

Table 6.5: Summary of the FY 2017 Water Utility Non-Rate Revenue Items

Non-Rate Revenue Item	Applicable to O&M Expenses	Applicable to Capital Costs
Late Payment Penalties	$987,000	$0
Backflow Prevention Compliance Fee	799,200	0
Special Bill - Water Financial Management	675,300	0
New Service Connections	465,000	0
City Ordinance Fines	371,200	0
Private Fire Hydrant Fee	169,900	0
Misc. Telecom	107,300	0
Miscellaneous Items	419,980	0
Transfer in from CRFs	0	14,914,000
Transfer in from Public Works	0	150,291
Transfer in from ARR	0	0
Interest Income (Capital Portion)	0	291,114
Decrease (Increase) in Operating Reserves	0	(11,205,008)
Decrease (Increase) in Operating Reserves	(544,412)	0
A/R Adj. Leak Adjustment	(976,000)	0
Total Water Utility Non-Rate Revenues	$2,474,468	$4,150,397

6.7 WHOLESALE ADJUSTMENTS

As discussed in a previous section of this report, wholesale adjustments are those water and wastewater test-year revenue requirement items (i.e., test year costs) the AW Executive Team has determined should not be allocated to wholesale customers. Although not included in the costs paid by wholesale customers, such costs are a legitimate part of AW's overall total system test year revenue requirement. As a result, these costs must be entirely recovered through the rates paid by retail customers.

For example, consider a hypothetical test year O&M expense item in the amount of $1 million. Further assume that, after considering the water consumption characteristics of each AW water customer class, $900,000 of this expense would normally be allocated to retail customers as an outcome of the cost of service process and $100,000 would be allocated to wholesale customers. If this $1 million O&M expense item was designated as a wholesale adjustment by the AW Executive Team, the $100,000 in costs normally recovered though the rates of wholesale customers will be shifted to recovery from retail customers. This has the effect of reducing the overall wholesale customer revenue requirement by $100,000 and

increasing the overall retail customer revenue requirement by $100,000. **Table 6.6** shows a summary of the test year FY 2017 wholesale adjustments for AW's water utility. Note that the amounts for each wholesale adjustment shown in **Table 6.6** are gross amounts *before* their allocation to individual retail and wholesale customer classes.

Table 6.6: FY 2017 Water Utility Wholesale Adjustments

Adjustments	Amount
Bad Debt Expense	$2,508,825
Land Management Division	1,446,357
Accounts Receivable Leak Adjustment	976,000
Barton Springs/Edwards Aquifer Conservation District	900,000
Radio Communication Fund	253,605
One Stop Shop: Land Use Review	152,044
311 System Support	84,595
Reicher Ranch	81,088
Lobbyist - Legislative	80,648
One Stop Shop: Permit and License Center	65,639
Public Improvement District	37,500
One Stop Shop: Building Plan Review - WP	33,075
Total Water Utility Wholesale Adjustments	$6,619,376

6.8 TOTAL ADJUSTED REVENUE REQUIREMENTS

Table 6.7 shows a summary of the test year FY 2017 water utility revenue requirement before the allocation of costs to individual retail or wholesale customer classes.

Table 6.7: Summary of the FY 2017 Water Adjusted Revenue Requirements

Customer Type	Gross Revenue Requirement Before Adjustments	Wholesale Adjustments Allocated to Retail	Non-Rate Revenue Offsets	Net Revenue Requirement
O&M Expenses				
Retail	$126,661,606	$138,130	($2,426,331)	$124,373,405
Wholesale	4,720,723	(138,130)	(48,137)	4,534,456
Total O&M	131,382,329	0	(2,474,468)	128,907,861
Other Costs				
Retail	12,199,851	0		12,199,851
Wholesale	459,398	0		459,398
Total O&M	12,659,249	0		12,659,249
General Fund Transfers				
Retail	21,767,985	0		21,767,985
Wholesale	819,696	0		819,696
Total General Fund Transfers	22,587,681	0		22,587,681
Capital Costs				
Retail	123,924,716	0	(3,922,177)	120,002,538
Wholesale	7,452,781	0	(228,220)	7,224,561
Total Capital Costs	131,377,497	0	(4,150,397)	127,227,099
Total Water Utility Revenue Requirement	$298,006,755	$0	($6,624,865)	$291,381,890

7. WATER COST OF SERVICE PROCESS

7.1 OVERVIEW OF THE COST OF SERVICE PROCESS

After forecasting the overall FY 2017 test year water utility revenue requirement from rates as discussed in Section 6 of this report, a cost of service study must be conducted to determine the appropriate amount of rate revenue to be recovered from each AW retail and wholesale customer class based on their unique demand characteristics. The new water cost of service model developed by the Raftelis Team accomplishes this objective by: 1) conducting an analysis of customer consumption characteristics to determine the cost allocation percentages for each class; and, 2) engaging in a multi-step process to allocate each component of the total system revenue requirement to each customer class based on their unique water consumption characteristics.

In general, the cost of service procedures followed in each model are in conformance with industry standard methodologies as published by the AWWA in the *Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges* (Manual M1).

7.2 ANALYSIS OF CUSTOMER WATER CONSUMPTION CHARACTERISTICS

The diagram in **Table 7.1** illustrates the process used in the water cost of service model to analyze customer water consumption characteristics and determinant the cost allocation percentages for each customer class. A summary of each of these steps is discussed below.

Table 7.1: Process of Analyzing Customer Water Consumption Characteristics

Step #1: Forecast of Test Year Billed Water Consumption for Each Customer Class	Step #2: Determine Customer Class Peaking Factors:	Step #3: Determine Customer Class Units of Service as a Percentage of Total System Units	Step #4: Assign Customer Classes to Cost Pools:	Step #5: Determine Customer Class Demand Parameter Percentages for Each Cost Pool:
• Annual Billed Consumption • Billed Consumption by Consumption TIER (as applicable)	• Max Day Peaking Factors • Max Hour Peaking Factors	• Average Day Demand • Max Day Demand • Max Hour Demand • Equivalent Accounts • Equivalent Meters • Equivalent Fire Meters	• Joint • Retail Only • Wholesale • Watershed Land Purchases • Lower Colorado River Authority Water Rights • Reserve Fund	• Base Demand • Max Day Demand • Max Hour Demand • Equivalent Accounts • Equivalent Meters • Equivalent Fire Meters

7.2.1 CUSTOMER CLASS FORECAST BILLED CONSUMPTION

Step #1 in the process of analyzing customer consumption is the preparation of a forecast of test year billed water consumption. AW prepares an annual forecast of test year billed water consumption for each customer class in a revenue forecasting model that is separate from the water cost of service models (both existing and new). This forecast is based on an analysis of key factors such as actual historical billed water consumption, actual historical customer account growth, and anticipated test year average consumption per account for each customer class. **Table 7.2** shows a summary of forecast FY 2017 billed water consumption

Table 7.2: Forecast FY 2017 Billed Water Consumption

Customer Class	Forecast Billed Consumption (Thousands of Gallons)
Retail	
Residential	12,846,736
Multi-Family	9,110,300
Commercial	10,876,425
Residential CAP	1,282,183
Spansion	292,213
NXP - Ed Bluestein Blvd	419,235
NXP - W William Cannon	294,200
Samsung	1,639,000
Novati	65,000
University of Texas	338,800
Total Retail	37,164,093
Wholesale	
Creedmore-Maha	77,061
High Valley	6,508
Manor, City of	12
Mid Tex Utilities	21,931
Marsha Water	11,758
Morningside	1,890
Nighthawk	12,342
North Austin MUD	292,956
Northtown MUD	277,402
Rivercrest	112,221
Rollingwood	110,004
Shady Hollow	152,530
Sunset Valley MUD	105,058
Village of San Leanna	4,543
Water District 10	726,920
Wells Branch MUD	421,478
Southwest Water	4,800
Total Wholesale	2,339,414
Total Billed Water Consumption	39,503,506

7.2.2 CUSTOMER CLASS PEAKING FACTORS

Step #2 in the process of analyzing customer consumption is the calculation of estimated customer class maximum day and maximum hour peaking factors. All water utility systems must be designed, constructed, and operated to serve customers during those periods with the highest total system maximum day and maximum hour peak load demands (known as total system coincident demands). Put another way, the water utility system must have the water treatment, storage, pumping, transmission and distribution capacity to serve all customers even under the most grueling operational conditions when demands are at their maximum.

A fundamental question that must be answered as part of the cost of service process is: what proportionate contribution does each individual customer class make to the total system coincident maximum day and maximum hour peak load demands? In general, those customer classes with the highest maximum day and maximum peaking factors are considered to make the largest proportionate contribution to total system demands and are allocated the largest share of the annual revenue requirement (that is, they are considered to have a higher cost of service).

AWWA Manual M1 discusses two industry accepted approaches to answer this question (see, Appendix A to the Seventh Edition of Manual M1 beginning on page 373). The first approach, which is used in both the existing and the new AW water cost of service models, is to calculate the estimated maximum day and maximum hour peaking factors for each customer class. These individual customer class peaking factors are referred to as non-coincident peaking factors because the date and time of their occurrence is often not correlated to when other customer classes or the water utility system, as a whole, experience peak demands. For example, the maximum day peak demand for the single family residential class may occur in August and the maximum day peak demand for the commercial customer class may occur in September. In contrast, the actual date of occurrence for total system coincident maximum day demand, as measured by treatment plant production data, may be on August 15th.

The calculated non-coincident customer class peaking factors are then used to *indirectly* estimate the contribution each individual customer class makes to total system coincident demand (for example, the proportionate contribution of single family residential customers to total system maximum day demand). The second industry approach, which is not used by AW, is to *directly* estimate the actual contribution each individual customer class makes to total system coincident maximum day and maximum hour peak load demands.

A more detailed discussion of the process of estimating the peaking factors for AW's retail and wholesale customer classes is beyond the scope of this report. **Table 7.3** shows the peaking factors used in the new FY 2017 water cost of service model developed by the Raftelis Team. These peaking factors reflect an average of calculated peaking factors based on actual historical customer class and total system coincident demands for the years FY 2013, FY 2014, and FY 2015. Note that in general, the peaking factors shown in **Table 7.3** closely approximate the peaking factors used in AW's existing water cost of service model.

Table 7.3: FY 2017 Customer Class Peaking Factors

Customer Class	Maximum Day	Maximum Hour
Retail		
Residential	1.51	2.30
Multi-Family	1.36	1.82
City Commercial	1.53	2.10
Residential CAP	1.62	2.25
Residential (Unused)	0.00	0.00
Spansion	1.32	1.84
NXP - Ed Bluestein Blvd	1.25	1.75
NXP - W William Cannon	1.35	1.89
Samsung	1.43	1.99
Novati	1.31	1.83
University of Texas	1.44	2.00
Wholesale		
Creedmore-Maha	1.46	2.04
High Valley	1.44	2.02
Manor, City of	13.04	18.20
Mid Tex Utilities	2.65	3.71
Marsha Water	1.37	1.91
Morningside	1.45	2.02
Nighthawk	2.29	3.19
North Austin MUD	1.72	2.40
Northtown MUD	1.48	2.06
Rivercrest	1.86	2.60
Rollingwood	2.02	2.82
Shady Hollow	2.34	3.26
Sunset Valley MUD	1.83	2.56
Village of San Leanna	1.25	1.74
Water District 10	1.99	2.78
Wells Branch MUD	1.56	2.18
Southwest Water	1.31	1.84

7.2.3 CUSTOMER CLASS UNITS OF SERVICE

Step #3 in the process of analyzing customer consumption is the calculation of customer class units of service. The AW water models (both existing and new) calculate customer class units of service for the demand parameters listed below based on inputs such as forecast test year billed consumption, forecast test year customer accounts and meter sizes, and the calculated maximum day and maximum hour peaking factors. These units of service, along with the customer class cost pool assignments discussed in Section 7.3.4, determine what percentage of the test year water utility revenue requirement is allocated to each customer class.

- Annual Average Day Demand
- Maximum Day Extra Capacity Demand
- Maximum Hour Extra Capacity Demand
- Equivalent Accounts
- Equivalent Meters
- Equivalent Fire Meters

Table 7.4 shows the test year FY 2017 customer class units of service used in the new water cost of service model. Note that due to space limitations, units of service have not been shown for equivalent meters or equivalent fire meters.

Table 7.4: FY 2017 Customer Class Units of Service

Customer Class	Average Day Demand (1)		Max Day Demand (2)		Max Hour Demand (3)		Equivalent Accounts	
	Average Day Demand	% of Total System	Max Day Extra Capacity Demand	% of Total System	Max Hour Extra Capacity Demand	% of Total System	Equivalent Accounts	% of Total System
Retail								
Residential	36,285.1	32.6%	18,517	33.8%	28,666	41.2%	184,490	81.4%
Multi-Family	25,731.7	23.1%	9,138	16.7%	11,873	17.1%	5,954	2.6%
Commercial	30,720.0	27.6%	16,301	29.8%	17,425	25.0%	17,860	7.9%
Residential CAP	3,621.5	3.3%	2,233	4.1%	2,308	3.3%	18,344	8.1%
Spansion	825.3	0.7%	264	0.5%	431	0.6%	2	0.0%
NXP - Ed Bluestein Blvd	1,184.1	1.1%	302	0.6%	587	0.8%	1	0.0%
NXP - W William Cannon	831.0	0.7%	295	0.5%	445	0.6%	1	0.0%
Samsung	4,629.3	4.2%	1,992	3.6%	2,613	3.8%	3	0.0%
Novati	183.6	0.2%	57	0.1%	95	0.1%	1	0.0%
University of Texas	956.9	0.9%	417	0.8%	542	0.8%	19	0.0%
Wholesale								
Creedmore-Maha	211.1	0.2%	97	0.2%	122	0.2%	3	0.0%
High Valley	17.8	0.0%	8	0.0%	10	0.0%	1	0.0%
Manor, City of	0.0	0.0%	0	0.0%	0	0.0%	1	0.0%
Mid Tex Utilities	60.1	0.1%	99	0.2%	64	0.1%	1	0.0%
Marsha Water	32.2	0.0%	12	0.0%	17	0.0%	1	0.0%
Morningside	5.2	0.0%	2	0.0%	3	0.0%	1	0.0%
Nighthawk	33.8	0.0%	44	0.1%	31	0.0%	1	0.0%
North Austin MUD	802.6	0.7%	574	1.0%	547	0.8%	7	0.0%
Northtown MUD	760.0	0.7%	363	0.7%	445	0.6%	7	0.0%
Rivercrest	307.5	0.3%	264	0.5%	227	0.3%	2	0.0%
Rollingwood	301.4	0.3%	306	0.6%	241	0.3%	3	0.0%
Shady Hollow	417.9	0.4%	558	1.0%	388	0.6%	2	0.0%
Sunset Valley MUD	287.8	0.3%	239	0.4%	209	0.3%	7	0.0%
Village of San Leanna	12.4	0.0%	3	0.0%	6	0.0%	1	0.0%
Water District 10	1,991.6	1.8%	1,973	3.6%	1,573	2.3%	4	0.0%
Wells Branch MUD	1,154.7	1.0%	649	1.2%	715	1.0%	7	0.0%
Southwest Water	13.2	0.0%	4	0.0%	7	0.0%	1	0.0%
Total System	111,378	100.0%	54,712	100.0%	69,591	100.0%	226,725	100.0%

(1) Billions of gallons. Average Day Demand = (Test Year Forecast Demand * 1.03 [to account for 3% System Water Losses])/365 days
(2) Billions of gallons. Maximum Day Extra Capacity Demand = (Maximum Day Demand - Average Day Demand)
(3) Billions of gallons. Maximum Hour Extra Capacity Demand = (Maximum Hour Demand - Maximum Day Demand)

7.2.4 COST POOL ASSIGNMENTS

Step #4 in the process of analyzing customer water consumption is the assignment of customer classes to cost pools. Cost pool assignments define the specific types of costs that are allocated to each AW retail and wholesale customer class. For example, water treatment-related costs benefit all customers, both retail and wholesale. Therefore, they are considered to be a joint, or common-to-all cost to be allocated for recovery from both retail and wholesale customers. In contrast, costs associated with the AW water distribution system are generally considered to be retail-only costs because wholesale customers due not

benefit from AW's retail water distribution system. Instead, wholesale customers own and operate their own distribution systems to serve their downstream retail customers. **Table 7.5** shows the test year FY 2017 cost pool assignments for each water customer class.

Table 7.5: FY 2017 Cost Pool Assignments

Customer Class	Percentage Participation in Costs Associated with the Following Cost Pools					
	Joint	Retail Only	Wholesale Only	Watershed Land Purchase	Lower Colorado River Authority Water Rights	Reserve Fund
Retail						
Residential	100%	100%	0%	100%	100%	100%
Multi-Family	100%	100%	0%	100%	100%	100%
Commercial	100%	100%	0%	100%	100%	100%
Residential CAP	100%	100%	0%	100%	100%	100%
Spansion	100%	100%	0%	100%	100%	100%
NXP - Ed Bluestein Blvd	100%	100%	0%	100%	100%	100%
NXP - W William Cannon	100%	100%	0%	100%	100%	100%
Samsung	100%	100%	0%	100%	100%	100%
Novati	100%	100%	0%	100%	100%	100%
University of Texas	100%	100%	0%	100%	100%	100%
Wholesale						
Creedmore-Maha	100%	0%	100%	0%	100%	100%
High Valley	100%	0%	100%	0%	100%	100%
Manor, City of	100%	0%	100%	0%	100%	100%
Mid Tex Utilities	100%	0%	100%	0%	100%	100%
Marsha Water	100%	0%	100%	0%	100%	100%
Morningside	100%	0%	100%	0%	100%	100%
Nighthawk	100%	0%	100%	0%	100%	100%
North Austin MUD	100%	0%	100%	0%	100%	100%
Northtown MUD	100%	0%	100%	0%	100%	100%
Rivercrest	100%	0%	100%	0%	100%	100%
Rollingwood	100%	0%	100%	0%	100%	100%
Shady Hollow	100%	0%	100%	0%	100%	100%
Sunset Valley MUD	100%	0%	100%	0%	100%	100%
Village of San Leanna	100%	0%	100%	0%	100%	100%
Water District 10	100%	0%	100%	0%	100%	100%
Wells Branch MUD	100%	0%	100%	0%	100%	100%
Southwest Water	100%	0%	100%	0%	100%	100%

7.2.5 COST POOL DEMAND PARAMETER PERCENTAGES

Step #5 in the process of analyzing customer water consumption is the calculation of the customer class demand parameter percentages associated with each cost pool. These percentages define the costs that will be allocated to each customer class, for each demand parameter and each cost pool. This process reflects the product of the customer class units of service percentages developed in the units of service analysis (see Section 7.2.3) and the assignment of customer classes (see Section 7.2.4).

Table 7.6 shows the FY 2017 demand parameter percentages for the Joint cost pool. **Table 7.7** shows the FY 2017 demand parameter percentages for the Retail Only cost pool. Due to space limitations, the demand parameter percentages for the Wholesale, Watershed Land Purchase, Lower Colorado River Authority, and Reserve Fund cost pools have not been shown.

Table 7.6: FY 2017 Joint Cost Pool Demand Parameter Percentages

Customer Class	Base Demand	Max Day Demand	Max Hour Demand	Equivalent Accounts	Equivalent Meters	Equivalent Fire Connections
Retail						
Residential	32.6%	33.8%	41.2%	81.4%	51.9%	51.9%
Multi-Family	23.1%	16.7%	17.1%	2.6%	16.0%	16.0%
Commercial	27.6%	29.8%	25.0%	7.9%	24.1%	24.1%
Residential CAP	3.3%	4.1%	3.3%	8.1%	5.2%	5.2%
Spansion	0.7%	0.5%	0.6%	0.0%	0.1%	0.1%
NXP - Ed Bluestein Blvd	1.1%	0.6%	0.8%	0.0%	0.0%	0.0%
NXP - W William Cannon	0.7%	0.5%	0.6%	0.0%	0.0%	0.0%
Samsung	4.2%	3.6%	3.8%	0.0%	0.2%	0.2%
Novati	0.2%	0.1%	0.1%	0.0%	0.1%	0.1%
University of Texas	0.9%	0.8%	0.8%	0.0%	0.7%	0.7%
Wholesale						
Creedmore-Maha	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%
High Valley	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Manor, City of	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mid Tex Utilities	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%
Marsha Water	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Morningside	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nighthawk	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
North Austin MUD	0.7%	1.0%	0.8%	0.0%	0.4%	0.4%
Northtown MUD	0.7%	0.7%	0.6%	0.0%	0.4%	0.4%
Rivercrest	0.3%	0.5%	0.3%	0.0%	0.1%	0.1%
Rollingwood	0.3%	0.6%	0.3%	0.0%	0.1%	0.1%
Shady Hollow	0.4%	1.0%	0.6%	0.0%	0.0%	0.0%
Sunset Valley MUD	0.3%	0.4%	0.3%	0.0%	0.2%	0.2%
Village of San Leanna	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Water District 10	1.8%	3.6%	2.3%	0.0%	0.2%	0.2%
Wells Branch MUD	1.0%	1.2%	1.0%	0.0%	0.2%	0.2%
Southwest Water	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total System	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 7.7: FY 2017 Retail Cost Pool Demand Parameter Percentages

Customer Class	Base Demand	Max Day Demand	Max Hour Demand	Equivalent Accounts	Equivalent Meters	Equivalent Fire Connections
Retail						
Residential	34.6%	37.4%	44.1%	81.4%	52.8%	52.8%
Multi-Family	24.5%	18.5%	18.3%	2.6%	16.3%	16.3%
Commercial	29.3%	32.9%	26.8%	7.9%	24.5%	24.5%
Residential CAP	3.5%	4.5%	3.6%	8.1%	5.3%	5.3%
Spansion	0.8%	0.5%	0.7%	0.0%	0.1%	0.1%
NXP - Ed Bluestein Blvd	1.1%	0.6%	0.9%	0.0%	0.0%	0.0%
NXP - W William Cannon	0.8%	0.6%	0.7%	0.0%	0.0%	0.0%
Samsung	4.4%	4.0%	4.0%	0.0%	0.2%	0.2%
Novati	0.2%	0.1%	0.1%	0.0%	0.1%	0.1%
University of Texas	0.9%	0.8%	0.8%	0.0%	0.7%	0.7%
Wholesale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Creedmore-Maha	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Valley	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Manor, City of	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mid Tex Utilities	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Marsha Water	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Morningside	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nighthawk	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
North Austin MUD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Northtown MUD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rivercrest	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rollingwood	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Shady Hollow	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunset Valley MUD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Village of San Leanna	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Water District 10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wells Branch MUD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Southwest Water	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total System	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

7.3 OVERVIEW OF THE COST ALLOCATION PROCESS

The process of allocating costs to water customer classes results in the determination of the test year revenue requirement from rates. **Table 7.8** summarizes this process.

Table 7.8: Determination of Customer Class Revenue Requirement

Allocated O&M Expenses		Allocated Other Costs		Allocated General Fund Transfer		Allocated Capital Costs		Total Allocated Costs
Test Year O&M Expenses		Test Year Other Costs		Test Year General Fund Transfer		Test Year Capital Costs		**Test Year Total Costs**
+/- Wholesale Adjustments		+/- Wholesale Adjustments		+/- Wholesale Adjustments		+/- Wholesale Adjustments		**+/- Total Wholesale Adjustments**
+ O&M Non-Rate Revenues		n/a		n/a		+ Capital Non-Rate Revenues		**+ Total Non-Rate Revenues**
Customer Class O&M Expense Revenue Requirement	+	Customer Class Other Cost Revenue Requirement	+	Customer Class General Fund Transfer Revenue Requirement	+	Customer Class Capital Cost Revenue Requirement	=	**Total Customer Class Cost Revenue Requirement**

Table 7.9 summarizes the steps in cost allocation process used in the new AW water cost of service model developed by the Raftelis Team. Each of these steps is completed in order to determine the customer class revenue requirement for O&M Expenses, Other Costs, General Fund Transfers, and Capital Costs. Unless otherwise noted in the subsequent discussion, the cost allocation process is similar to that used in AW's existing water cost of service model. Section 7.4 of this report provides a comprehensive example of the allocation of O&M expenses to customer classes.

Table 7.9: Steps in the Water Cost Allocation Process

Steps in the Water Cost Allocation Process (Applicable to All Revenue Requirement Components)				
Step #1: Functionalize Costs • Raw Water • Treatment • Pumping • Storage • Transmission • Distribution • Meters • Customer Service • Small Calls	**Step #2: Assign Functionalized Costs to Cost Pools** • Joint • Retail Only • Wholesale Only • Watershed Land Purchases • Lower Colorado River Authority Water Rights • Reserve Fund	**Step #3: Allocate the Costs Assigned to Cost Pools to Demand Parameters** • Base Demand • Max Day Demand • Max Hour Demand • Equivalent Accounts • Equivalent Meters • Equivalent Fire Meters	**Step #4: Distribute Gross Customer Class Revenue Requirement** Functionalized Costs in Each Cost Pool X Customer Class Demand Parameter Percentage for Each Cost Pool	**Step #5: Determine the Net Customer Class Revenue Requirement *Before* Additional Adjustments (See Section 7.10 of Report)**

7.4 EXAMPLE OF THE COST ALLOCATION PROCESS: O&M EXPENSES

7.4.1 ALLOCATION OF O&M EXPENSES TO FUNCTION

To provide an example of the process of allocating costs to customer classes, this section of the report provides a comprehensive example of the process followed to allocate O&M expenses to customer classes.

Step #1 in the process of allocating costs to customer classes is to allocate the O&M expenses to functional categories. Each O&M expense included in the test year revenue requirement is allocated to specific functional categories based the type of operational activity the cost is incurred to provide. **Table 7.10** presents a summary of the functionalized FY 2017 test year O&M revenue requirement.

Table 7.10: O&M Expenses - Summary Allocation to Function

Functional Category	O&M Expense
Raw Water	$2,038,490
Treatment Average Day	41,636,702
Treatment Facilities	6,853,492
Pump Stations & Booster Stations	7,046,858
Pump Stations Power	2,939,251
Tanks/ Reservoirs	782,984
Transmission Mains	12,875,088
Distribution Mains	24,444,008
Direct Fire	2,185,332
Retail Meters & Services	3,332,266
Meters & Services	4,711,268
Watershed Land Purchases	0
LCRA Water Rights	0
Customer Service	20,595,331
Small Calls	1,941,258
Total O&M Expenses	$131,382,329

7.4.2 ASSIGNMENT OF O&M EXPENSES TO COST POOLS

Step #2 in the process of allocating costs to customer classes is to assign functionalized O&M expenses to cost pools based on which functions serve each cost pool. **Table 7.11** presents the cost pool assignments of the functionalized FY 2017 test year O&M revenue requirement.

Table 7.11: O&M Expenses - Cost Pool Assignments

Functional Category	Joint	Retail Only	Wholesale Only	Watershed Land Purchases	LCRA	Reserve Fund	Total
Raw Water	$2,038,490	$0	$0	$0	$0	$0	$2,038,490
Treatment Average Day	41,636,702	0	0	0	0	0	41,636,702
Treatment Facilities	6,853,492	0	0	0	0	0	6,853,492
Pump Stations & Booster Stations	7,046,858	0	0	0	0	0	7,046,858
Pump Stations Power	2,939,251	0	0	0	0	0	2,939,251
Tanks/ Reservoirs	782,984	0	0	0	0	0	782,984
Transmission Mains	12,875,088	0	0	0	0	0	12,875,088
Distribution Mains	0	24,444,008	0	0	0	0	24,444,008
Direct Fire	0	2,185,332	0	0	0	0	2,185,332
Retail Meters & Services	0	3,332,266	0	0	0	0	3,332,266
Meters & Services	4,711,268	0	0	0	0	0	4,711,268
Watershed Land Purchases	0	0	0	0	0	0	0
LCRA Water Rights	0	0	0	0	0	0	0
Customer Service	20,595,331	0	0	0	0	0	20,595,331
Small Calls	1,941,258	0	0	0	0	0	1,941,258
Total O&M Expenses	$101,420,723	$29,961,606	$0	$0	$0	$0	$131,382,329

7.4.3 O&M EXPENSE COST POOL DEMAND PARAMETER ALLOCATIONS

Step #3 in the process of allocating costs to customer classes is to allocate functionalized O&M expenses in each cost pool to specific demand parameters based on the type(s) of demands they are used to serve. **Table 7.12** presents the summation of the allocation of O&M expenses to the demand parameters across all cost pools.

Table 7.12: O&M Expenses - Allocation to Demand Parameters

Functional Categories	Sum of Base Allocations Across All Cost Pools	Sum of Max Day Allocations Across All Cost Pools	Sum of Max Hour Allocations Across All Cost Pools	Sum of Customer Allocations Across All Cost Pools	Sum of Meter Allocations Across All Cost Pools	Sum of Fire Allocations Across All Cost Pools	Total
Raw Water	$2,038,490	$0	$0	$0	$0	$0	$2,038,490
Treatment Facilities	4,595,855	2,257,637	0	0	0	0	6,853,492
Chemicals & Power	46,517,211	0	0	0	0	0	46,517,211
Pump & Booster Stations	7,046,858	0	0	0	0	0	7,046,858
Tanks/ Reservoirs	525,058	257,926	0	0	0	0	782,984
Transmission Mains	8,633,853	4,241,236	0	0	0	0	12,875,088
Distribution Mains	11,005,176	5,191,358	6,813,225	0	0	1,434,248	24,444,008
Fire	0	0	0	0	0	2,185,332	2,185,332
Meters & Services	0	0	0	0	8,043,534	0	8,043,534
Customer Service	0	0	0	20,595,331	0	0	20,595,331
Total O&M Expenses	$80,362,502	$11,948,157	$6,813,225	$20,595,331	$8,043,534	$3,619,580	$131,382,329

7.4.4 CUSTOMER CLASS GROSS O&M EXPENSE REVENUE REQUIREMENT

Step #4 in the process of allocating costs to customer classes is determine the gross O&M expenses allocated to each customer class *before* the consideration of wholesale adjustments and non-rate revenues. This is accomplished using the following formula:

Summation of:	*Functionalized Costs in Each Cost Pool*	*x*	*Customer Class Demand Parameter Percentages for Each Cost Pool*	=	*Gross Customer Class Revenue Requirement before Wholesale Adjustments and Non-Rate Revenue Offsets*

For example, all base load demand costs are associated with the joint cost pool. Further, $80,362,502 in base demand costs have been allocated across all cost pools (see **Table 7.12**). The single family residential customer proportionate share of base demand units of service is 32.6% (see **Table 7.6**). Thus, as shown in **Table 7.13**, the amount of base costs included in the revenue requirement for single family residential customers is $26,399,715 ($80,362,504 X 32.6%).

Table 7.13 presents the gross O&M expense revenue requirement for each customer class *before* the consideration of wholesale adjustments and non-rate revenue offsets.

Table 7.13: Customer Class Gross O&M Expense Revenue Requirement

Customer Class	Base Demand	Max-Day Demand	Max-Hour Demand	Customer	Meter	Fire	Total
Retail							
Residential	$26,399,715	$4,228,129	$3,005,417	$16,758,789	$4,203,650	$1,911,398	$56,507,098
Multi-Family	18,721,435	2,086,538	1,244,828	540,874	1,295,839	589,217	24,478,731
Commercial	22,350,777	3,722,144	1,826,862	1,622,335	1,954,014	888,489	32,364,620
Residential CAP	2,634,854	509,778	241,983	1,666,339	417,972	190,052	5,660,977
Spansion	600,490	60,303	45,172	182	8,552	3,889	718,587
NXP - Ed Bluestein Blvd	861,517	68,851	61,520	91	3,311	1,505	996,795
NXP - W William Cannon	604,574	67,318	46,648	91	3,311	1,505	723,446
Samsung	3,368,103	454,963	273,981	273	15,725	7,150	4,120,195
Novati	133,574	13,044	9,983	91	5,242	2,383	164,317
University of Texas	696,225	95,304	56,832	1,726	52,762	23,991	926,840
Total Retail	76,371,263	11,306,371	6,813,225	20,590,789	7,960,377	3,619,580	126,661,606
Wholesale							
Creedmore-Maha	131,472	11,953	0	273	642	0	144,339
High Valley	11,104	980	0	91	80	0	12,255
Manor, City of	20	49	0	91	281	0	441
Mid Tex Utilities	37,415	12,274	0	91	1,925	0	51,705
Marsha Water	20,061	1,467	0	91	80	0	21,699
Morningside	3,224	285	0	91	80	0	3,680
Nighthawk	21,056	5,380	0	91	281	0	26,807
North Austin MUD	499,808	70,927	0	636	19,287	0	590,658
Northtown MUD	473,272	44,852	0	636	17,964	0	536,724
Rivercrest	191,459	32,654	0	182	6,095	0	230,389
Rollingwood	187,676	37,832	0	273	3,007	0	228,788
Shady Hollow	260,228	68,905	0	182	2,005	0	331,320
Sunset Valley MUD	179,238	29,538	0	636	10,999	0	220,411
Village of San Leanna	7,751	378	0	91	281	0	8,500
Water District 10	1,240,188	243,635	0	363	9,062	0	1,493,248
Wells Branch MUD	719,077	80,174	0	636	10,085	0	809,971
Southwest Water	8,189	506	0	91	1,002	0	9,788
Total Wholesale	3,991,239	641,786	0	4,542	83,157	0	4,720,723
Total O&M Expenses	80,362,502	11,948,157	6,813,225	20,595,331	8,043,534	3,619,580	131,382,329

7.4.5 CUSTOMER CLASS NET O&M EXPENSE REVENUE REQUIRMENT

Step #5 and final step in the process of allocating costs to customer classes is determine the net O&M expenses allocated to each customer class *after* the consideration of wholesale adjustments and non-rate revenues. **Table 7.14** presents the allocation of O&M expenses to each customer class *after* the consideration of wholesale adjustments and non-rate revenue offsets.

Table 7.14: Customer Class Net O&M Expense Revenue Requirement

Customer Class	Total Gross O&M Revenue Requirement	Wholesale Adjustments Reallocated to Retail	Other Cost Non-Rate Revenue Offset	Net Other Cost Revenue Requirement
Retail				
Residential	$56,507,098	$48,378	($1,523,691)	$55,031,784
Multi-Family	24,478,731	33,249	(265,211)	24,246,769
Commercial	32,364,620	40,503	(434,549)	31,970,574
Residential CAP	5,660,977	4,880	(151,038)	5,514,819
Spansion	718,587	1,058	(4,722)	714,924
NXP - Ed Bluestein Blvd	996,795	1,507	(5,622)	992,679
NXP - W William Cannon	723,446	1,069	(4,413)	720,102
Samsung	4,120,195	6,003	(25,914)	4,100,284
Novati	164,317	236	(1,340)	163,213
University of Texas	926,840	1,247	(9,830)	918,257
Total Retail	126,661,606	138,130	(2,426,331)	124,373,405
Wholesale				
Creedmore-Maha	144,339	(4,447)	(1,598)	138,294
High Valley	12,255	(384)	(139)	11,731
Manor, City of	441	(16)	(5)	420
Mid Tex Utilities	51,705	(1,379)	(451)	49,875
Marsha Water	21,699	(681)	(247)	20,771
Morningside	3,680	(121)	(44)	3,516
Nighthawk	26,807	(757)	(258)	25,792
North Austin MUD	590,658	(17,300)	(6,008)	567,350
Northtown MUD	536,724	(16,148)	(5,691)	514,884
Rivercrest	230,389	(6,663)	(2,301)	221,425
Rollingwood	228,788	(6,574)	(2,269)	219,945
Shady Hollow	331,320	(9,240)	(3,142)	318,938
Sunset Valley MUD	220,411	(6,344)	(2,166)	211,901
Village of San Leanna	8,500	(271)	(98)	8,132
Water District 10	1,493,248	(43,072)	(14,945)	1,435,231
Wells Branch MUD	809,971	(24,437)	(8,675)	776,859
Southwest Water	9,788	(294)	(101)	9,393
Total Wholesale	4,720,723	(138,130)	(48,137)	4,534,456
Total O&M Expenses	$131,382,329	$0	($2,474,468)	$128,907,861

7.5 KEY DIFFERENCES IN THE WATER COST OF SERVICE MODELS

There are two important things to note about the results of the O&M expense cost allocation shown **Table 7.14**. First, as noted previously in this report, the existing AW water and wastewater cost of service models do not transparently reflect wholesale adjustments. Thus, the treatment of wholesale adjustments shown in **Table 7.14** differs significantly from that used in AW's existing water cost of service model. This is true for both O&M expense wholesale adjustments and the capital cost wholesale adjustments.

Second, in order to more accurately assign non-rate revenues to functions, the non-rate revenue adjustments shown in **Table 7.14** have been allocated to functional categories based on a line item review of each non-rate revenue item. In the current AW water cost of service model, non-rate revenues are allocated to function based on the percentage outcomes of the gross O&M expense allocation process (i.e., they mimic the functional allocation of gross O&M expenses.)

7.6 CUSTOMER CLASS OTHER COST REVENUE REQUIREMENT

Due to space limitations, the process of allocating Other Costs to customer classes is not shown in detail. As noted previously, Other Costs consist of: 1) Watershed Land Purchases which represent the annual debt service payments for AW's purchase of land to protect the watersheds that drain into its raw water supply; 2) Lower Colorado River Authority (LCRA) Water Rights which represents the annual debt service payments for AW's purchase of additional LCRA water rights to enhance its water supply portfolio; and, 3) a transfer to the special reserve fund used by AW to maintain the adequacy of its water utility operational cash reserves. Due to concerns regarding the benefit received by wholesale customers from AW's watershed land purchases, these costs are not allocated to wholesale customers in the existing AW water cost of service model or the new AW water cost of service model developed by the Raftelis Team. **Table 7.15** presents the allocation of Other Costs to customer classes. Note that there are no wholesale adjustments or non-rate revenue offsets associated with the Other Cost revenue requirement.

Table 7.15: Customer Class Net Other Cost Revenue Requirement

Customer Class	Total Gross Other Cost Revenue Requirement	Wholesale Adjustments Reallocated to Retail	Other Cost Non-Rate Revenue Offset	Net Other Cost Revenue Requirement
Retail				
Residential	$4,730,874	$0	$0	$0
Multi-Family	2,694,130	0	0	0
Commercial	3,649,539	0	0	0
Residential CAP	252,792	0	0	0
Spansion	87,431	0	0	0
NXP - Ed Bluestein Blvd	111,080	0	0	0
NXP - W William Cannon	79,770	0	0	0
Samsung	453,939	0	0	0
Novati	18,330	0	0	0
University of Texas	121,967	0	0	0
Total Retail	12,199,851	0	0	0
Wholesale				
Creedmore-Maha	15,562	0	0	0
High Valley	1,313	0	0	0
Manor, City of	0	0	0	0
Mid Tex Utilities	4,574	0	0	0
Marsha Water	2,412	0	0	0
Morningside	484	0	0	0
Nighthawk	2,467	0	0	0
North Austin MUD	54,674	0	0	0
Northtown MUD	47,700	0	0	0
Rivercrest	26,833	0	0	0
Rollingwood	28,004	0	0	0
Shady Hollow	38,159	0	0	0
Sunset Valley MUD	23,122	0	0	0
Village of San Leanna	1,008	0	0	0
Water District 10	138,263	0	0	0
Wells Branch MUD	73,404	0	0	0
Southwest Water	1,418	0	0	0
Total Wholesale	459,398	0	0	0
Total Other Costs	$12,659,249	$0	$0	$0

7.7 CUSTOMER CLASS GENERAL FUND TRANSFER REVENUE REQUIREMENT

As noted previously, the annual test year revenue requirement for AW's water and wastewater utilities includes a transfer to the City of Austin's General Fund. The rates paid by all water and wastewater utility customers, both retail and wholesale, contribute to the payment of the General Fund transfer which is currently set 8.2% of the three-year average of AW's total revenue AW's retail rate revenue. Within the water and wastewater cost of service models, the General Fund Transfer is referred to as a revenue allocated cost because the amount of the transfer included in the cost of service for each customer class is based on their proportionate contribution to overall system revenue revenues. The test year FY 2017 water utility revenue requirement includes a General Fund transfer of $22,587,681. **Table 7.16** presents the allocation of General Fund Transfers to customer classes. Note that there are no wholesale adjustments or non-rate revenue offsets associated with the General Fund Transfer revenue requirement.

Table 7.16: Net General Fund Transfer Revenue Requirement

Customer Class	Total Gross General Fund Transfer Revenue Requirement	Wholesale Adjustments Reallocated to Retail	General Fund Transfer Non-Rate Revenue Offset	Net General Fund Transfer Revenue Requirement
Retail				
Residential	$8,441,217	$0	$0	$0
Multi-Family	4,807,090	0	0	0
Commercial	6,511,809	0	0	0
Residential CAP	451,052	0	0	0
Spansion	156,001	0	0	0
NXP - Ed Bluestein Blvd	198,197	0	0	0
NXP - W William Cannon	142,332	0	0	0
Samsung	809,956	0	0	0
Novati	32,707	0	0	0
University of Texas	217,624	0	0	0
Total Retail	21,767,985	0	0	0
Wholesale				
Creedmore-Maha	27,767	0	0	0
High Valley	2,343	0	0	0
Manor, City of	0	0	0	0
Mid Tex Utilities	8,161	0	0	0
Marsha Water	4,304	0	0	0
Morningside	863	0	0	0
Nighthawk	4,401	0	0	0
North Austin MUD	97,553	0	0	0
Northtown MUD	85,111	0	0	0
Rivercrest	47,878	0	0	0
Rollingwood	49,968	0	0	0
Shady Hollow	68,086	0	0	0
Sunset Valley MUD	41,255	0	0	0
Village of San Leanna	1,799	0	0	0
Water District 10	246,700	0	0	0
Wells Branch MUD	130,974	0	0	0
Southwest Water	2,531	0	0	0
Total Wholesale	819,696	0	0	0
Total General Fund Transfers	$22,587,681	$0	$0	$0

7.8 CUSTOMER CLASS NET CAPITAL COST REVENUE REQUIREMENT

Table 7.17 presents the allocation of capital costs to each customer class *after* the consideration of wholesale adjustments and non-rate revenue offsets. It is important to note that the capital cost non-rate revenue offsets shown in **Table 7.17** have been allocated to functions based on the overall functional allocation percentages for AW's water utility assets. This method, which provides an accurate assignment of capital cost related non-rate revenues to functions, is also used in AW's existing water cost of service model. However, it differs from the process used to allocate O&M expense non-rate revenue offsets in the new AW water cost of service model developed by the Raftelis Team (see the discussion in Section 7.5 of this report).

Table 7.17: Customer Class Net Capital Cost Revenue Requirement

Customer Class	Total Gross Capital Cost Revenue Requirement	Wholesale Adjustments Reallocated to Retail	Capital Cost Non-Rate Revenue Offset	Net Capital Cost Revenue Requirement
Retail				
Residential	$45,278,213	$0	($1,444,637)	$43,833,576
Multi-Family	27,486,307	0	(865,719)	26,620,589
Commercial	37,176,867	0	(1,172,416)	36,004,451
Residential CAP	4,741,282	0	(150,852)	4,590,430
Spansion	845,175	0	(26,396)	818,779
NXP - Ed Bluestein Blvd	1,149,413	0	(35,841)	1,113,572
NXP - W William Cannon	869,153	0	(27,100)	842,053
Samsung	5,100,523	0	(158,969)	4,941,554
Novati	188,858	0	(5,924)	182,933
University of Texas	1,088,926	0	(34,323)	1,054,603
Total Retail	123,924,716	0	(3,922,177)	120,002,538
Wholesale				
Creedmore-Maha	198,556	0	(6,066)	192,491
High Valley	16,630	0	(508)	16,122
Manor, City of	379	0	(15)	364
Mid Tex Utilities	101,723	0	(3,121)	98,602
Marsha Water	28,499	0	(871)	27,628
Morningside	4,854	0	(149)	4,705
Nighthawk	49,260	0	(1,504)	47,756
North Austin MUD	889,452	0	(27,366)	862,086
Northtown MUD	730,169	0	(22,509)	707,660
Rivercrest	367,722	0	(11,285)	356,436
Rollingwood	388,488	0	(11,874)	376,614
Shady Hollow	620,336	0	(18,913)	601,423
Sunset Valley MUD	341,185	0	(10,542)	330,644
Village of San Leanna	10,164	0	(314)	9,850
Water District 10	2,530,938	0	(77,221)	2,453,717
Wells Branch MUD	1,162,873	0	(35,595)	1,127,277
Southwest Water	11,554	0	(366)	11,188
Total Wholesale	7,452,781	0	(228,220)	7,224,561
Total Capital Costs	$131,377,497	$0	($4,150,397)	$127,227,099

7.9 TOTAL NET WATER CUSTOMER CLASS REVENUE REQUIREMENT BEFORE ADJUSTMENT

The test year FY 2017 net water customer class revenue requirement *before* the consideration of any additional adjustments (see Section 7.10) is calculated by summing the customer class revenue requirements for: O&M expenses, Other Costs, General Fund Transfers, and Capital Costs. **Table 7.18** presents the final net water customer class revenue requirement.

Table 7.18: Customer Class Net Revenue Requirement Before Additional Adjustments

Customer Class	Total Gross Revenue Requirement	Wholesale Adjustments Reallocated to Retail	Total Non-Rate Revenue Offset	Total Net Revenue Requirement
Retail				
Residential	$114,957,401	$48,378	($2,968,328)	$112,037,451
Multi-Family	59,466,259	33,249	(1,130,930)	58,368,578
Commercial	79,702,834	40,503	(1,606,965)	78,136,372
Residential CAP	11,106,104	4,880	(301,891)	10,809,093
Spansion	1,807,194	1,058	(31,118)	1,777,134
NXP - Ed Bluestein Blvd	2,455,484	1,507	(41,463)	2,415,528
NXP - W William Cannon	1,814,701	1,069	(31,513)	1,784,257
Samsung	10,484,613	6,003	(184,883)	10,305,732
Novati	404,211	236	(7,264)	397,183
University of Texas	2,355,357	1,247	(44,153)	2,312,451
Total Retail	284,554,157	138,130	(6,348,508)	278,343,779
Wholesale				
Creedmore-Maha	386,224	(4,447)	(7,664)	374,113
High Valley	32,541	(384)	(647)	31,510
Manor, City of	820	(16)	(20)	784
Mid Tex Utilities	166,163	(1,379)	(3,572)	161,212
Marsha Water	56,914	(681)	(1,117)	55,116
Morningside	9,880	(121)	(193)	9,567
Nighthawk	82,935	(757)	(1,762)	80,416
North Austin MUD	1,632,337	(17,300)	(33,374)	1,581,663
Northtown MUD	1,399,704	(16,148)	(28,200)	1,355,356
Rivercrest	672,822	(6,663)	(13,587)	652,572
Rollingwood	695,248	(6,574)	(14,143)	674,531
Shady Hollow	1,057,900	(9,240)	(22,055)	1,026,606
Sunset Valley MUD	625,973	(6,344)	(12,708)	606,922
Village of San Leanna	21,472	(271)	(412)	20,789
Water District 10	4,409,149	(43,072)	(92,167)	4,273,911
Wells Branch MUD	2,177,222	(24,437)	(44,271)	2,108,514
Southwest Water	25,291	(294)	(467)	24,530
Total Wholesale	13,452,598	(138,130)	(276,357)	13,038,111
Total Net Water Utility Revenue Requirement *before* Additional Adjustments	$298,006,755	$0	($6,624,865)	$291,381,890

7.10 TOTAL WATER CUSTOMER CLASS REVENUE REQUIREMENT AFTER ADDITIONAL ADJUSTMENTS

The test year FY 2017 net water customer class revenue requirement shown in **Table 7.18** must be adjusted for two additional items before finalizing the FY 2017 water customer class revenue requirements. The first item is the special reserve fund surcharge of $0.19 per thousand gallons imposed on all customer billed consumption (both retail and wholesale customers) that adds $7.12 million to the test year FY 2017 revenue requirement.

The second item is the $0.14 per thousand gallons CBC that will be used to help subsidize the water rates paid by single family residential retail customers enrolled in AW's Customer Assistance Program (CAP). This surcharge applies to all retail customers except single family residential CAP customers. This item does not result in an increase to the test year FY 2017 revenue requirement. Instead, it results in a $5,023,465 reduction in the revenue requirement for single family residential CAP customers and an offsetting increase in the revenue requirement for other retail customers.

Both items are discussed in more detail in Section 8.3 of this report. **Table 7.19** presents the final water customer class revenue requirement after making these two adjustments.

Table 7.19: Final Post-Adjustment Customer Class Revenue Requirement

Customer Class	Total Net Revenue Requirement	Adjustment for Reserve Fund Surcharge	Adjustment for Community Benefit Charge	Final Customer Class Cost of Service
Retail				
Residential	$112,037,451	$2,440,880	$1,798,542	$116,276,873
Multi-Family	58,368,578	1,730,956	1,275,440	61,374,974
Commercial	78,136,372	2,066,520	1,522,701	81,725,593
Residential CAP	10,809,093	243,614	(5,023,465)	6,029,242
Spansion	1,777,134	55,521	40,910	1,873,565
NXP - Ed Bluestein Blvd	2,415,528	79,657	58,693	2,553,878
NXP - W William Cannon	1,784,257	55,898	41,188	1,881,343
Samsung	10,305,732	311,410	229,460	10,846,602
Novati	397,183	12,350	9,099	418,632
University of Texas	2,312,451	64,372	47,432	2,424,255
Total Retail	278,343,779	7,061,178	0	285,404,957
Wholesale				
Creedmore-Maha	374,113	7,704	0	381,817
High Valley	31,510	653	0	32,163
Manor, City of	784	0	0	784
Mid Tex Utilities	161,212	2,196	0	163,408
Marsha Water	55,116	1,175	0	56,291
Morningside	9,567	190	0	9,757
Nighthawk	80,416	1,235	0	81,651
North Austin MUD	1,581,663	0	0	1,581,663
Northtown MUD	1,355,356	0	0	1,355,356
Rivercrest	652,572	11,221	0	663,793
Rollingwood	674,531	10,999	0	685,530
Shady Hollow	1,026,606	15,252	0	1,041,858
Sunset Valley MUD	606,922	10,506	0	617,428
Village of San Leanna	20,789	456	0	21,245
Water District 10	4,273,911	0	0	4,273,911
Wells Branch MUD	2,108,514	0	0	2,108,514
Southwest Water	24,530	480	0	25,010
Total Wholesale	13,038,111	62,067	0	13,100,178
Total Water Utility Revenue Requirement *after* Additional Adjustments	$291,381,890	$7,123,245	$0	$298,505,135

7.11 COMPARISON OF EXISTING AND NEW WATER COST OF SERVICE MODELS

Table 7.20 presents a comparison of the test year FY 2017 customer class cost of service calculated in the existing AW water cost of service model and the new water cost of service model developed by the Raftelis Team.

Table 7.20: Comparison of Water Cost of Service Models

Customer Class	Customer Class Cost of Service in Existing Cost of Service Model	Customer Class Cost of Service in New Cost of Service Model	Dollar Variance	Percentage Variance
Retail				
Residential	$115,622,785	$116,276,873	$654,088	0.6%
Multi-Family	61,577,212	61,374,974	(202,238)	-0.3%
Commercial	81,732,841	81,725,593	(7,247)	0.0%
Residential CAP	6,736,309	6,029,242	(707,066)	-11.7%
Spansion	1,867,455	1,873,565	6,110	0.3%
NXP - Ed Bluestein Blvd	2,500,224	2,553,878	53,654	2.1%
NXP - W William Cannon	1,917,286	1,881,343	(35,943)	-1.9%
Samsung	10,772,330	10,846,602	74,272	0.7%
Novati	418,994	418,632	(362)	-0.1%
University of Texas	2,429,072	2,424,255	(4,817)	-0.2%
Total Retail	285,574,508	285,404,957	(169,551)	-0.1%
Wholesale				
Creedmore-Maha	392,036	381,817	(10,219)	-2.7%
High Valley	36,455	32,163	(4,292)	-13.3%
Manor, City of	780	784	4	0.5%
Mid Tex Utilities	151,138	163,408	12,270	7.5%
Marsha Water	66,613	56,291	(10,322)	-18.3%
Morningside	12,252	9,757	(2,495)	-25.6%
Nighthawk	66,369	81,651	15,282	18.7%
North Austin MUD	1,587,954	1,581,663	(6,291)	-0.4%
Northtown MUD	1,317,778	1,355,356	37,577	2.8%
Rivercrest	661,544	663,793	2,250	0.3%
Rollingwood	680,314	685,530	5,216	0.8%
Shady Hollow	1,047,844	1,041,858	(5,987)	-0.6%
Sunset Valley MUD	569,208	617,428	48,220	7.8%
Village of San Leanna	21,848	21,245	(602)	-2.8%
Water District 10	4,183,574	4,273,911	90,337	2.1%
Wells Branch MUD	2,107,515	2,108,514	998	0.0%
Southwest Water	27,405	25,010	(2,395)	-9.6%
Total Wholesale	12,930,627	13,100,178	169,551	1.3%
Total Water Utility Revenue Requirement	$298,505,135	$298,505,135	($0)	0.0%

8. WATER COST OF SERVICE RATES

8.1 WATER RATE DESIGN INTRODUCTION

Once the customer class cost responsibility is determined, the next step is to design customer rate schedules to recover the revenues required from each customer class, which is the focus of discussion in this section. The rate design analysis will illustrate how revenues are to be collected within each class by updating, or in certain cases adapting the current rate structure to more accurately satisfy AW's objectives.

8.2 WATER USER CHARGES DISCLAIMER

As previously mentioned in Section 2.4, this study did not result in a schedule of water rates that were to be considered by City Council for approval. Instead, the primary objective of the study was to refine the current cost of service methodology and then work that methodology into a new model to be used for future annual updates.

The rates shown within this section are provided for demonstrative purposes only; they are what the FY 2017 rates would have been if the new water cost of service model and refined cost of service methodologies developed by the Raftelis Team were used rather than AW's "Existing" model and methodology. Additionally, the rates presented below as "New Model Rates" represent full cost of service rates by class as determined in Section 7.

8.3 WATER VOLUMETRIC SURCHARGES

In addition to the user charges that will be presented below by customer class, AW uses surcharges to fund special initiatives.

8.3.1 RESERVE FUND SURCHARGE

An initiative of the Joint Committee in 2012 and 2013 was to establish a reserve fund for water service that could be used in times of significant fluctuations in revenues resulting from changes in customer demand from drought and/or other reasons. This reserve fund can only be used with City Council authorization. The target "fund balance" for the Reserve Fund Surcharge (RFS) is 120 days of annual O&M expenses, and is assessed to all customer classes. For retail classes, the FY 2017 uniform RFS is $0.19 per thousand gallons. For wholesale customers, the RFS is $0.10 per thousand gallons. For wholesale customer petitioners[2], the RFS is waived until further notice, but it is the intent of AW to re-introduce the RFS for the petitioners.

[2] The four wholesale customers, known as "the petitioners" are North Austin MUD, Northtown MUD, Water District 10, and Wells Branch MUD.

In the water rate schedules provided in this section, the RFS is included in both the 2017 Approved Rates and the New Model Rates at $0.19 and $0.10 per thousand gallons for retail and wholesale customers, respectively.

8.3.2 COMMUNITY BENEFIT CHARGE

AW currently provides discounts to customers challenged in paying their utility bills through a customer assistance program (CAP). CAP customers have discounts that cover their water and wastewater fixed charges and discounted water volumetric rates. AW is seeking to implement a CBC that will be a uniform volumetric rate applied to all retail billed water and wastewater volume as a per thousand gallons rate. This will provide greater transparency in AW's charges; the revenue collected from the CBC will be used exclusively for CAP customers and other affordability initiatives. For this version of the model, the CBC is set at $0.14 per thousand gallons, but may change prior to City Council review based on continued calculations of the revenue needed from the CBC.

In the water rate schedules provided in this section, the CBC is included in the New Model Rates retail customers.

8.4 RESIDENTIAL WATER RATES

Residential customers are assessed user charges that are a combination of fixed fees/charges and volumetric or usage based rates.

8.4.1 RESIDENTIAL WATER FIXED CHARGE

For its residential customers, AW currently has in place two forms of fixed user charges. One, a more traditional fixed charge, is based on the size of the customer's water meter while the other is a fixed charged that varies by usage within defined tiers; a tiered structure based on each customer's level of monthly consumption. The volumetric thresholds for this second fixed charge align with the thresholds for the volumetric rates shown in the next section.

In developing the fixed charge by meter size Raftelis used different meter equivalency ratios than those historically used by AW. Meter equivalency ratios are introduced in Section 7 and are used for both cost allocation and development of meter charges.

The tiered fixed charges are the result of AW including additional fixed charges to achieve a level of revenue for fixed revenue recovery. This target level varies by customer class and is being phased in over time to meet overall utility fixed revenue recovery goals. For the 2017 analysis, the target for residential water fixed charges was 29.4%. The tiered fixed charges were held constant in this analysis

Table 8.1 presents the 2017 approved and new model fixed charges.

Table 8.1: Residential Water Fixed User Charges

2017 Approved Fixed Charges

Meter Charge	
Meter Size	**Fixed Charge**
5/8"	$7.10
3/4"	$13.00
1"	$15.00
1 1/2"	$26.00
2"	$42.00
3"	$71.00
4"	$136.00
6"	$275.00
8"	$916.00
10"	$1,106.00
12"	$1,336.00

Five-Tier Additional Fixed Charge	
Tiers (Gallons)	**Charge**
0-2,000	$1.25
2,001-6,000	$3.55
6,001-11,000	$9.25
11,001-20,000	$29.75
20,001 & over	$29.75

New Model Fixed Charges (Full COS)

Meter Charge	
Meter Size	**Fixed Charge**
5/8"	$7.50
3/4"	$13.00
1"	$16.00
1 1/2"	$18.20
2"	$29.50
3"	$85.70
4"	$141.90
6"	$288.00
8"	$546.70
10"	$861.40
12"	$1,131.40

Five-Tier Additional Fixed Charge	
Tiers (Gallons)	**Charge**
0-2,000	$1.25
2,001-6,000	$3.55
6,001-11,000	$9.25
11,001-20,000	$29.75
20,001 & over	$29.75

8.4.2 RESIDENTIAL WATER VOLUMETRIC USER RATE

Residential water volumetric rates recover the remaining residential revenue requirements. For purposes of this study, the current five tier rate structure is retained and will not be changed. However, the rates have been updated to reflect full cost of service and the current 'steepness' of rates between tiers has been retained. **Table 8.2** provides the approved and revised volumetric rates. Additionally, the aforementioned RFS and CBC surcharges are also shown. The CAP rates apply only to qualifying retail residential customers.

Table 8.2: Residential Water Volumetric User Rates

2017 Approved Rates

Tiers (Gallons)	Non-CAP	CAP
0-2,000	$3.18	$2.50
2,001-6,000	$5.05	$4.13
6,001-11,000	$8.56	$6.74
11,001-20,000	$12.92	$11.58
20,001 & over	$14.43	$14.43
Reserve Fund Surcharge	$0.19	$0.19
Community Benefit Charge	n/a	n/a

New Model Rates (Full COS)

Tiers (Gallons)	Non-CAP	CAP
0-2,000	$3.20	$2.21
2,001-6,000	$5.08	$3.64
6,001-11,000	$8.61	$5.95
11,001-20,000	$13.00	$10.22
20,001 & over	$14.52	$12.73
Reserve Fund Surcharge	$0.19	$0.19
Community Benefit Charge	$0.14	$0.00

Overall, the fixed charges and variable rates result in a total residential revenue recovery of $116.3 million, which aligns with the class's cost of service identified in Section 7.10.

8.5 MULTI-FAMILY RATES

Multi-Family customers are master metered accounts that serve more than one unit per account. Multi-Family customers are assessed user charges that are a combination of fixed fees/charges and volumetrically or usage based rates.

8.5.1 MULTI-FAMILY WATER FIXED CHARGE

For its multi-family customers AW currently has in place two forms of fixed user charges, both developed based on the Multi-Family customer's size of water meter. **Table 8.3** presents the 2017 approved and new model fixed charges. The first 'meter charge' is consistent with the meter charge assessed to residential customers. The second 'additional fixed' charge is set to recover the target level of fixed revenue recovery (introduced in the previous subsection for residential customers). For the multi-family class analysis, the target was 20.3% for FY 2017. Both sets of fixed charges for multi-family are based on the revised set of meter equivalency ratios discussed in Section 7.

Table 8.3: Multi-Family Water Fixed User Charges

2017 Approved Fixed Charges				New Model Fixed Charges (Full COS)			
Meter Size	Meter Charge	Additional Fixed	Total Fixed Charge	Meter Size	Meter Charge	Additional Fixed	Total Fixed Charge
5/8"	$7.10	$17.25	$24.35	5/8"	$7.50	$12.00	$19.50
3/4"	$13.00	$26.00	$39.00	3/4"	$13.00	$20.00	$33.00
1"	$15.00	$43.00	$58.00	1"	$16.00	$32.00	$48.00
1 1/2"	$26.00	$86.00	$112.00	1 1/2"	$18.20	$40.00	$58.20
2"	$42.00	$138.00	$180.00	2"	$29.50	$80.00	$109.50
3"	$71.00	$276.00	$347.00	3"	$85.70	$280.00	$365.70
4"	$136.00	$431.00	$567.00	4"	$141.90	$480.00	$621.90
6"	$275.00	$863.00	$1,138.00	6"	$288.00	$1,000.00	$1,288.00
8"	$916.00	$1,380.00	$2,296.00	8"	$546.70	$1,920.00	$2,466.70
10"	$1,106.00	$1,984.00	$3,090.00	10"	$861.40	$3,040.00	$3,901.40
12"	$1,336.00	$2,933.00	$4,269.00	12"	$1,131.40	$4,000.00	$5,131.40

8.5.2 MULTI-FAMILY WATER VOLUMETRIC USER RATE

Multi-Family water volumetric user rates are not designed as a tiered structure as with the residential rates. Instead, multi-family volumetric rates are uniform rates based on a per thousand gallons billed. However, to reflect different consumption patterns throughout the year, multi-family customers are assessed two different uniform rates, based on the time of year. AW implements an 'off peak' and 'peak' rate. The off-peak rate is applied to billed consumption from November to June, whereas the peak rate is applied to billed consumption from July to October. The off peak and peak rates and the RFS and CBC rates are presented in **Table 8.4**.

Table 8.4: Multi-Family Water Volumetric User Rates

2017 Approved Rates		New Model Rates (Full COS)	
Type of Rate	Rate	Meter Size	Rate
Off peak	$5.11	Off peak	$4.87
peak	$5.62	peak	$5.36
Reserve Fund Surcharge	$0.19	Reserve Fund Surcharge	$0.19
Community Benefit Charge	n/a	Community Benefit Charge	$0.14

The relationship between off peak and peak rates is 10%, such that the peak rate is 10% higher than the off-peak rate. This relationship still provides a conservation signal for usage during the peak months and is maintained in the updated rates.

8.6 COMMERCIAL RATES

Commercial customers are assessed user charges that are a combination of fixed fees/charges and volumetrically or usage based rates.

8.6.1 COMMERCIAL WATER FIXED CHARGE

For its commercial customers, AW currently has in place two fixed user charges in a similar approach as multi-family customers. Both fees are developed based on the customer's size of water meter and are based on the same meter equivalency ratios. **Table 8.5** presents the 2017 approved and new model fixed charges. The first 'meter charge' is consistent with the meter charge assessed to residential and multi-family customers. The second 'additional fixed' charge is set to recover the target level of fixed revenue recovery of 19.3% for FY 2017.

Table 8.5: Commercial Water Fixed User Charges

2017 Approved Fixed Charges				New Model Fixed Charges (Full COS)			
Meter Size	Meter Charge	Additional Fixed	Total Fixed Charge	Meter Size	Meter Charge	Additional Fixed	Total Fixed Charge
5/8"	$7.10	$10.80	$17.90	5/8"	$7.50	$9.25	$16.75
3/4"	$13.00	$16.00	$29.00	3/4"	$13.00	$15.00	$28.00
1"	$15.00	$27.00	$42.00	1"	$16.00	$25.00	$41.00
1 1/2"	$26.00	$54.00	$80.00	1 1/2"	$18.20	$31.00	$49.20
2"	$42.00	$86.00	$128.00	2"	$29.50	$62.00	$91.50
3"	$71.00	$173.00	$244.00	3"	$85.70	$216.00	$301.70
4"	$136.00	$270.00	$406.00	4"	$141.90	$370.00	$511.90
6"	$275.00	$540.00	$815.00	6"	$288.00	$771.00	$1,059.00
8"	$916.00	$864.00	$1,780.00	8"	$546.70	$1,480.00	$2,026.70
10"	$1,106.00	$1,242.00	$2,348.00	10"	$861.40	$2,343.00	$3,204.40
12"	$1,336.00	$1,836.00	$3,172.00	12"	$1,131.40	$3,083.00	$4,214.40

8.6.2 COMMERCIAL WATER VOLUMETRIC RATES

Again, like multi-family rates, commercial customers pay off peak and peak water volumetric user charges, which are uniform rates based on a per thousand gallons billed and time of year. The relationship of off-peak to peak rates (10%) has been maintained for the updated rates. The off-peak rate is applied to billed consumption from November to June, whereas the peak rate is applied to billed consumption from July to October. The off-peak and peak rates and the RFS and CBC rates are presented in **Table 8.6**.

Table 8.6: Commercial Water Volumetric User Rates

2017 Approved Rates		New Model Rates (Full COS)	
Type of Rate	**Rate**	**Meter Size**	**Rate**
Off peak	$5.97	Off peak	$5.49
peak	$6.57	peak	$6.03
Reserve Fund Surcharge	$0.19	Reserve Fund Surcharge	$0.19
Community Benefit Charge	n/a	Community Benefit Charge	$0.14

8.7 LARGE VOLUME CUSTOMER RATES

Large Volume customers are assessed user charges that are a combination of fixed fees/charges and volumetrically or usage based rates.

8.7.1 LARGE VOLUME WATER FIXED CHARGE

For its large volume customers AW currently has in place two types of fixed charges. The meter charge is the same base fee by the customer's meter size that the other retail customers are assessed, based on the same set of meter equivalency ratios to scale up the 5/8" meter charge to all meter sizes. The second fixed charge is a monthly fixed charge that is unique to the large volume customer. As discussed in the cost of service of large volume customers, each customer is actually accounted for as its own class. The second, or additional fixed charge, is set per large volume customer to achieve a target fixed revenue recovery of annual revenue of 14% from fixed fees. **Table 8.7** presents the water fixed user charges for the large volume customers.

Table 8.7: Large Volume Customers Water Fixed User Charges

2017 Approved Fixed Charges

Meter Size	Fixed Charge
5/8"	$7.10
3/4"	$13.00
1"	$15.00
1 1/2"	$26.00
2"	$42.00
3"	$71.00
4"	$136.00
6"	$275.00
8"	$916.00
10"	$1,106.00
12"	$1,336.00

Customer	Additional Fixed Charge
Spansion	$20,100.00
NXP - Ed Bluestein	$29,500.00
NXP - W William Cannon	$22,000.00
Samsung	$127,000.00
Novati	$3,900.00
University of Texas	$17,250.00

New Model Fixed Charges (Full COS)

Meter Size	Fixed Charge
5/8"	$7.50
3/4"	$13.00
1"	$16.00
1 1/2"	$18.20
2"	$29.50
3"	$85.70
4"	$141.90
6"	$288.00
8"	$546.70
10"	$861.40
12"	$1,131.40

Customer	Additional Fixed Charge
Spansion	$20,500.00
NXP - Ed Bluestein	$29,600.00
NXP - W William Cannon	$21,400.00
Samsung	$125,500.00
Novati	$4,200.00
University of Texas	$21,200.00

8.7.2 LARGE VOLUME WATER VOLUMETRIC RATES

Like multi-family and commercial rates, large volume customers pay uniform off peak and peak water volumetric user charges, based on a per thousand gallons billed and time of year. These rates are set to recover the remainder of the class revenue requirements. The relationship of off-peak to peak rates (10%) has been maintained for the updated rates. The off-peak rate is applied to billed consumption from November to June, whereas the peak rate is applied to billed consumption from July to October. The off-peak and peak rates and the RFS and CBC rates are presented in **Table 8.8**.

Table 8.8: Large Volume Customers Water Volumetric User Rates

2017 Approved Rates

Customer	Off Peak	Peak
Spansion	$5.44	$5.98
NXP - Ed Bluestein	$5.04	$5.55
NXP - W William Cannon	$5.58	$6.13
Samsung	$5.62	$6.18
Novati	$5.48	$6.03
University of Texas	$5.97	$6.57
Reserve Fund Surcharge		$0.19
Community Benefit Charge		n/a

New Model Rates (Full COS)

Customer	Off Peak	Peak
Spansion	$4.97	$5.47
NXP - Ed Bluestein	$4.72	$5.19
NXP - W William Cannon	$4.98	$5.48
Samsung	$5.18	$5.70
Novati	$4.97	$5.46
University of Texas	$5.51	$6.06
Reserve Fund Surcharge		$0.19
Community Benefit Charge		$0.14

8.8 WHOLESALE RATES

Like large volume customers, each wholesale customer is treated as a separate class, and is assessed a combination of fixed fees/charges and volumetric or usage based rates.

8.8.1 WHOLESALE WATER FIXED CHARGE

Like large volume customers, each wholesale customer is treated as a separate class. The first of two fixed charges is a monthly charge based on the size of the customer's meters. These meter charges differ slightly than those developed for retail customers. Wholesale customers also pay an additional fixed charge unique to the wholesale customer that achieves an 11% fixed revenue recovery by customer. **Table 8.9** presents the water fixed user charges for the wholesale customers.

It should be noted that several wholesale customers (the four petitioners) do not currently pay an additional fixed charge. This is the result of the PUCT ruling. AW intends to assess the additional fixed charge to all wholesale customers in the future as wholesale rates are adjusted.

Table 8.9: Wholesale Water Fixed User Charges

2017 Approved Fixed Charges

Meter Size	Fixed Charge
5/8"	$8.00
3/4"	$9.00
1"	$10.00
1 1/2"	$14.00
2"	$19.00
3"	$31.00
4"	$45.00
6"	$84.00
8"	$131.00
10"	$186.00
12"	$271.00

Customer	Additional Fixed Charge
Creedmore-Maha	$2,800.00
High Valley	$250.00
Manor, City of	$0.00
Mid Tex Utilities	$0.00
Marsha Water	$4.50
Morningside	$75.00
Nighthawk	$450.00
North Austin MUD	$0.00
Northtown MUD	$0.00
Rivercrest	$4,500.00
Rollingwood	$5,000.00
Shady Hollow	$7,500.00
Sunset Valley MUD	$4,000.00
Village of San Leanna	$200.00
Water District 10	$0.00
Wells Branch MUD	$0.00
Southwest Water	$0.00

New Model Fixed Charges (Full COS)

Meter Size	Fixed Charge
5/8"	$8.00
3/4"	$9.00
1"	$10.00
1 1/2"	$14.00
2"	$19.00
3"	$31.00
4"	$45.00
6"	$84.00
8"	$131.00
10"	$186.00
12"	$271.00

Customer	Additional Fixed Charge
Creedmore-Maha	$3,500.00
High Valley	$280.00
Manor, City of	$0.00
Mid Tex Utilities	$0.00
Marsha Water	$500.00
Morningside	$70.00
Nighthawk	$750.00
North Austin MUD	$13,000.00
Northtown MUD	$11,200.00
Rivercrest	$5,800.00
Rollingwood	$6,100.00
Shady Hollow	$9,500.00
Sunset Valley MUD	$4,900.00
Village of San Leanna	$160.00
Water District 10	$38,600.00
Wells Branch MUD	$18,400.00
Southwest Water	$0.00

8.8.2 WHOLESALE WATER VOLUMETRIC RATES

Like multi-family, commercial, and large volume, wholesale customers are assessed uniform rates on a per 1,000-gallons basis; however, wholesale rates do not incorporate seasonality, or the rate does not change throughout the year based on peak or off peak months. Instead, the unique rates stay the same, and are developed to recover the remainder of the wholesale revenue for each customer. Wholesale customers pay a lower RFS and will not be subject to the CBC surcharge. **Table 8.10** presents the approved and revised rates.

It should be noted here as well that all wholesale customers are assessed rates in FY 2017 that are below their cost of service. Due to the rate case litigation, some wholesale customers are assessed rates below those from 2012 while others are assessed rates that have been in place since 2015. In the "New Model Rates" schedule, the rates reflect full cost of service recovery, and in some cases, are materially higher than the current rates.

Table 8.10: Wholesale Water Volumetric User Rates

2017 Approved Rates		New Model Rates (Full COS)	
Customer	**Uniform Rate**	**Customer**	**Uniform Rate**
Creedmore-Maha	$3.89	Creedmore-Maha	$4.35
High Valley	$3.87	High Valley	$4.34
Manor, City of	$5.09	Manor, City of	$5.09
Mid Tex Utilities	$4.10	Mid Tex Utilities	$7.57
Marsha Water	$3.92	Marsha Water	$4.18
Morningside	$5.09	Morningside	$4.45
Nighthawk	$3.90	Nighthawk	$5.96
North Austin MUD	$3.71	North Austin MUD	$5.02
Northtown MUD	$3.57	Northtown MUD	$4.54
Rivercrest	$4.35	Rivercrest	$5.26
Rollingwood	$4.65	Rollingwood	$5.54
Shady Hollow	$4.45	Shady Hollow	$6.11
Sunset Valley MUD	$4.24	Sunset Valley MUD	$5.25
Village of San Leanna	$4.06	Village of San Leanna	$4.06
Water District 10	$3.97	Water District 10	$5.53
Wells Branch MUD	$3.46	Wells Branch MUD	$4.66
Southwest Water	$4.10	Southwest Water	$4.97
Reserve Fund Surcharge	$0.10	Reserve Fund Surcharge	$0.10
Community Benefit Charge	n/a	Community Benefit Charge	n/a

9. WASTEWATER REVENUE REQUIREMENTS

9.1 SUMMARY OF CASH BASIS REVENUE REQUIREMENTS

AW establishes the annual test year revenue requirement for its water and wastewater utilities using a cash basis revenue requirement methodology. The test year revenue requirement reflects the total amount of rate revenue that must be collected from AW ratepayers during the fiscal year. A summary of the test year FY 2017 wastewater utility revenue requirement is shown in **Table 9.1**. The wastewater utility revenue requirement is the same in both AW's current wastewater cost of service model and the new wastewater cost of service model developed by the Raftelis Team.

Table 9.1: Summary of FY 2017 Wastewater Utility Revenue Requirement

Revenue Requirement Component	Amount
Operations and Maintenance Expenses	$112,303,247
General Fund Transfers (Referred to as Revenue Allocated Costs in the Wastewater COS Model)	20,192,004
Capital Costs	
Debt Service (Debt Service Payments and Transfers to Defeasance)	99,055,347
Capital Improvement Program Funding (Transfers to Capital Funds and Capital Outlays)	29,802,536
Total Capital Cost Revenue Requirement	128,857,883
Total Wastewater Utility Gross Revenue Requirement from Rates	261,353,134
Less: Non-Rate Revenues	
Non-Rate Revenues Applicable to O&M Expenses	3,782,589
Non-Rate Revenues Applicable to Capital Costs	(13,951,260)
Total Non-Rate Revenues	(10,168,671)
Total Wastewater Utility Net Revenue Requirement from Rates	$271,521,805

9.2 OPERATIONS AND MAINTENANCE EXPENSES

AW determines the operating and maintenance expenses included in the test year revenue requirements for its water and wastewater utilities as part of its annual budgeting process. A summary of the O&M expenses included in the test year FY 2017 water utility revenue requirement is shown in **Table 9.2**.

Table 9.2: Summary of Test FY 2017 Wastewater O&M Expenses

Expense	Amount
Operating	
Treatment	$39,653,089
Pipeline	18,688,829
Engineering	6,952,209
Water Resources	4,559,967
Environmental Affairs	2,986,624
Support Services	12,833,279
One Stop Shop	472,875
Other Operating Expenses	14,314,283
Total Operations	100,461,155
Other Requirements	
Utility Customer Services Office - Austin Energy	7,547,142
Operating Transfers	1,250,039
Total Other Requirements	8,797,181
Miscellaneous Expenses	
Economic Development Fund	1,344,911
Reclaimed Utility Fund	1,700,000
Total Miscellaneous	3,044,911
Total Wastewater Operations & Maintenance Expenses	$112,303,247

9.3 GENERAL FUND TRANSFERS

The annual test year revenue requirement for AW's water and wastewater utilities includes a transfer to the City of Austin's General Fund. The rates paid by all water and wastewater utility customers, both retail and wholesale, contribute to the payment of the General Fund transfer which is currently set at 8.2% of the three-year average of AW's total revenue. Within the water and wastewater cost of service models, the General Fund Transfer is referred to as a revenue allocated cost because the amount of the transfer included in the cost of service for each customer class is based on their proportionate contribution to overall system revenue revenues. The test year FY 2017 wastewater utility revenue requirement includes a General Fund transfer of $20,192,004.

9.4 CAPITAL COSTS

The annual test year revenue requirement for AW's water and wastewater utilities includes capital costs for debt service and transfers to capital funds used to pay for capital improvement program expenditures. **Table 9.3** shows the capital costs included in the test year FY 2017 wastewater utility revenue requirement.

Table 9.3: Summary of the FY 2017 Wastewater Utility Capital Costs

Cost	Amount
Debt Service	
Debt Service Payments	$93,805,347
Transfer to Debt Defeasance	5,250,000
Total Debt Service	$99,055,347
Capital Improvement Program Funding	
Transfer to Wastewater Construction Fund/Capital Outlay	29,200,000
Capital Project Management Fund	602,536
Total Capital Improvement Program Funding	29,802,536
Total Wastewater Utility Capital Costs	$128,857,883

9.5 NON-RATE REVENUES

The annual test year revenue requirement for AW's water and wastewater utilities includes non-rate revenue items which are quantified during AW's annual budgeting process. Some non-rate revenue items such as interest income or capital recovery fees *reduce* the amount of test year revenue that must be recovered through the water and wastewater rates paid by customers. Other non-rate revenue items *increase* the amount of test year revenue that must be recovered through the rates paid by customers. In addition to these traditional non-rate revenue items, AW also reflects changes in cash reserve balances as non-rate revenue items. Thus, a reduction in test year cash reserves is considered a non-rate revenue item that *reduces* the amount of test year revenue that must be recovered through the water and wastewater rates paid by customers. Similarly, an increase in test year cash reserve balances is considered a non-rate revenue item that increases the amount of test year revenues that must be recovered through rates. **Table 9.4** shows a summary of test year FY 2017 non-rate revenue items for AW's wastewater utility.

Table 9.4: Summary of the FY 2017 Wastewater Utility Non-Rate Revenue Items

Non-Rate Revenue Item	Applicable to O&M Expenses	Applicable to Capital Costs
Late Payment Penalties	1,255,400	0
Liquid Wastehauler's Fee	609,900	0
Industrial Waste Permits	503,500	0
New Service Connections	440,400	0
Special Bill - Water Financial Management	224,600	0
Compost/Sludge Sales	197,400	0
Miscellaneous Items	551,389	0
Decrease (Increase) in Operating Reserves	0	(19,817,366)
Interest Income (Capital Portion)	0	335,384
Transfer In from CIP	0	5,250,000
Transfers In (from CRF's & Public Works)	0	280,722
Total Wastewater Utility Non-Rate Revenue	$3,782,589	($13,951,260)

9.6 WHOLESALE ADJUSTMENTS

As discussed in a previous section of this report, wholesale adjustments are those water and wastewater test-year revenue requirement items (i.e., test year costs) the AW Executive Team has determined should not be allocated to wholesale customers. Although not included in the costs paid by wholesale customers, such costs are a legitimate part of AW's overall total system test year revenue requirement. Thus, these costs must be entirely recovered through the rates paid by retail customers.

For example, consider a hypothetical test year O&M expense item in the amount of $1 million. Further assume that, after considering the water consumption characteristics of each AW water customer class, $900,000 of this expense would normally be allocated to retail customers as an outcome of the cost of service process and $100,000 would be allocated to wholesale customers. If this $1 million O&M expense item was designated as a wholesale adjustment by the AW Executive Team, the $100,000 in costs normally recovered though the rates of wholesale customers will be shifted to recovery from retail customers. This has the effect of reducing the overall wholesale customer revenue requirement by $100,000 and increasing the overall retail customer revenue requirement by $100,000. **Table 9.5** shows a summary of the test year FY 2017 wholesale adjustments for AW's wastewater utility. Note that the amounts for each wholesale adjustment shown in **Table 9.5** are gross amounts *before* their allocation to individual retail and wholesale customer classes.

Table 9.5: FY 2017 Wastewater Utility Wholesale Adjustments

Adjustments	Amount
Bad Debt Expense	1,850,456
One Stop Shop: Land Use Review	286,722
One Stop Shop: Permit and License Center	123,781
311 System Support	84,595
Lobbyist - Legislative	80,648
One Stop Shop: Building Plan Review - WP	62,372
Public Improvement District	37,500
Total	$2,526,074

9.7 TOTAL ADJUSTED REVENUE REQUIREMENTS

Table 9.6 shows a summary of the test year FY 2017 wholesale adjustments for AW's wastewater utility before the allocation of costs to individual retail and wholesale customer classes.

Table 9.6: Summary of the FY 2017 Wastewater Utility Adjusted Revenue Requirement

Customer Type	Gross Revenue Requirement Before Adjustments	Non-Rate Revenue Offset	Adjusted Wholesale Costs Reallocated to Retail	Net Revenue Requirement
O&M Expenses				
Retail	$109,453,158	($3,712,109)	$16,669	$105,757,717
Wholesale	2,850,089	(70,480)	(16,669)	2,762,941
Total O&M	112,303,247	(3,782,589)	0	108,520,658
General Fund Transfers (Revenue Allocated Costs)				
Retail	19,595,762		0	19,595,762
Wholesale	596,242		0	596,242
Total General Fund Transfers	20,192,004		0	20,192,004
Capital Costs				
Retail	125,648,635	13,592,878	0	139,241,513
Wholesale	3,209,248	358,382	0	3,567,630
Total Capital Costs	128,857,883	13,951,260	0	142,809,143
Total Wastewater Utility Revenue Requirement	$261,353,134	$10,168,671	$0	$271,521,805

10. WASTEWATER COST OF SERVICE PROCESS

10.1 OVERVIEW OF THE COST OF SERVICE PROCESS

After forecasting the overall FY 2017 test year wastewater utility revenue requirement from rates as discussed in Section 9 of this report, a cost of service study must be conducted to determine the amount of rate revenue appropriate to be recovered from each AW retail and wholesale customer class based on their unique demand characteristics. The new wastewater cost of service model developed by the Raftelis Team accomplishes this objective by: 1) conducting an analysis of customer consumption characteristics to determine the cost allocation percentages for each class; and, 2) engaging in a multi-step process to allocate each component of the total system revenue requirement to each customer class based on their unique wastewater consumption characteristics. In general, the cost of service procedures followed in each model are in conformance with industry standard methodologies as published by the Water Environment Federation (WEF) in the *Manual of Practice No. 27, Financing and Charges for Wastewater Systems* (Manual 27).

10.2 ANALYSIS OF CUSTOMER WASTEWATER CONSUMPTION CHARACTERISTICS

The diagram in **Table 10.1** illustrates the process used in the wastewater cost of service model to analyze customer consumption characteristics and determinant the cost allocation percentages for each customer class. A summary of each of these steps is discussed below.

Table 10.1: Process of Analyzing Customer Wastewater Consumption Characteristics

Step #1: Forecast of Test Year Flows for Each Customer Class	Step #2: Determine Customer Class Wastewater Discharge Strength Loadings:	Step #3: Determine Customer Class Units of Service as a Percentage of Total System Units	Step #4: Assign Customer Classes to Cost Pools:	Step #5: Determine Customer Class Demand Parameter Percentages for Each Cost Pool:
• Billed Wastewater Consumption • Assumed Flows from Inflow and Infiltration (I/I) • Total Flows (Billed + I/I)	• Biochemical Oxygen Demand (BOD) • Total Suspended Solids (TSS)	• Flow • BOD Pounds • TSS Pounds • Equivalent Accounts • Equivalent Meters	• Joint • Retail Only • Wholesale • Contract Revenue Bonds • Commercial & Industrial Monitoring • Extra Strength Surcharge Customers	• Flow • BOD • TSS • Equivalent Accounts • Equivalent Meters

10.2.1 CUSTOMER CLASS FORECAST FLOWS

Step #1 in the process of analyzing customer consumption is the preparation of a forecast of test year wastewater flows from both billed wastewater consumption and assumed flows from inflow and infiltration on the AW wastewater system. AW prepares an annual forecast of test year billed wastewater consumption for each customer class in a revenue forecasting model that is separate from the wastewater cost of service models (both existing and new). This forecast is based on an analysis of key factors such actual historical billed wastewater flows, actual historical customer account growth, and anticipated test year average flows per account for each customer class. Flows from infiltration and inflow are assumed to be 10.5% of total contributed flow from each customer class (both retail and wholesale). **Table 10.2** shows a summary of forecast FY 2017 wastewater flows.

Table 10.2: Forecast FY 2017 Billed Water Consumption

Customer Class	Forecast Billed Wastewater Consumption	Assumed Flows from Infiltration and Inflow	Total Contributed Flow
	(Thousands of Gallons)		
Retail			
Residential	8,725,482	1,023,660	9,749,142
Multi-Family	7,710,748	904,613	8,615,361
Commercial	7,184,897	842,921	8,027,818
Residential CAP	863,115	101,259	964,375
Spansion	204,990	24,049	229,039
NXP - Ed Bluestein Blvd	226,247	26,543	252,790
NXP - W William Cannon	230,115	26,997	257,112
Samsung	1,347,705	158,111	1,505,816
Novati	43,100	5,056	48,156
University of Texas	190,000	22,291	212,291
Extra Strength Surcharge Customers	0	0	0
Total Retail	26,726,399	3,135,499	29,861,899
Wholesale			
Mid Tex Utilities (Avana Sub)	19,200	2,253	21,453
Comanche Canyon (WCID17)	5,496	645	6,141
Manor, City of	90,010	10,560	100,570
North Austin MUD	230,000	26,983	256,983
Northtown MUD	231,000	27,101	258,101
Rollingwood	39,600	4,646	44,246
Shady Hollow	83,458	9,791	93,249
Sunset Valley MUD	70,200	8,236	78,436
Steiner Ranch (WCID17)	24,000	2,816	26,816
Wells Branch MUD	357,700	41,965	399,665
Westlake Hills	40,800	4,787	45,587
Total Wholesale	1,191,464	139,781	1,331,245
Total Billed Wastewater Consumption	27,917,863	3,275,280	31,193,143

10.2.2 CUSTOMER CLASS STRENGTH LOADINGS

Step #2 in the process of analyzing customer wastewater consumption is the estimation of the wastewater discharge strength loadings for each customer class. AW develops wastewater rates based on the consideration of two strength loading parameters: biochemical oxygen demand (BOD) and total

suspended solids (TSS). Contributions to the strength loadings of these two parameters are made by both billed wastewater volumes and infiltration and inflow volumes. **Table 10.3** shows the BOD and TSS strength loadings used in both AW's existing wastewater cost of service model and the new wastewater cost of service model designed by Raftelis.

Table 10.3: FY 2017 Customer Class Strength Loadings

	Strength Loadings from Contributed Flow (mg/L)		Strength Loadings from Infiltration and Inflows (mg/L)	
Customer Class	**BOD**	**TSS**	**BOD**	**TSS**
Retail				
Residential	200	200	40	95
Multi-Family	200	200	40	95
Commercial	200	200	40	95
Residential CAP	200	200	40	95
Spansion	37	38	40	95
NXP - Ed Bluestein Blvd	172	100	40	95
NXP - W William Cannon	133	93	40	95
Samsung	51	32	40	95
Novati	19	9	40	95
University of Texas	171	170	40	95
Extra Strength Surcharge Customers	0	0	0	0
Wholesale				
Mid Tex Utilities (Avana Sub)	200	200	40	95
Comanche Canyon (WCID17)	3	4	40	95
Manor, City of	200	200	40	95
North Austin MUD	200	200	40	95
Northtown MUD	200	200	40	95
Rollingwood	200	200	40	95
Shady Hollow	200	200	40	95
Sunset Valley MUD	200	200	40	95
Steiner Ranch (WCID17)	3	4	40	95
Wells Branch MUD	200	200	40	95
Westlake Hills	200	200	40	95

10.2.3 CUSTOMER CLASS UNITS OF SERVICE

Step #3 in the process of analyzing customer consumption is the calculation of customer class units of service. The AW wastewater models (both existing and new) calculate customer class units of service for the demand parameters listed below based on inputs such as forecast test year flows, strength loadings, customer accounts and meter sizes. These units of service, along with the customer class cost pool assignments discussed in Section 10.3.4, determine what percentage of the test year water utility revenue requirement is allocated to each customer class.

- Total Flows
- BOD Pounds
- TSS Pounds
- Equivalent Accounts
- Equivalent Meters

Table 10.4 shows the test year FY 2017 customer class units of service used in the new wastewater coast of service model.

Table 10.4: FY 2017 Customer Class Units of Service

Customer Class	Flow		BOD		TSS		Equivalent Accounts and Meters	
	Flow (MGD)	% of Total System	BOD Pounds	% of Total System	TSS Pounds	% of Total System	Equiv. Accounts and Meters	% of Total System
Retail								
Residential	9,749.1	31.3%	45,517	28.1%	46,805	33.0%	180,551	83.7%
Multi-Family	8,615.4	27.6%	40,224	24.9%	41,361	29.2%	4,819	2.2%
Commercial	8,027.8	25.7%	37,481	23.2%	38,541	27.2%	12,452	5.8%
Residential CAP	964.4	3.1%	4,503	2.8%	4,630	3.3%	17,844	8.3%
Spansion	229.0	0.7%	216	0.1%	251	0.2%	1	0.0%
NXP - Ed Bluestein Blvd	252.8	0.8%	1,018	0.6%	636	0.4%	1	0.0%
NXP - W William Cannon	257.1	0.8%	807	0.5%	605	0.4%	1	0.0%
Samsung	1,505.8	4.8%	1,900	1.2%	1,445	1.0%	1	0.0%
Novati	48.2	0.2%	26	0.0%	21	0.0%	1	0.0%
University of Texas	212.3	0.7%	850	0.5%	874	0.6%	14	0.0%
Extra Strength Surcharge Customers	0	0	23,107	14.9%	250	0.2%	n/a	n/a
Wholesale								
Mid Tex Utilities (Avana Sub)	21.5	0.1%	100	0.1%	103	0.1%	1	0.0%
Comanche Canyon (WCID17)	6.1	0.0%	1	0.0%	2	0.0%	1	0.0%
Manor, City of	100.6	0.3%	470	0.3%	483	0.3%	1	0.0%
North Austin MUD	257.0	0.8%	1,200	0.7%	1,234	0.9%	1	0.0%
Northtown MUD	258.1	0.8%	1,205	0.7%	1,239	0.9%	1	0.0%
Rollingwood	44.2	0.1%	207	0.1%	212	0.1%	1	0.0%
Shady Hollow	93.2	0.3%	435	0.3%	448	0.3%	1	0.0%
Sunset Valley MUD	78.4	0.3%	366	0.2%	377	0.3%	1	0.0%
Steiner Ranch (WCID17)	26.8	0.1%	4	0.0%	9	0.0%	1	0.0%
Wells Branch MUD	399.7	1.3%	1,866	1.2%	1,919	1.4%	1	0.0%
Westlake Hills	45.6	0.1%	213	0.1%	219	0.2%	1	0.0%

10.2.4 COST POOL ASSIGNMENTS

Step #4 in the process of analyzing wastewater customer consumption is the assignment of customer classes to cost pools. Cost pool assignments define the specific types of costs that are allocated to each AW retail and wholesale customer class. For example, wastewater treatment-related costs benefit all customers, both retail and wholesale. Therefore, they are considered to be a joint, or common-to-all cost. In contrast, costs associated with the AW collection system are generally considered to be retail only costs because wholesale customers do not benefit from AW's retail wastewater collection system. Instead, wholesale customers own and operate their own collection systems to serve their downstream retail customers. **Table 10.5** shows the test year FY 2017 cost pool assignments for each wastewater customer class.

Table 10.5: FY 2017 Cost Pool Assignments

Customer Class	Percentage Participation in Costs Associated with the Following Cost Pools					
	Joint	Retail Only	Wholesale	Contract Revenue Bonds	Commercial & Industrial Monitoring	Extra Strength Surcharge Customer
Retail						
Residential	100%	100%	0%	100%	0%	0%
Multi-Family	100%	100%	0%	100%	0%	0%
Commercial	100%	100%	0%	100%	100%	0%
Residential CAP	100%	100%	0%	100%	0%	0%
Spansion	100%	100%	0%	100%	57%	0%
NXP - Ed Bluestein Blvd	100%	100%	0%	100%	57%	0%
NXP - W William Cannon	100%	100%	0%	100%	57%	0%
Samsung	100%	100%	0%	100%	57%	0%
Novati	100%	100%	0%	100%	57%	0%
University of Texas	100%	100%	0%	100%	57%	0%
Extra Strength Surcharge Customers	100%	0%	0%	100%	0%	100%
Wholesale						
Mid Tex Utilities (Avana Sub)	100%	0%	100%	100%	0%	0%
Comanche Canyon (WCID17)	100%	0%	100%	100%	0%	0%
Manor, City of	100%	0%	100%	100%	0%	0%
North Austin MUD	100%	0%	100%	100%	0%	0%
Northtown MUD	100%	0%	100%	0%	0%	0%
Rollingwood	100%	0%	100%	100%	0%	0%
Shady Hollow	100%	0%	100%	100%	0%	0%
Sunset Valley MUD	100%	0%	100%	100%	0%	0%
Steiner Ranch (WCID17)	100%	0%	100%	100%	0%	0%
Wells Branch MUD	100%	0%	100%	100%	0%	0%
Westlake Hills	100%	0%	100%	100%	0%	0%

10.2.5 COST POOL DEMAND PARAMETER PERCENTAGES

Step #5 in the process of analyzing customer wastewater consumption is the calculation of the customer class demand parameter percentages associated with each cost pool. These percentages define the percentage share of costs that will be allocated to each customer class, for each demand parameter and each cost pool. This process reflects the product of the customer class units of service percentages developed in the units of service analysis (see Section 10.2.3) and the assignment of customer classes (see Section 10.2.4).

Table 10.6 shows the FY 2017 demand parameter percentages for the Joint cost pool. **Table 10.7** shows the FY 2017 demand parameter percentages for the Retail Only cost pool. Due to space limitations, the demand parameter percentages for the Wholesale, Contract Revenue Bond, Commercial & Industrial Marketing, and Extra Strength Customer cost pools have not been shown.

Table 10.6: FY 2017 Joint Cost Pool Demand Parameter Percentages

Customer Class	Flow	BOD	TSS	Customer	Meter
Retail					
Residential	31.3%	28.1%	33.0%	83.7%	83.7%
Multi-Family	27.6%	24.9%	29.2%	2.2%	2.2%
Commercial	25.7%	23.2%	27.2%	5.8%	5.8%
Residential CAP	3.1%	2.8%	3.3%	8.3%	8.3%
Spansion	0.7%	0.1%	0.2%	0.0%	0.0%
NXP - Ed Bluestein Blvd	0.8%	0.6%	0.4%	0.0%	0.0%
NXP - W William Cannon	0.8%	0.5%	0.4%	0.0%	0.0%
Samsung	4.8%	1.2%	1.0%	0.0%	0.0%
Novati	0.2%	0.0%	0.0%	0.0%	0.0%
University of Texas	0.7%	0.5%	0.6%	0.0%	0.0%
Extra Strength Surcharge Customers	0.0%	14.3%	0.2%	0.0%	0.0%
Wholesale					
Mid Tex Utilities (Avana Sub)	0.1%	0.1%	0.1%	0.0%	0.0%
Comanche Canyon (WCID17)	0.0%	0.0%	0.0%	0.0%	0.0%
Manor, City of	0.3%	0.3%	0.3%	0.0%	0.0%
North Austin MUD	0.8%	0.7%	0.9%	0.0%	0.0%
Northtown MUD	0.8%	0.7%	0.9%	0.0%	0.0%
Rollingwood	0.1%	0.1%	0.1%	0.0%	0.0%
Shady Hollow	0.3%	0.3%	0.3%	0.0%	0.0%
Sunset Valley MUD	0.3%	0.2%	0.3%	0.0%	0.0%
Steiner Ranch (WCID17)	0.1%	0.0%	0.0%	0.0%	0.0%
Wells Branch MUD	1.3%	1.2%	1.4%	0.0%	0.0%
Westlake Hills	0.1%	0.1%	0.2%	0.0%	0.0%
Total System	100.0%	100.0%	100.0%	100.0%	100.0%

Table 10.7: FY 2017 Retail Cost Pool Demand Parameter Percentages

Customer Class	Flow	BOD	TSS	Customer	Meter
Retail					
Residential	32.6%	34.3%	34.6%	83.7%	83.7%
Multi-Family	28.9%	30.3%	30.6%	2.2%	2.2%
Commercial	26.9%	28.3%	28.5%	5.8%	5.8%
Residential CAP	3.2%	3.4%	3.4%	8.3%	8.3%
Spansion	0.8%	0.2%	0.2%	0.0%	0.0%
NXP - Ed Bluestein Blvd	0.8%	0.8%	0.5%	0.0%	0.0%
NXP - W William Cannon	0.9%	0.6%	0.4%	0.0%	0.0%
Samsung	5.0%	1.4%	1.1%	0.0%	0.0%
Novati	0.2%	0.0%	0.0%	0.0%	0.0%
University of Texas	0.7%	0.6%	0.6%	0.0%	0.0%
Extra Strength Surcharge Customers	0.0%	0.0%	0.0%	0.0%	0.0%
Wholesale					
Mid Tex Utilities (Avana Sub)	0.0%	0.0%	0.0%	0.0%	0.0%
Comanche Canyon (WCID17)	0.0%	0.0%	0.0%	0.0%	0.0%
Manor, City of	0.0%	0.0%	0.0%	0.0%	0.0%
North Austin MUD	0.0%	0.0%	0.0%	0.0%	0.0%
Northtown MUD	0.0%	0.0%	0.0%	0.0%	0.0%
Rollingwood	0.0%	0.0%	0.0%	0.0%	0.0%
Shady Hollow	0.0%	0.0%	0.0%	0.0%	0.0%
Sunset Valley MUD	0.0%	0.0%	0.0%	0.0%	0.0%
Steiner Ranch (WCID17)	0.0%	0.0%	0.0%	0.0%	0.0%
Wells Branch MUD	0.0%	0.0%	0.0%	0.0%	0.0%
Westlake Hills	0.0%	0.0%	0.0%	0.0%	0.0%
Total System	100.0%	100.0%	100.0%	100.0%	100.0%

10.3 OVERVIEW OF THE COST ALLOCATION PROCESS

The process of allocating costs to wastewater customer classes results in the determination of the test year revenue requirement from rates. **Table 10.8** summarizes this process.

Table 10.8: Determination of Customer Class Revenue Requirement

Allocated O&M Expenses		Allocated General Fund Transfer		Allocated Capital Costs		Total Allocated Costs
Test Year O&M Expenses		Test Year General Fund Transfer		Test Year Capital Costs		Test Year Total Costs
+/- Wholesale Adjustments		+/- Wholesale Adjustments		+/- Wholesale Adjustments		+/- Total Wholesale Adjustments
+ O&M Non-Rate Revenues		n/a		+ Capital Non-Rate Revenues		+ Total Non-Rate Revenues
Customer Class O&M Expense Revenue Requirement	+	Customer Class General Fund Transfer Revenue Requirement	+	Customer Class Capital Cost Revenue Requirement	=	Total Customer Class Cost Revenue Requirement

Table 10.9 summarizes the steps in cost allocation process used in the new AW wastewater cost of service model developed by the Raftelis Team. Each of these steps is undertaken to determine the customer class revenue requirement for O&M Expenses, General Fund Transfers, and Capital Costs. Unless otherwise noted in the subsequent discussion, the cost allocation process is like that used in AW's existing

wastewater cost of service model. Section 10.4 of this report provides a comprehensive example of the allocation of O&M expenses to customer classes.

Table 10.9: Steps in the Wastewater Cost Allocation Process

Steps in the Wastewater Cost Allocation Process (Applicable to All Revenue Requirement Components)				
Step #1: Allocate Costs to Functional Category. Examples" • Collection • interceptors • Lift Stations • Plant Pumping • Preliminary Treatment • Industrial Waste Control • Primary Clarifiers • Flow Equalization Basins • Disinfection and Outfalls • Biosolids Management	**Step #2:** Assign Functionalized Costs to Cost Pools • Joint • Retail Only • Wholesale Only • Contract Revenue Bonds • Commercial & Industrial Monitoring • Extra Strength Surcharge Customer	**Step #3:** Allocate the Costs Assigned to Cost Pools to Demand Parameters • Flow • BOD • TSS • Equivalent Accounts • Equivalent Meters	**Step #4:** Determine the Gross Customer Class Revenue Requirement Functionalized Costs in Each Cost Pool X Customer Class Demand Parameter Percentage for Each Cost Pool	**Step #5:** Determine the Net Customer Class Revenue Requirement ***Before*** Additional Adjustments (See Section 10.10 of Report)

10.4 EXAMPLE OF THE COST ALLOCATION PROCESS: O&M EXPENSES

10.4.1 ALLOCATION OF O&M EXPENSES TO FUNCTION

To provide an example of the process of allocating costs to customer classes, this section of the report provides a comprehensive example of the process followed to allocate O&M expenses to customer classes.

Step #1 in the process of allocating costs to customer classes is to allocate the O&M expenses to functional categories. Each O&M expense included in the test year revenue requirement is allocated to specific functional categories based on the type of operational activity the cost is incurred to provide. **Table 10.10** presents a summary of the functionalized FY 2017 test year O&M revenue requirement.

Table 10.10: O&M Expenses - Summary Allocation to Function

Functional Category	O&M Expense
Collection	$31,613,166
Interceptors	15,304,804
Lift Stations (Conveyance)	8,540,368
Plant Raw WW Pumping	2,553,881
Preliminary Treatment	900,223
Industrial Waste Control	2,415,787
Primary Clarifiers	1,601,347
Flow Equalization Basins	1,860,264
Aeration Basins	5,890,042
Secondary Clarifiers	2,876,628
Return Sludge Pumping	197,058
Waste Sludge Pumping	142,219
Filters	4,103,193
Disinfection and Outfall	6,334,608
Sludge Thickening	804,851
Biosolids Management	15,152,344
Wholesale & Industrial Services	104,469
Customer Service	11,514,771
Indirect Treatment	393,225
Total O&M Costs	$112,303,247

10.4.2 ASSIGNMENT OF O&M EXPENSES TO COST POOLS

Step #2 in the process of allocating costs to customer classes is to assign functionalized O&M expenses to cost pools based on which functions serve each cost pool. **Table 10.11** presents the cost pool assignments of the functionalized FY 2017 test year O&M revenue requirement.

Table 10.11: O&M Expenses - Cost Pool Assignments

Functional Category	Joint	Retail Only	Wholesale	Contract Revenue Bonds	Commercial & Industrial Monitoring	Extra Strength Surcharge Customer	Total
Collection	$0	$31,613,166	$0	$0	$0	$0	31,613,166
Interceptors	15,304,804	0	0	0	0	0	15,304,804
Lift Stations (Conveyance)	8,540,368	0	0	0	0	0	8,540,368
Plant Raw WW Pumping	2,553,881	0	0	0	0	0	2,553,881
Preliminary Treatment	900,223	0	0	0	0	0	900,223
Industrial Waste Control	0	0	0	0	1,207,893	1,207,893	2,415,787
Primary Clarifiers	1,601,347	0	0	0	0	0	1,601,347
Flow Equalization Basins	1,860,264	0	0	0	0	0	1,860,264
Aeration Basins	5,890,042	0	0	0	0	0	5,890,042
Secondary Clarifiers	2,876,628	0	0	0	0	0	2,876,628
Return Sludge Pumping	197,058	0	0	0	0	0	197,058
Waste Sludge Pumping	142,219	0	0	0	0	0	142,219
Filters	4,103,193	0	0	0	0	0	4,103,193
Disinfection and Outfall	6,334,608	0	0	0	0	0	6,334,608
Sludge Thickening	804,851	0	0	0	0	0	804,851
Biosolids Management	15,152,344	0	0	0	0	0	15,152,344
Wholesale & Industrial Services	0	0	83,575	0	20,894	0	104,469
Customer Service	11,514,771	0	0	0	0	0	11,514,771
Indirect Treatment	393,225	0	0	0	0	0	393,225
Total O&M Expenses	$78,169,826	$31,613,166	$83,575	$0	$1,228,787	$1,207,893	$112,303,247

10.4.3 O&M EXPENSE COST POOL DEMAND PARAMETER ALLOCATIONS

Step #3 in the process of allocating costs to customer classes is to allocate functionalized O&M expenses in each cost pool to specific demand parameters based on the type(s) of demands they are used to serve. **Table 10.12** presents the summation of the allocation of O&M expenses to the demand parameters across all cost pools.

Table 10.12: O&M Expenses - Allocation to Demand Parameters

Functional Categories	Sum of Flow Allocations Across All Cost Pools	Sum of BOD Allocations Across All Cost Pools	Sum of TSS Allocations Across All Cost Pools	Sum of Customer Allocations Across All Cost Pools	Sum of Meter Allocations Across All Cost Pools	Total
Mains	$46,917,970	$0	$0	$0	$0	$46,917,970
Lift Stations	8,540,368	0	0	0	0	8,540,368
Preliminary Treatment	5,363,295	0	0	0	0	5,363,295
Primary Treatment	0	565,632	1,050,459	0	0	1,616,090
Aeration	0	5,944,269	0	0	0	5,944,269
Secondary Treatment	0	3,101,984	0	0	0	3,101,984
Sludge Pumping	0	71,764	71,764	0	0	143,528
Other Sludge-Related	0	406,131	406,131	0	0	812,261
Effluent Disposal	10,533,896	0	0	0	0	10,533,896
Biosolids Management	0	7,647,280	7,647,280	0	0	15,294,561
Services	104,469	0	0	0	0	104,469
Industrial Waste Control	1,207,893	1,194,965	12,928	0	0	2,415,787
Customer Services	0	0	0	11,514,771	0	11,514,771
Revenue Allocated Costs	0	0	0	0	0	0
Total O&M Expenses	$72,667,891	$18,932,024	$9,188,562	$11,514,771	$0	$112,303,247

10.4.4 CUSTOMER CLASS GROSS O&M EXPENSE REVENUE REQUIREMENT

Step #4 in the process of allocating costs to customer classes is to determine the gross O&M expenses allocated to each customer class *before* the consideration of wholesale adjustments and non-rate revenues. This is accomplished using the following formula:

Summation of:	*Functionalized Costs in Each Cost Pool*	*x*	*Customer Class Demand Parameter Percentages for Each Cost Pool*	=	*Gross Customer Class Revenue Requirement before Wholesale Adjustments and Non-Rate Revenue Offsets*

For example, all flow demand costs are associated with the joint cost pool. Further, $72,667,891 in flow demand costs have been allocated across all cost pools (see Table 10.12 above). The single family residential customer proportionate share of flow units of service is 31.3% (see Table 10.6). Thus, as shown in **Table 10.13**, the amount of base costs included in the revenue requirement for single family residential customers is $22,742,011 ($72,667,891 X 31.3%).

Table 10.13 presents the gross O&M expense revenue requirement for each customer class *before* the consideration of wholesale adjustments and non-rate revenue offsets.

Table 10.13: Customer Class Gross O&M Expense Revenue Requirement

Customer Class	Flow	BOD	TSS	Customer	Meter	Total
Retail						
Residential	$22,742,011	$4,992,363	$3,031,597	$9,638,585	$0	$40,404,556
Multi-Family	20,097,217	4,411,774	2,679,036	257,263	0	27,445,290
Commercial	19,769,866	4,110,903	2,496,333	664,737	0	27,041,839
Residential CAP	2,249,615	493,839	299,882	952,585	0	3,995,921
Spansion	551,249	23,664	16,273	53	0	591,240
NXP - Ed Bluestein Blvd	608,413	111,699	41,171	53	0	761,336
NXP - W William Cannon	618,814	88,463	39,209	53	0	746,540
Samsung	3,624,185	208,447	93,605	53	0	3,926,290
Novati	115,902	2,802	1,353	53	0	120,111
University of Texas	510,939	93,271	56,582	747	0	661,540
Extra Strength Surcharge	0	3,729,373	29,121	0	0	3,758,495
Total Retail	70,888,212	18,266,598	8,784,164	11,514,183	0	109,453,158
Wholesale						
Mid Tex Utilities (Avana Sub)	28,679	10,985	6,671	53	0	46,389
Comanche Canyon (WCID17)	8,209	111	127	53	0	8,501
Manor, City of	134,447	51,500	31,273	53	0	217,274
North Austin MUD	343,549	131,597	79,912	53	0	555,110
Northtown MUD	345,043	132,169	80,259	53	0	557,524
Rollingwood	59,150	22,657	13,759	53	0	95,620
Shady Hollow	124,660	47,751	28,997	53	0	201,462
Sunset Valley MUD	104,857	40,166	24,390	53	0	169,466
Steiner Ranch (WCID17)	35,849	484	555	53	0	36,941
Wells Branch MUD	534,293	204,661	124,280	53	0	863,288
Westlake Hills	60,943	23,344	14,176	53	0	98,516
Total Wholesale	1,779,678	665,425	404,398	587	0	2,850,089
Total O&M Expenses	72,667,891	18,932,024	9,188,562	11,514,771	0	112,303,247

10.4.5 CUSTOMER CLASS NET O&M EXPENSE REVENUE REQUIRMENT

Step #5 and final step in the process of allocating costs to customer classes is determine the net O&M expenses allocated to each customer class *after* the consideration of wholesale adjustments and non-rate revenues. **Table 10.14** presents the allocation of O&M expenses to each customer class *after* the consideration of wholesale adjustments and non-rate revenue offsets.

Table 10.14: Customer Class Net O&M Expense Revenue Requirement

Customer Class	Total Gross O&M Revenue Requirement	Wholesale Adjustments Reallocated to Retail	O&M Non-Rate Revenue Offset	Net O&M Revenue Requirement
Retail				
Residential	$40,404,556	$5,222	($1,241,302)	$39,168,477
Multi-Family	27,445,290	4,612	(1,040,082)	26,409,821
Commercial	27,041,839	4,451	(987,521)	26,058,768
Residential CAP	3,995,921	517	(122,782)	3,873,656
Spansion	591,240	90	(26,060)	565,270
NXP - Ed Bluestein Blvd	761,336	124	(29,988)	731,472
NXP - W William Cannon	746,540	120	(30,204)	716,456
Samsung	3,926,290	602	(171,658)	3,755,234
Novati	120,111	18	(5,426)	114,703
University of Texas	661,540	110	(25,521)	636,129
Extra Strength Surcharge	3,758,495	802	(31,565)	3,727,732
Total Retail	109,453,158	16,669	(3,712,109)	105,757,717
Wholesale				
Mid Tex Utilities (Avana Sub)	46,389	(271)	(1,141)	44,976
Comanche Canyon (WCID17)	8,501	(50)	(269)	8,182
Manor, City of	217,274	(1,271)	(5,348)	210,655
North Austin MUD	555,110	(3,247)	(13,665)	538,198
Northtown MUD	557,524	(3,261)	(13,725)	540,538
Rollingwood	95,620	(559)	(2,353)	92,707
Shady Hollow	201,462	(1,178)	(4,959)	195,325
Sunset Valley MUD	169,466	(991)	(4,171)	164,304
Steiner Ranch (WCID17)	36,941	(216)	(1,172)	35,553
Wells Branch MUD	863,288	(5,049)	(21,252)	836,986
Westlake Hills	98,516	(576)	(2,424)	95,515
Total Wholesale	2,850,089	(16,669)	(70,480)	2,762,941
Total O&M Expenses	$112,303,247	$0	($3,782,589)	$108,520,658

10.5 KEY DIFFERENCES IN THE WASTEWATER COST OF SERVICE MODELS

There are two important things to note about the results of the O&M expense cost allocation shown **Table 10.14**. First, as noted previously in this report, the current AW water and wastewater cost of service models do not transparently reflect wholesale adjustments. Thus, the treatment of wholesale adjustments shown in **Table 10.14** differs significantly from those used in AW's current water cost of service model. This is true for both O&M expense wholesale adjustments and the capital cost wholesale adjustments.

Second, to more accurately assign non-rate revenues to functions, the non-rate revenue adjustments shown in in **Table 10.14** allocated to functional categories based on a line item review of each non-rate revenue item. In the current AW wastewater cost of service model, non-rate revenues are allocated to function based on the percentage outcomes of the gross O&M expense allocation process (i.e., they mimic the functional allocation of gross O&M expenses.)

10.6 CUSTOMER CLASS GENERAL FUND TRANSFER REVENUE REQUIREMENT

As noted previously, the annual test year revenue requirement for AW's water and wastewater utilities includes a transfer to the City of Austin's General Fund. The rates paid by all water and wastewater utility customers, both retail and wholesale, contribute to the payment of the General Fund transfer which is currently set at 8.2% of the three-year average of AW's total revenue. Within the water and wastewater cost of service models, the General Fund Transfer is referred to as a revenue allocated cost because the amount of the transfer included in the cost of service for each customer class is based on their proportionate contribution to overall system revenue revenues. The test year FY 2017 wastewater utility revenue requirement includes a General Fund transfer of $20,192,004. **Table 10.15** presents the allocation of General Fund Transfers to customer classes. Note that there are no wholesale adjustments or non-rate revenue offsets associated with the General Fund Transfer revenue requirement.

Table 10.15: Net General Fund Transfer Revenue Requirement

Customer Class	Total Gross General Fund Transfer Revenue Requirement	Wholesale Adjustments Reallocated to Retail	General Fund Transfer Non-Rate Revenue Offset	Net General Fund Transfer Revenue Requirement
Retail				
Residential	$7,154,592	$0	$0	$7,154,592
Multi-Family	5,651,661	0	0	5,651,661
Commercial	4,908,277	0	0	4,908,277
Residential CAP	517,341	0	0	517,341
Spansion	140,455	0	0	140,455
NXP - Ed Bluestein Blvd	146,029	0	0	146,029
NXP - W William Cannon	157,771	0	0	157,771
Samsung	743,408	0	0	743,408
Novati	26,530	0	0	26,530
University of Texas	149,698	0	0	149,698
Extra Strength Surcharge	0	0	0	0
Total Retail	19,595,762	0	0	19,595,762
Wholesale				
Mid Tex Utilities (Avana Sub)	1,188	0	0	1,188
Comanche Canyon (WCID17)	2,005	0	0	2,005
Manor, City of	42,368	0	0	42,368
North Austin MUD	115,149	0	0	115,149
Northtown MUD	115,547	0	0	115,547
Rollingwood	19,331	0	0	19,331
Shady Hollow	46,701	0	0	46,701
Sunset Valley MUD	34,983	0	0	34,983
Steiner Ranch (WCID17)	18,743	0	0	18,743
Wells Branch MUD	179,644	0	0	179,644
Westlake Hills	20,584	0	0	20,584
Total Wholesale	596,242	0	0	596,242
Total General Fund Transfers	$20,192,004	$0	$0	$20,192,004

10.7 CUSTOMER CLASS NET CAPITAL COST REVENUE REQUIREMENT

Table 10.16 presents the allocation of capital costs to each customer class *after* the consideration of wholesale adjustments and non-rate revenue offsets. It is important to note that the capital cost non-rate revenue offsets shown in Table 10.16 have been allocated to functions based on the overall functional allocation percentages for AW's wastewater utility assets. This is like the method used to functionalize capital cost related non-rate revenues in AW's existing wastewater cost of service model. However, it differs from the process used to allocate O&M expense non-rate revenue offsets in the new AW wastewater cost of service model developed by the Raftelis Team (see the discussion in Section 10.5 of this report).

Table 10.16: Customer Class Net Capital Cost Revenue Requirement

Customer Class	Total Gross Capital Cost Revenue Requirement	Wholesale Adjustments Reallocated to Retail	Capital Cost Non-Rate Revenue Offset	Net Capital Cost Revenue Requirement
Retail				
Residential	$40,906,809	$0	4,424,257	$45,331,066
Multi-Family	36,149,530	0	3,909,736	40,059,267
Commercial	33,684,235	0	3,643,103	37,327,338
Residential CAP	4,046,457	0	437,643	4,484,100
Spansion	887,187	0	95,567	982,754
NXP - Ed Bluestein Blvd	1,028,427	0	111,088	1,139,515
NXP - W William Cannon	1,034,349	0	111,652	1,146,002
Samsung	5,844,487	0	629,674	6,474,161
Novati	184,285	0	19,839	204,124
University of Texas	878,330	0	94,931	973,261
Extra Strength Surcharge	1,004,538	0	115,387	1,119,925
Total Retail	125,648,635	0	13,592,878	139,241,513
Wholesale				
Mid Tex Utilities (Avana Sub)	51,923	0	5,799	57,722
Comanche Canyon (WCID17)	12,469	0	1,388	13,857
Manor, City of	243,416	0	27,184	270,600
North Austin MUD	621,993	0	69,463	691,456
Northtown MUD	624,698	0	69,765	694,463
Rollingwood	107,091	0	11,960	119,051
Shady Hollow	225,697	0	25,205	250,902
Sunset Valley MUD	189,843	0	21,201	211,045
Steiner Ranch (WCID17)	54,449	0	6,063	60,512
Wells Branch MUD	967,335	0	108,030	1,075,365
Westlake Hills	110,336	0	12,322	122,658
Total Wholesale	3,209,248	0	358,382	3,567,630
Total Capital Costs	$128,857,883	$0	$13,951,260	$142,809,143

10.8 TOTAL NET WASTEWATER CUSTOMER CLASS REVENUE REQUIREMENT BEFORE ADJUSTMENT

The test year FY 2017 net wastewater customer class revenue requirement *before* the consideration of any additional adjustments (see Section 10.9) is calculated by summing the customer class revenue requirements for: O&M expenses, General Fund Transfers, and Capital Costs. **Table 10.17** presents the final net water customer class revenue requirement.

Table 10.17: Customer Class Net Revenue Requirement Before Additional Adjustments

Customer Class	Total Gross Capital Cost Revenue Requirement	Wholesale Adjustments Reallocated to Retail	Capital Cost Non-Rate Revenue Offset	Net Capital Cost Revenue Requirement
Retail				
Residential	$88,465,957	$3,182,956	$5,222	91,654,135
Multi-Family	69,246,482	2,869,655	4,612	72,120,749
Commercial	65,634,351	2,655,582	4,451	68,294,383
Residential CAP	8,559,720	314,860	517	8,875,097
Spansion	1,618,882	69,507	90	1,688,479
NXP - Ed Bluestein Blvd	1,935,792	81,099	124	2,017,016
NXP - W William Cannon	1,938,660	81,448	120	2,020,229
Samsung	10,514,185	458,016	602	10,972,802
Novati	330,925	14,413	18	345,357
University of Texas	1,689,568	69,410	110	1,759,088
Extra Strength Surcharge	4,763,032	83,822	802	4,847,657
Total Retail	254,697,554	9,880,769	16,669	264,594,992
Wholesale				
Mid Tex Utilities (Avana Sub)	99,500	4,658	(271)	103,886
Comanche Canyon (WCID17)	22,974	1,120	(50)	24,044
Manor, City of	503,057	21,836	(1,271)	523,623
North Austin MUD	1,292,253	55,798	(3,247)	1,344,804
Northtown MUD	1,297,768	56,040	(3,261)	1,350,548
Rollingwood	222,042	9,607	(559)	231,089
Shady Hollow	473,859	20,247	(1,178)	492,928
Sunset Valley MUD	394,293	17,030	(991)	410,332
Steiner Ranch (WCID17)	110,132	4,891	(216)	114,807
Wells Branch MUD	2,010,267	86,778	(5,049)	2,091,996
Westlake Hills	229,436	9,898	(576)	238,757
Total Wholesale	6,655,580	287,901	(16,669)	6,926,813
Total Wastewater Utility Revenue Requirement *before* Additional Adjustments	$261,353,134	$10,168,671	$0	$271,521,805

10.9 TOTAL WASTEWATER CUSTOMER CLASS REVENUE REQUIREMENT AFTER ADDITIONAL ADJUSTMENTS

The test year FY 2017 net wastewater customer class revenue requirement shown in **Table 10.17** must be adjusted for an additional item before finalizing the FY 2017 wastewater customer class revenue requirements. This item is the $0.14 per thousand gallon community benefit charge that will be used to help subsidize the wastewater rates paid by single family residential retail customers enrolled in AW's

Customer Assistance Program (CAP). This surcharge applies to the billed customer of all retail customers except single family residential CAP customers. This item does not result in an increase to the test year FY 2017 revenue requirement. Instead, it results in a $3,620,862 reduction in the revenue requirement for single family residential CAP customers and an offsetting increase in the rates of other retail customers. **Table 10.18** presents the final wastewater customer class revenue requirement after making these two adjustments.

Table 10.18: Final Post-Adjustment Customer Class Revenue Requirement

Customer Class	Total Net Revenue Requirement	Adjustment for Reserve Fund Surcharge	Adjustment for Community Benefit Charge	Final Customer Class Cost of Service
Retail				
Residential	$91,654,135	$0	$1,221,568	$92,875,703
Multi-Family	72,120,749	0	1,079,504	73,200,253
Commercial	68,294,383	0	1,005,887	69,300,270
Residential CAP	8,875,097	0	(3,620,862)	5,254,235
Spansion	1,688,479	0	28,698	1,717,177
NXP - Ed Bluestein Blvd	2,017,016	0	31,676	2,048,692
NXP - W William Cannon	2,020,229	0	32,216	2,052,445
Samsung	10,972,802	0	188,678	11,161,480
Novati	345,357	0	6,034	351,391
University of Texas	1,759,088	0	26,601	1,785,689
Extra Strength Surcharge	4,847,657	0	0	4,847,657
Total Retail	264,594,992	0	0	264,594,992
Wholesale				
Mid Tex Utilities (Avana Sub)	103,886	0	0	103,886
Comanche Canyon (WCID17)	24,044	0	0	24,044
Manor, City of	523,623	0	0	523,623
North Austin MUD	1,344,804	0	0	1,344,804
Northtown MUD	1,350,548	0	0	1,350,548
Rollingwood	231,089	0	0	231,089
Shady Hollow	492,928	0	0	492,928
Sunset Valley MUD	410,332	0	0	410,332
Steiner Ranch (WCID17)	114,807	0	0	114,807
Wells Branch MUD	2,091,996	0	0	2,091,996
Westlake Hills	238,757	0	0	238,757
Total Wholesale	6,926,813	0	0	6,926,813
Total Water Utility Revenue Requirement *after* Additional Adjustments	$271,521,805	$0	$0	$271,521,805

10.10 COMPARISON OF EXISTING AND NEW WASTEWATER COST OF SERVICE MODELS

Table 10.19 presents a comparison of the test year FY 2017 customer class cost of service calculated in the existing AW wastewater cost of service model and the new wastewater cost of service model developed by the Raftelis Team.

Table 10.19: Comparison of Wastewater Cost of Service Models

Customer Class	Customer Class Cost of Service in Existing Cost of Service Model	Customer Class Cost of Service in New Cost of Service Model	Dollar Variance	Percentage Variance
Retail				
Residential	$92,245,079	$92,875,703	$630,624	0.7%
Multi-Family	72,814,555	73,200,253	385,698	0.5%
Commercial	68,812,005	69,300,270	488,265	0.7%
Residential CAP	6,924,518	5,254,235	(1,670,283)	-31.8%
Spansion	1,700,551	1,717,177	16,626	1.0%
NXP - Ed Bluestein Blvd	2,016,637	2,048,692	32,055	1.6%
NXP - W William Cannon	2,035,874	2,052,445	16,571	0.8%
Samsung	11,050,730	11,161,480	110,750	1.0%
Novati	347,720	351,391	3,671	1.0%
University of Texas	1,773,823	1,785,689	11,866	0.7%
Extra Strength Surcharge	4,758,925	4,847,657	88,732	1.8%
Total Retail	264,480,416	264,594,992	114,575	0.0%
Wholesale				
Mid Tex Utilities (Avana Sub)	105,741	103,886	(1,855)	-1.8%
Comanche Canyon (WCID17)	24,460	24,044	(415)	-1.7%
Manor, City of	532,325	523,623	(8,702)	-1.7%
North Austin MUD	1,367,042	1,344,804	(22,238)	-1.7%
Northtown MUD	1,372,882	1,350,548	(22,335)	-1.7%
Rollingwood	234,917	231,089	(3,828)	-1.7%
Shady Hollow	500,996	492,928	(8,068)	-1.6%
Sunset Valley MUD	417,118	410,332	(6,787)	-1.7%
Steiner Ranch (WCID17)	116,625	114,807	(1,818)	-1.6%
Wells Branch MUD	2,126,581	2,091,996	(34,585)	-1.7%
Westlake Hills	242,701	238,757	(3,944)	-1.7%
Total Wholesale	7,041,388	6,926,813	(114,576)	-1.7%
Total Wastewater Utility Revenue Requirement	$271,521,805	$271,521,805	($0)	0.0%

11. WASTEWATER COST OF SERVICE RATES

11.1 WASTEWATER RATE DESIGN INTRODUCTION

Once the customer class cost responsibility is determined, the next step is to design customer rate schedules to recover the revenues required from each customer class, which is the focus of discussion in this section, similar to Section 8 for water rates. In many cases, wastewater rates are less complex than water rates. The rate design analysis will illustrate how revenues are to be collected within each class by updating or adapting the current rate structure to more accurately satisfy AW's objectives for assessing wastewater charges to stakeholders.

11.2 WASTEWATER USER CHARGES DISCLAIMER

Similar to water rates presented in Section 8, it is important to note that the primary objective of the study was to refine the current cost of service methodology and then work that methodology into a new model to be used for future annual updates. The resulting rates presented in this Section were not provided to City Council for consideration of implementation. Rather, the rates shown are shown for demonstrative purposes only. These are what FY 2017 rates would have been if the new wastewater cost of service model and the refined cost of service methodologies developed by the Raftelis Team were used rather than AW's "Existing" model and methodology.

11.3 WASTEWATER COMMUNITY BENEFIT CHARGE

AW currently provides discounts to customers challenged in paying their utility bills through a customer assistance program (CAP). CAP customers have discounts that cover their water and wastewater fixed charges and discounted water volumetric rates. AW is seeking to implement a Community Benefit Charge (CBC) that will be a uniform volumetric rate applied to all retail billed water and wastewater volume as a per thousand gallons rate. Additionally, AW is looking to expand its current offering by providing a discount on wastewater volumetric rates. The current discounts, this new level of discount and other affordability initiatives would be funded through this CBC, which would be used exclusively for CAP customers and provide greater transparency in AW's charges.

For this version of the model, the CBC is set at $0.14 per thousand gallons, but may change prior to City Council review based on continued calculations of the revenue needed from the CBC. In the wastewater rate schedules provided in this section, the CBC is included in the New Model Rates for retail customers.

11.4 RESIDENTIAL WASTEWATER RATES

Residential customers are assessed wastewater user charges that are a combination of fixed fees/charges and volumetrically or flow based rates. Customers, regardless of meter size, are assessed a base fee per month, or account charge.

Residential wastewater volumetric rates recover the remaining residential revenue requirements. The current two tier rate structure is retained because it currently still meets the utility's affordability objectives for financially challenged customers. The rates have been updated to reflect full cost of service and the current 'steepness' of rates between the two tiers has been retained.

One nuance of wastewater billing for residential customers is that wastewater rates are not necessarily billed at the recorded water consumption for the month. Instead a winter period average is used for every customer to estimate the amount of water that is returned to the wastewater system. The averaging period is calculated using 3 billing periods for December through February covering water consumption from mid-November to mid-March depending on a customers' billing cycle, when most of the water goes directly into the sanitary sewer system versus being used for outdoor watering. This resulting average is unique for each customer and is incorporated into the billing process. Residential customers are billed based on this average, or monthly metered water consumption, whichever is lower.

Table 11.1 presents the 2017 approved and new model fixed and volumetric user charges, including the proposed implementation of the CBC surcharge mentioned above.

Table 11.1: Residential Wastewater User Charges

2017 Approved User Charges		New Model User Charges (Full COS)	
Account Charge	**Fixed Charge**	**Account Charge**	**Fixed Charge**
All Meter Sizes	$10.30	All Meter Sizes	$10.30
Tiers (Gallons)	**Rate**	**Tiers (Gallons)**	**Rate**
RESIDENTIAL			
0-2,000	$5.30	0-2,000	$5.07
2,001 & over*	$10.35	2,001 & over*	$10.44
CAP CUSTOMERS			
0-2,000	$5.30	0-2,000	$3.78
2,001 & over*	$10.35	2,001 & over*	$7.78

* Customers are billed based upon water usage during the Wastewater Averaging Period, or monthly water consumption, which ever is lower.

Community Benefit Charge	n/a	Community Benefit Charge	$0.14

11.5 MULTI-FAMILY WASTEWATER RATES

For its multi-family customers AW currently has in place user charges that are a combination of fixed fees/charges and volumetrically or usage based rates. Customers, regardless of meter size, are assessed a base fee, or account charge, per month. AW incorporates the averaging period for multi-family

customers, like Residential customers. However, for those multi-family customers with separate domestic and irrigation meters, wastewater is billed on a gallon for gallon basis reflective of their domestic meter use. The multi-family volumetric rate is a uniform rate per thousand gallons for all customer consumption at the winter average, or monthly metered water usage, whichever is lower.

Table 11.2 presents the 2017 approved and new model user charges and the new CBC surcharge.

Table 11.2: Multi-Family Wastewater User Charges

2017 Approved User Charges		New Model User Charges (Full COS)	
Account Charge	**Fixed Charge**	**Account Charge**	**Fixed Charge**
All Meter Sizes	$10.30	All Meter Sizes	$10.30
Billed Volume	**Rate**	**Billed Volume**	**Rate**
All Consumption *	$9.48	All Consumption *	$9.30
Community Benefit Charge	n/a	Community Benefit Charge	$0.14

* Customers are billed based upon water usage during the Wastewater Averaging Period, or monthly water consumption, which ever is lower.

11.6 COMMERCIAL WASTEWATER RATES

Commercial customers are assessed user charges similar to the way Multi-Family customers are assessed charges. Customers, regardless of meter size, are assessed a base fee, or account charge, per month. AW incorporates the averaging period for commercial customers. However, for those commercial customers with separate domestic and irrigation meters, wastewater is billed on a gallon for gallon basis reflective of their domestic meter use. The volumetric rate is a uniform rate per thousand gallons for all customer consumption at the winter average, or monthly metered water usage, whichever is lower.

Table 11.3 presents the 2017 approved and new model user charges and the new CBC surcharge.

Table 11.3: Commercial Wastewater User Charges

2017 Approved User Charges		New Model User Charges (Full COS)	
Account Charge	**Fixed Charge**	**Account Charge**	**Fixed Charge**
All Meter Sizes	$10.30	All Meter Sizes	$10.30
Billed Volume	**Rate**	**Billed Volume**	**Rate**
All Consumption *	$9.48	All Consumption *	$9.31

* Customers are billed based upon water usage during the Wastewater Averaging Period, or monthly water consumption, which ever is lower.

Community Benefit Charge	n/a	Community Benefit Charge	$0.14

11.7 LARGE VOLUME CUSTOMER WASTEWATER RATES

Large Volume customers, regardless of meter size, are assessed a base fee, or account charge, per month that is the same as all other retail customers. However, as discussed in the cost of service of large volume customers, each customer is accounted as its own class, and in the case of wastewater volumetric rates, will have unique uniform volumetric rates based on the customer's designated cost of service. AW incorporates the averaging period for large volume customers. However, for those large volume customers with separate domestic and irrigation meters, wastewater is billed on a gallon for gallon basis reflective of their domestic meter use. Large volume customers are also assessed the CBC surcharge, like Residential, Multi-Family, and Commercial customers.

Table 11.4 presents the 2017 approved and new model user charges and the new CBC surcharge.

Table 11.4: Large Volume Customers Wastewater Fixed User Charges

2017 Approved User Charges		New Model User Charges (Full COS)	
Account Charge	**Fixed Charge**	**Account Charge**	**Fixed Charge**
All Meter Sizes	$10.30	All Meter Sizes	$10.30
Billed Volume	**Rate**	**Billed Volume**	**Rate**
Spansion	$8.39	Spansion	$8.28
NXP - Ed Bluestein	$8.93	NXP - Ed Bluestein	$8.96
NXP - W William Cannon	$8.95	NXP - W William Cannon	$8.81
Samsung	$8.28	Samsung	$8.18
Novati	$8.13	Novati	$8.06
University of Texas	$9.42	University of Texas	$9.28
Community Benefit Charge	n/a	Community Benefit Charge	$0.14

11.8 WHOLESALE WASTEWATER RATES

Like large volume customers, each wholesale customer is treated as a separate class, and is assessed a combination of fixed and volumetric charges. Customers are assessed a base fee, or account charge, per month. Each wholesale customer has a unique uniform volumetric rate based on the customer's designated cost of service, and that rate is assessed to billed water consumption during the monthly period. The CBC surcharge is not applicable to wholesale customers.

Table 11.5 presents the 2017 approved and new model user charges.

Table 11.5: Wholesale Wastewater User Charges

2017 Approved User Charges

Account Charge	Fixed Charge
All Meter Sizes	$10.30

Customer	Rate
Mid Tex Utilities (Avana Sub)	$5.66
Comanche Canyon (WCID17)	$3.98
Manor, City of	$5.64
North Austin MUD	$5.19
Northtown MUD	$5.11
Rollingwood	$5.67
Shady Hollow	$5.73
Sunset Valley MUD	$5.71
Steiner Ranch (WCID17)	$3.80
Wells Branch MUD	$5.19
Westlake Hills	$5.68
Community Benefit Charge	n/a

New Model User Charges (Full COS)

Account Charge	Fixed Charge
All Meter Sizes	$10.30

Customer	Rate
Mid Tex Utilities (Avana Sub)	$5.38
Comanche Canyon (WCID17)	$4.39
Manor, City of	$5.83
North Austin MUD	$6.00
Northtown MUD	$6.00
Rollingwood	$5.85
Shady Hollow	$5.92
Sunset Valley MUD	$5.84
Steiner Ranch (WCID17)	$4.87
Wells Branch MUD	$6.02
Westlake Hills	$5.86
Community Benefit Charge	n/a

12. RECLAIMED WATER

12.1 RECLAIMED WATER OVERVIEW

While more than 99% of AW's budget is expended on the water and wastewater services, AW provides an additional service to some customers: reclaimed water service. Reclaimed water is water that has been treated at a wastewater treatment plant that, instead of being discharged into the surface water system, is 'reclaimed' or reused for AW customer purposes. The water is actually pumped from the wastewater treatment plant to customers through secondary water delivery infrastructure, typically called purple pipe, for purposes such as irrigation, that does not require full water treatment to potable standards.

AW currently pumps approximately 1.3 billion gallons of reclaimed water to 79 customers through 51 miles of reclaimed water pipe. AW has plans for significant expansion over the next 5 years, increasing both its number of customers and reclaimed water usage by approximately 70%.

12.2 REVENUE REQUIREMENTS

The total budget for FY 2017 for reclaimed water service is $4.9 million. As presented in **Table 12.1**, the majority of annual cost is interfund transfers, which are related to debt payments for financing capital projects for installing the piping infrastructure. Put another way, approximately 88.6% of the annual budget is spent on capital. This is not uncommon for utilities that provide reclaimed water service. Establishing reclaimed water service is very capital intensive because a brand new system is being installed.

Table 12.1: Reclaimed Water Service Revenue Requirements

	FY 2016	FY 2017
Salaries / Fringes	$338,221	$365,118
Contractual Services	39,986	155,336
Commodities / Other	38,032	39,348
Indirect Cost	-	-
Expense Refunds	(2,004)	(2,004)
Capital Equipment	-	-
Interfund Transfers	3,938,494	4,350,700
Total Revenue Requirement	$4,304,635	$4,908,498

12.3 REVENUE AND INTERFUND TRANSFERS

Given the current limited customer base and overall high capital needs to provide service, AW has elected not to charge full cost of service to the reclaimed water customers. The unit rate for reclaimed water would far surpass that of potable water, and thus no longer be economically viable for customers to switch from potable water for irrigation or other non-potable needs. Therefore, AW has chosen to partially

subsidize the reclaimed water service from the water and wastewater funds in an effort to make reclaimed water affordable and an attractive alternative to potable water use.

In FY 2017, AW projected revenue from reclaimed water sales at approximately $1.5 million. AW will continue to evaluate the rates for reclaimed water service, balancing revenue collection, overall cost, and incentivizing future use. To fully fund the reclaimed water utility, however, AW transferred $1.7 million from both the water and wastewater fund for a total subsidy of $3.4 million.

12.4 RECLAIMED WATER IS A WATER SUPPLY

During the PIC and WIC meetings, a member of the Raftelis Team, Steve Coonan of Alan Plummer Associates, Inc. prepared and presented on AW's reclaimed water system. The overarching message during this discussion was that reclaimed water is actually a very important piece of AW's existing and future total water supply portfolio. Transitioning some customers that have needs that could be served by non-potable water, such as reclaimed water, may free up existing potable water capacity to accommodate additional growth before AW would need to secure the next increment of water supply, which is typically very costly.

Furthermore, the State of Texas considers reclaimed water a viable and valuable component of an overall water supply plan. Senate Bill 1 of the 75th Legislature states:

> Each regional water planning group shall submit to the board a regional water plan that considers: (C) all potentially feasible water management strategies, including but not limited to improved conservation, reuse [reclaimed water], and management of existing water supplies, acquisition of available existing water supplies, and development of new water supplies

The Senate Bill 1 language indicates that the State of Texas now mandates the consideration of reuse, or reclaimed water in the regional water plan, inferring that reclaimed water is actually a water supply.

12.5 RECLAIMED WATER AND THE COST OF SERVICE STUDY

The primary objectives of the cost of service study were the determination of the customer class cost of service and development of rates for the water and wastewater services. Given that reclaimed water rates are currently set at a percentage of the potable water rate (40% to current and 70% to mandatory connect customers) to incentivize use of reclaimed water, developing rates was not a central task. Instead, developing a clear understanding of reclaimed water, its purpose within the utility, and how the water and wastewater fund subsidies should be recovered were the primary objectives. In other words, is the 50/50 split of the subsidy from the water and wastewater funds appropriate.

As a result of the discussions with the PIC and the WIC and the Executive Team, the 50/50 split of the water and wastewater funds' subsidy of the reclaimed water was revisited. The impact of establishing that reclaimed water is a water supply is that it is more appropriate for AW to transfer funds from water

fund than wastewater fund to support the reclaimed water service. Therefore, AW has decided to phase-in the increase of subsidy from the water fund and decrease from the wastewater fund. In FY 2018, AW is targeting a 75/25 transfer of subsidy from the water and wastewater funds, respectively.

13. APPENDICES

13.1 APPENDIX A – PIC/WIC INTRO PACKET

13.2 APPENDIX B – DECISION POINTS

Austin Water

Cost of Service Rate Study - 2016

Facilitation Ground Rules for

Public Involvement Committee

Wholesale Involvement Committee

Meetings

1. All meetings will be conducted as follows:
    a. Discussion will be facilitated to maintain a productive and efficient process;
    b. Meeting materials will be posted to the Austin Water website;
    c. Proceedings are open to public and will include a comment period for public, non-committee attendees; and
    d. Proceedings will be electronically recorded.

Individual Participants

2. Members are responsible for staying informed and attending meetings.
3. Only one person will speak at a time, and no one will interrupt when another person is speaking.
4. Each person agrees to advocate for the interests of the constituency he/she represents and express his/her own views, rather than speaking for others at the table or attributing motives to them.
5. Each person will avoid grandstanding (i.e., making extended comments or asking same question repeatedly), so that everyone has a fair chance to speak and to contribute.
6. Personal attacks will not be permitted. Participants agree to challenge ideas, not people.
7. Each person will make every effort to stay on track with the agenda and to move the deliberations forward.
8. Each person will seek to focus on the merits of what is being said, making a good faith effort to understand the concerns of others. Clarifying questions are encouraged; rhetorical questions and disparaging remarks are discouraged.
9. Each person will seek to follow a "no surprises" rule – voicing his/her concerns when they arise. The intent is to avoid raising unexpected objections late in the deliberations.
10. Each person reserves the right to disagree with any proposal and accepts responsibility for offering alternatives that accommodate his/her interests as well as the interests of others.

11. Each person agrees to keep the constituencies he/she represents informed about the issues under discussion and to seek their input and advice on any developments that emerge.
12. Each meeting will end with a brief summary of the major topics discussed, and a preview of next meeting.
13. Members will not contact Raftelis Financial Consultants between meetings.
14. Cell phones will not be used during meetings except for genuine emergencies.

City of Austin

Austin Water Utility

Cost of Service Rate Study 2016

PUBLIC INVOLVEMENT PLAN

Prepared by:

Raftelis Financial Consultants

August, 2016

Cost of Service Rate Study 2016
Public Involvement Plan
Table of Contents

Introduction

Austin Water (AW) is conducting a comprehensive study to update and improve its methods for determining fair and defensible rates for its services. The study will use accepted Cost of Service (COS) principles that seek the most equitable ways to link the cost involved in serving each category of "class" of customer (e.g., residential, multi-family, commercial, industrial or wholesale) with the amount each pays.

The study is being conducted from September 2016 through May 2017. The timeframe meshes with the City's budget cycle and the new rate methodology is scheduled to be ready for use beginning in November 2018.

The Austin City Council made a commitment to COS principles in 1992. Studies in 1999 and 2007 updated the Cost of Service methodologies, and City Council again adopted the rate-setting methods that have been used since that time.

In conducting a rate study, AW's job is to balance and reconcile the interests of all its customers. This means allocating costs, and recognizing that any costs not covered by one customer class must be borne by the others. Rate studies can be controversial because each customer class would like to shoulder less of the total burden by having other customer classes shoulder more.

The current rate model has been updated each year since 2008. AW has engaged Raftelis Financial Consultants, Inc. (RFC) to review the existing model and develop changes or a new model to better address current AW objectives.

AW is committed to making its customers aware of the rate study and to providing opportunities for the public to offer input. Toward that end, AW is providing each customer class a seat on an advisory committee whose role is to examine issues related to the study and advise the AW executive team and staff.

This Public Involvement Plan explains the tools and tactics that will be used to make information available to the public and solicit comments from them.

Public Involvement Consultant

A team of rate experts led by RFC has been contracted by the City of Austin to assist with updating and improving the existing COS methodology. RFC has contracted with Laura Raun Public Relations (LRPR) as its public involvement consultant. LRPR is an Austin, Texas-based public involvement firm with a 15-year track record of informing and engaging stakeholders, and facilitating communication and problem solving on complex issues. LRPR has worked with clients such as the City of Wimberley, the Lower Colorado River Authority, the Texas Commission on Environmental Quality, the South Central Texas Regional Water Planning Group, the Texas Ground Water Association, and the Barton Springs Edwards Aquifer Groundwater Conservation District.

Public Involvement Goals

- To provide clear, timely, and accurate information for the public;
- To promote involvement by representatives of all AW customer classes in reviewing issues, weighing tradeoffs, and advising AW on the study;
- To define roles in the rate study process so that the public understands who has responsibility for decision-making; and,
- To provide opportunities for public comment and input throughout the study.

Decision-Making Responsibilities

Within limits established by the Texas Public Utilities Commission, the Austin City Council makes the final decision about the rates charged by AW. The following table outlines the support roles that others play in the COS Rate Study.

GROUP	MEMBERS	RESPONSIBILITY
AW Project Team	• Financial Management Division	Provides supporting documentation for COS calculations; provides staff support for the study
Consulting Team	• Raftelis Financial Consultants • Laura Raun Public Relations • Alan Plummer Associates	Provides technical guidance and expertise; prepares issue papers; makes technical recommendations; facilitates PIC and WIC meetings and submits Rate Study Report
Public Involvement Committee (PIC)	• Representatives of AW retail customer classes	Examines key issues and advises AW on impacts to retail customers (residential, multifamily, commercial, industrial)
Wholesale Involvement Committee (WIC)	• Representatives of AW wholesale customers	Examines key issues and advises AW on impacts to wholesale customers
Public and Special Interest Groups	• Open membership	Reviews issues and provides comments to the AW and/or City Council

AW Executive Committee	• AW Director, Assistant Directors, Budget and Finance Manager, City Legal Department	Determines AW's rate recommendations to City Council after considering input of all parties
Water and Wastewater Commission	• Members appointed by City Council	Advises the City Council, including advising the Council on recommendations on rates
Resource Management Commission	• Members appointed by City Council	Advises City Council on water conservation, energy, alternative energy technologies, renewable energy sources

Tools and Techniques

Efforts will be made to ensure that information is readily available to the public, and that customer representatives and interested parties are involved throughout the study. These efforts are described below.

Media Outreach

News releases will be issued to newspapers and radio stations in the Austin area. The releases, which will be developed by the AW Public Information Officer, will serve to announce each of the Public Involvement Committee meetings.

Website

A web page on the AW website will be maintained by AW to provide the public and stakeholder committees with information. Through the web page, the public and stakeholders will be able to access meeting dates and locations, meeting agendas, issue papers, and comments from Public Involvement Committee and Wholesale Involvement Committee members on study issues. An email feature will allow comments from the public to be easily submitted to AW.

AW will complete frequent updates to keep information current. The project web page address is http://www.austintexas.gov/department/2016-cost-service-rate-study.

Information Library

The AW is providing electronic copies on all relevant study data on the study website referenced above. Hard copies can be provided upon request at the expense of the requestor.

Public Involvement Committee (PIC)

A Public Involvement Committee will be established and include representatives from all AW retail customer classes (e.g., residential, multi-family, commercial or industrial). Members will be selected by a diverse group of organizations with direct interest in the study. Included in the PIC membership will be a Residential Customer Rate Advocate (the Advocate). The firm of NewGen Strategies & Solutions, LLC (NewGen) has been retained by the Utility to serve in this capacity. Representatives from NewGen will attend PIC meetings and participate in similar manner to any other PIC member – see description presented late in this document.

The PIC will hear from subject matter experts, examine issues and advise AW on study issues. PIC members represent their customer class and are responsible for communicating with their constituency, while considering what is best for the City as a whole. The PIC is expected to meet approximately ten (10) times over the course of the study.

A roster of PIC members will be provided.

Wholesale Involvement Committee (WIC)

A Wholesale Involvement Committee will be established and include self-selected representatives from the Utility's Wholesale customers.

The WIC will hear from subject matter experts, examine issues and advise AW on study issues. WIC members represent their agencies and their customers and are responsible for communicating with their constituency (e.g., board members and end-use customers), while considering what is best for the City as a whole. The committee is expected to meet approximately five (5) times over the course of the study.

A roster of WIC members will be provided.

Meetings and Public Comment

All PIC and WIC meetings are open to the public. Interested persons and members of special interest groups may attend. Meeting times and agendas will be posted on the study web page.

Comments, questions and requests for information from members of the public in attendance may be formally submitted in writing through the study web page throughout the study process. Written comments on the recommended rate methodology will be included in the Final Report, prepared by RFC and submitted to the City Council, at the conclusion of the study.

Residential Customer Rate Advocate

The City of Austin has contracted with a Residential Customer Rate Advocate to represent the interests of residential customers on the PIC, and to conduct outreach and provide information to single family residential customers. The Advocate will advocate on behalf of residential interests, review information from the study consultant (RFC), assess potential impacts on residential customers, and provide a written analysis to AW.

Issue Papers

Raftelis Financial Consultants will prepare issue papers on topics identified by AW as relevant to the cost of service rate study. The papers will explain decisions to be made and identify options, pros-cons and preliminary recommendations.

Issue papers will be sent to PIC members in advance of the relevant committee meeting and will be discussed during the PIC meeting. Issue papers will also be posted on the study web page for public review and comment.

Presentations to City Council, Water and Wastewater Commission, Resource Management Commission

AW will routinely update the Water and Wastewater Commission on the progress of the rate study and will provide periodic updates to the City Council.

Cost of Service Rate Study updates will be posted on the agendas of the respective bodies. Meetings are open to the public, and anyone may comment during designated public comment periods.

Prior to the adoption of new rates, City Council will hold a public hearing and receive public feedback on the proposal.

Decision Point Handout

April 25, 2017

PIC and WIC Meetings

Issue #1: Revenue Requirement Determination for Wholesale Customers						
			Cash Basis		Utility Basis (Option for Change)	
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Pros**	**Cons**	**Pros**	**Cons**
How should the revenue requirement for wholesale customers be determined? **<u>Status Quo</u>: Cash Basis Revenue Requirement Determination**		Utility Basis	1. Historically used – "generally" accepted by all customers 2. Simple, easy to understand, determine, update and administer 3. All customers treated the same; same methodology used for everyone 4. Matches City's budget and accounting methodology, i.e., cash method	1. O/C customers start paying for assets before placed into service 2. No explicit return to I/C customers for investment and risk to serve O/C customers 3. Potential for material rate changes based on capital financing decisions (e.g., debt vs. cash funding)	1. Provides explicit return to I/C customers for investment and risk to serve O/C customers (O/C rates are higher for the same level of service) 2. Fairness and equity in terms of return provided to I/C customers (O/C rate are higher for the same level of service) 3. Fairness and equity for O/C customers in terms of elimination of subjective decisions by AW regarding method of capital financing which can cause material rate changes 4. Enhanced level of rate stability for O/C customers 5. O/C customer do not pay a return on assets or depreciation until assets are in service 6. Consistent with methodology used by PUCT in the regulation of investor-owned utilities 7. Widely used by other local government utility providers across the US in O/C service arrangements 8. The PUC is currently considering a Notice of Proposed Rulemaking that would require municipal/local government electric utilities to use the Utility Basis for O/C customers. This may indicate a preference that municipal water utilities will also be required to employ the Utility Basis for O/C customers.	1. New approach for customers to understand 2. Absent an agreed upon methodology, potential exists for extensive debate regarding determination of the cost of equity capital 3. Requires the determination of the used and useful rate base – potential for debate regarding in-service date and "usefulness" for assets under construction 4. Represents costs in a manner different than the City's current cash budget methodology 5. Transitioning to the Utility Basis for O/C customers may raise questions regarding the recovery of capital-related costs. During WIC meeting discussions, concern was raised of "paying for assets twice", based on the disconnect between financing periods and asset life, on which depreciation and rate of return is paid under the Utility Basis. 6. When considering fairness of utility rates, PUC ruling guidelines may favor the consistency of method applied, regardless of the method in use. This "fairness" concern is a consideration when evaluating a move from the Cash to the Utility Basis.
PIC Meeting Dates:	PIC Meeting #2 on October 5, 2016 / PIC Meeting #3 on October 25, 2016 / PIC Meeting #7 January 4, 2017 / PIC Meeting #10 February 21, 2017					
WIC Meeting Dates:	WIC Meeting #2 on October 5, 2016 / WIC Meeting #3 on November 8, 2016 / WIC Meeting #6 January 4, 2017 / WIC Meeting #9 February 21, 2017					
Consultant Recommendation:	AW should use the utility basis method to determine the revenue requirement for wholesale customers (see consultant Technical Memorandum dated October 17, 2016)					
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate)** I support Austin Water to utilize the utility basis for these (wholesale and outside city) customers. **Chuck Loy (PIC-Multifamily)** The multi-family recommends the outside rates be determined by the utility method. For two reasons. 1) It is a method that the Texas PUC is most familiar with and understands and 2) it will allow for some flexibility with the Rate Of Return to cover any subsidies that could occur as a result of the recent PUC case. **Marcia Stokes (PIC-Multifamily)** I agree with previous comments by the residential rate advocate and multifamily PIC rep that the utility basis be used for wholesale and outside city customers while inside city remain cost basis. **Jay Joyce (WIC-Wells Branch MUD)**: since there's no guarantee that either cash or utility basis will result in increase or decrease of cost of service, it will be tough for customer classes to decide without a rough estimate; I wouldn't buy a car without knowing the cost and don't think it would that difficult to do a rough estimate **Gary Rose (WIC-Southwest Water Co.):** preference for utility basis with caveats: capital expenses, used and useful, and reasonable rate of return concerns **Howard Hagemann (WIC-Wells Branch MUD):** It seems the utility basis is used by a number of utilities and AW seems to be leaning that way, but I'm on the fence because the precedent seems to say utility basis will be difficult to implement and transparency can be an issue with respect to handling assets.					

	Don Conklin (WIC-North Austin MUD #1): I worry about transparency and am concerned about the continued reference to cash needs vs revenue requirements when the PUCT has repeatedly said rates should be cost of service based and not City of Austin revenue needs based. **Lanetta Cooper (PIC-Residential/Low Income):** The Inside city customers can't intervene in PUCT cases, and want clear delineation of wholesale vs retail costs. Recommend utility basis for wholesale. **Dave Yanke (PIC- Residential Rate Advocate):** Initially I prefer utility basis, but don't know methodology assumptions so it's hard to be absolute. A conditional yes. Utility basis for wholesale is not atypical; Fort Worth does it for wastewater, too. **Grant Rabon (PIC-Residential Rate Advocate):** I agree with what Dave Yanke said. **Todd Davey (PIC-Industrial/Large Volume):** Splitting wholesale and retail will require additional policy. A conditional yes as we don't know the accounting, i.e. capital expenses funding vs debt funding. What is the rate of return? Less flexibility with utility basis equals less equitability for cash basis. Have concern with how any new rules will impact the retail side. Utility basis puts the onus on Austin Water to manage the rate of return. Cash is more flexible, susceptible to swings in costs, etc. I'm generally in favor of utility basis for all. Retail shouldn't pay for wholesale cost under-recovery. **Chuck Loy (PIC-Multifamily):** Utility basis would be most equitable. We need more details but I'm fairly firm in support/preference. I believe Austin Water would be in a better position with PUCT filings if they use utility basis for wholesale. **Marcia Stokes (PIC-Multifamily):** It doesn't really matter to retail, we will still be cash basis. Utility basis is lesser of two evils for wholesale. I prefer the path of least resistance. **Dan Wilcox (PIC-Industrial/Large Volume):** If I recall, there will be a minute change in revenue requirements because the wholesale percentage is so small, but a higher cost with utility basis. It may be more equitable but is it worth the effort, risk and cost for so little a revenue change? I have no preference, really, but feel cash basis is better in the long run but utility basis is more business-like. **Mary Guerrero-McDonald (Commercial):** I agree with Todd Davey. This issue is between Austin Water and wholesale customers. I only care how it impacts retail customers. I'm neutral. Find what's best for commercial. **Jesse Penn (PIC-W/WW Commissioner):** I'm neutral/lean towards utility basis. Rate of return is a way to mitigate investment risk. It's more business-like and straightforward. **Luke Metzger (PIC-Environmental):** I'm neutral. The change sounds like a hassle for a small benefit. **Chien Lee (PIC-W/WW Commissioner):** If wholesale goes with utility basis, why keep retail as cash basis? Keep it simple and straightforward. Utility basis seems more predictable, less risky. <u>2/21/2017</u> **Lanetta Cooper (PIC-Residential/Low Income):** One of the benefits that Austin Water stipulated was that the PUCT was addressing the utility basis methodology. What has changed? It appears that the big difference between the PUCT under the cash basis and the utility basis is the recognition of timing. The PUCT has been reluctant to give a return with the CWIP. **Karen Keese (PIC-Residential):** I started thinking about the cash basis methodology, and I discovered how few of the wholesale customers Austin Water has. The costs necessary to build a case for the wholesale rate case would outweigh the benefits/savings.
Executive Team Decision:	**Decision:** AW will continue using the cash basis to determine revenue requirements for wholesale customers. **Rationale:** AW has been using the cash basis since our first COS in 1992. The cash basis method aligns the rate making process with the cash flow requirements identified during the budget process. The continuity of using the cash basis will provide a more consistent rate development. A change to the Utility basis would require significant analysis, additional consulting costs, possible adjustments to account for changing basis in capital cost recoveries, and other anticipated changes in processes. The PUC has indicated that it accepts the cash basis method for municipal utilities.

Issue #2: Revenue Requirement Determination for Outside City Retail Customers						
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Cash Basis**		**Utility Basis (Option for Change)**	
			Pros	**Cons**	**Pros**	**Cons**
How should the revenue requirement for outside city retail customers be determined? **<u>Status Quo</u>: Cash Basis Revenue Requirement Determination**		Utility Basis	Same as Issue #1	Same as Issue #1	Same as Issue #1	Same as Issue #1
PIC Meeting Dates:	PIC Meeting #2 on October 5, 2016 / PIC Meeting #3 on October 25, 2016 / PIC Meeting #7 January 4, 2017 / PIC Meeting #10 February 21, 2017					
WIC Meeting Dates:	WIC Meeting #2 on October 5, 2016 / WIC Meeting #3 on November 8, 2016 / WIC Meeting #6 January 4, 2017 / WIC Meeting #9 February 21, 2017					
Consultant Recommendation:	AW should use the utility basis method to determine the revenue requirement for wholesale customers (see consultant Technical Memorandum dated October 17, 2016)					
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate)** I support Austin Water to utilize the utility basis for these (wholesale and outside city) customers. **Chuck Loy (PIC-Multifamily)** The multi-family recommends the outside rates be determined by the utility method. For two reasons. 1) It is a method that the Texas PUC is most familiar with and understands and 2) it will allow for some flexibility with the Rate Of Return to cover any subsidies that could occur as a result of the recent PUC case. **Marcia Stokes (PIC-Multifamily)** I agree with previous comments by the residential rate advocate and multifamily PIC rep that the utility basis be used for wholesale and outside city customers while inside city remain cost basis. **Gary Rose (WIC-Southwest Water Co.):** I agree that wholesale and outside city should probably be the same but have a hard time being okay with being lumped into someone else's rate class. **Lanetta Cooper (PIC-Residential/Low Income):** Will outside city customers become inside city customers? Can you leave outside city as cash basis? I'm on the fence. Keep a bright line and regulatory rate distinction. I share same concerns as Todd Davey regarding changing to utility basis i.e. factoring reserves, etc. Can those be recovered in the utility basis model? We need to clarify that what we're really talking about is preventing residual dumping on retail. I have no strong feelings but utility basis has clearer guidelines. The PUCT generally looks at rates on a system wide basis, so you will need to justify a change between outside city and inside city. **Chuck Loy (PIC-Multifamily):** Yes, keep outside city the same as wholesale. What costs do outside city incur that inside city don't? Higher risk for outside city being outside the city of Austin jurisdiction. **Grant Rabon (PIC-Residential Rate Advocate):** If you're not keeping assets segregated between inside city and outside city, you would be blind to the change between utility and cash. The assumption is that invested capital per outside city is higher than inside city.					
Executive Team Decision:	**Decision:** AW will continue using the cash basis to determine revenue requirements for outside city retail customers. **Rationale:** The same rationale for wholesale customers above applies to outside city retail customers.					

Issue #3: General Fund Transfer in Wholesale Revenue Requirements				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Reduce or Eliminate the General Fund Transfer (Option for Change)**	
			Pros	**Cons**
Should the General Fund Transfer be a part of the revenue requirement for wholesale customers? **Status Quo: Maintain General Fund Transfer in the Wholesale Revenue Fund Requirement**		Reduce or eliminate the General Fund Transfer and/or consider other forms of justification, e.g., PILOT, Franchise Fee, and/or Street Rental Fee	1. Wholesale customers received no benefit from the inside city governmental services funded by the transfer.	1. It is standard practice for municipal governments to earn a "profit" or "dividend" from the operation of municipal utilities. Payments to the General Fund can be structures in several ways: a. Direct transfer such as that made by Austin Water and Austin Energy b. Payment in lieu of taxes that is conceptually similar to the property taxes paid by investor-owned utilities c. Franchise fee that is conceptually similar to the fee also paid by investor-owned utilities 2. Austin Energy makes an annual General Fund Transfer to the City of Austin - there is no reason for Austin Water to be different 3. The General Fund Transfer is a cost of doing business that would be incurred by a private company providing water and wastewater services in the City and as such is a "cost of doing business" that should also be paid by wholesale customers 4. The amount of the General Fund Transfer (8.2% of Gross Revenues) is a policy decision appropriately made by the Austin City Council. Council does not need to justify their reasoning for this or any other level of General Fund Transfer.
PIC Meeting Dates:	PIC Meeting #4 on November 8, 2016 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #5 on November 29, 2016 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	General Fund Transfers, regardless of how they are structured or what they labeled, are a valid operating expense incurred by many municipal utilities and should be included in the revenue requirement of the wholesale customers. There is the possibility of restructuring the General Fund Transfer as a payment-in-lieu of taxes and/or a Franchise Fee. In the meantime, the Austin Water General Fund Transfer should continue in the amount specified by Austin City Council.			
PIC & WIC Comments:	**Gary Rose (WIC-Southwest Water Co.):** It seems rate of return and General Fund Transfer is double dipping under a utility basis. **Jay Joyce (WIC-Wells Branch MUD):** If General Fund Transfer is profit, then it's not cost of service; I can't imagine the PUCT would allow both a rate of return and General Fund Transfer. **Howard Hagemann (WIC-Wells Branch MUD):** I see things not allocated to what they're actually expended for. I recommend against the General Fund Transfer under utility basis. **Robert Anderson (WIC-Northtown MUD/Wells Branch MUD):** The PUCT has disallowed this so I'm not sure why we're discussing it. Item #4 under "Cons" is a slap in the face. **Don Conklin (WIC-North Austin MUD #1):** I request the General Fund Transfer be withdrawn as part of the cost of service allocation as repeatedly ruled by the courts; that's at the heart of my skepticism about this process. **Charles Winfield (WIC-City of Rollingwood):** My preference is to not include the General Fund Transfer. There's already one included for Austin Energy which we pay. **Luke Metzger (PIC-Environmental):** Maintain the wholesale General Fund Transfer. They should pay their fair share. **Todd Davey (PIC-Industrial/Large Volume):** No change. They're different jurisdictions (city of Austin and PUCT). Set up those rates of return in another fashion. I don't think the City of Austin should mandate General Fund Transfer by wholesale. The city should recover funds that hit operating expenses. How does wholesale get their voice heard? General Fund Transfer and City of Austin don't apply to them. **Lanetta Cooper (PIC-Residential/Low Income):** I strongly support charging the wholesale customer class the General Fund Transfer. I see the General Fund Transfer as profit. Austin Water is running a business and they deserve the chance to earn a profit. There are some expenses applicable to wholesale and they should bear their share. The General Fund Transfer shouldn't apply to costs borne by inside city only costs like CWIP/CIP. **Todd Davey (PIC-Industrial/Large Volume):** I agree with Lanetta but disagree with "Cons" item #4. **Chuck Loy (PIC-Multifamily):** I agree. Those costs should be recovered in some way. Call them something else or the PUCT will challenge them. **Dave Yanke (PIC-Residential Rate Advocate):** I agree with Chuck Loy. You will need justification. There may be other mechanisms to recover costs and they must be defensible. **Jesse Penn (PIC-W/WW Commissioner):** What did the WIC say? **Karyn Keese (PIC-Residential):** You need some formula/mechanism other than a flat 8.2% and it should be part of wholesale revenue requirements. Council should know the affordability impact of 8.2% on rates and what that means to the average resident. 3/6/2017 **Lanetta Cooper (PIC-Residential/Low Income):** I still have a concern charging a General Fund transfer to the Reclaimed Water utility when there is no profit. We have one of the highest General Fund transfer of all utilities. I hope you look at reasonableness in terms of the General Fund Transfer. **Howard Hagemann (WIC-Wells Branch MUD):** Even though the PUCT advised that Austin Water not go forward with this charge, you are still going to charge this to wholesale? **Clark Cornwell (City of Austin)**: The PUCT has not said that Austin Water cannot collect the General Fund transfer, just that Austin Water did not meet the burden of proof.			
Executive Team Decision:	**Decision:** AW will continue to allocate an 8.2% General Fund Transfer to all customer classes including wholesale customers. **Rationale:** Current City financial policy provides for an 8.2% General Fund Transfer as a payment in lieu of taxes. Municipal water utilities generally have a general fund transfer to compensate citizen owners of the utility. The current level is in a range of other cities.			

Issue #4: Rate Recovery of Costs Incurred to Meet Financial Benchmarks				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Reduce or Eliminate the Cost of Meeting Financial Benchmarks in Rates (Option for Change)**	
			Pros	**Cons**
Is it appropriate for Austin Water to continue to include in rates the costs incurred to meet financial benchmarks related to items such as Debt Service Coverage; Cash Reserves, and specific target levels of debt in the Austin Water capital structure? **Status Quo: Continue to include the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers**		Reduce or eliminate the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers.	1. Austin Water should only include in rates the absolute minimum costs necessary to maintain contractually mandated debt service coverage requirements (nothing more), the minimum possible cash reserve levels. Austin Water CIP financing decisions should be made solely on the basis of what results in the lowest rates today. Consideration of long-term capital structure issues and the reduced risks of have lower amounts of debt should not be considered in CIP financing decisions.	1. Financially stable utilities must maintain debt service coverage and cash reserve levels above the bare minimum. This is the only way to protect ratepayers from emergency rate increases due to unforeseen events such as severe and prolonged drought and major infrastructure failures. 2. Financially stable utilities must engage in CIP financing strategies that move toward an optimal capital structure with the appropriate balance of debt and equity. Such a capital structure limits the financial risk of too much debt and minimizes the rate increases caused by the use of too much cash funded CIP. 3. Austin Water must compete for funds and issue debt in the capital markets. Including in rates the costs incurred to meet reasonable financial benchmarks is prudent because it lowers Austin Water's borrowing costs and ensures unfettered access to the debt markets.
PIC Meeting Dates:	PIC Meeting #3 on October 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on October 5, 2016 / WIC Meeting #4 on November 25, 2016 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The costs incurred to meet reasonable financial benchmarks should be included in rates and allocated to both retail and wholesale customers.			
PIC & WIC Comments:	**Jay Joyce (WIC-Wells Branch MUD):** How do you propose to incorporate these costs into a utility basis? **Howard Hagemann (WIC-Wells Branch MUD):** Aren't impact fees intended to cover items like this? **Gary Rose (WIC-Southwest Water Co.):** Is Austin Water's bond rating separate from the City of Austin's and Austin Energy's bond ratings? **Don Conklin (WIC-North Austin MUD #1):** What is the required debt service coverage? Can we see it? Does it include reserves? Are reserves locked to Austin Water and unable to be siphoned off? **Luke Metzger (PIC-Environmental):** It's absolutely appropriate and good financial practice. **Grant Rabon (PIC-Residential Rate Advocate):** Certainly debt and bond covenants. What Austin Water is doing now far surpasses requirements. What level is an appropriate level? Please share the Fitch 2017 medians report. **Karyn Keese (PIC-Residential):** I totally agree with Grant Rabon. Certainly debt service coverage is important but at what level? I would like a more formalized policy. I would like to see a sampling of other debt service coverage plans. **Todd Davey (PIC-Industrial/Large Volume):** I don't believe you should recover any more than what is needed to operate the utility. I have concerns about pre-collecting for future rate increases. Your stated targets are way out of line. Austin Water's rates are already high. Operate more efficiently. They were able to find equitable rates/levels in the Austin Energy settlement. I contacted the Fitch analyst and there are more parts to a bond rating than what Austin Water is benchmarking. My baseline is how your rates compare to others. Right now your benchmarks are out of alignment. Council is making decisions impacting your revenue and demand, more so than with Austin Energy. Austin Water should have an affordability goal like Austin Energy does. **Lanetta Cooper (PIC-Residential/Low Income):** I don't know if the PUCT would allow it under utility basis. Depreciation would have to cover these costs. I think Austin Water will have difficulty squeezing debt service coverage and reserves into a utility basis model. These are covered by the rate of return. Look at it as a rate design issue especially Revenue Stability Reserves. I share Todd and Grant's concerns for inside city – why do you need such a big piggy bank? **Dave Yanke (PIC-Residential Rate Advocate):** Debt service coverage and reserves are critical. If you want them to grow, provide a detailed longer term analysis on how you will incrementally get there without significant rate increases. The challenge is to define what adequate levels are.			
Executive Team Decision:	The Executive decisions associated with the financial benchmarks were separated into issues #4a – 4c.			

Issue #4a: Rate Recovery of Costs Incurred to Meet Financial Benchmarks – Debt Service Coverage				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Reduce or Eliminate the Cost of Meeting Financial Benchmarks in Rates (Option for Change)**	
			Pros	**Cons**
Is it appropriate for Austin Water to continue to include in rates the costs incurred to meet financial benchmarks related to items such as Debt Service Coverage; Cash Reserves, and specific target levels of debt in the Austin Water capital structure? **Status Quo: Continue to include the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers**		Reduce or eliminate the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers.	1. Austin Water should only include in rates the absolute minimum costs necessary to maintain contractually mandated debt service coverage requirements (nothing more), the minimum possible cash reserve levels. Austin Water CIP financing decisions should be made solely on the basis of what results in the lowest rates today. Consideration of long-term capital structure issues and the reduced risks of have lower amounts of debt should not be considered in CIP financing decisions.	1. Financially stable utilities must maintain debt service coverage and cash reserve levels above the bare minimum. This is the only way to protect ratepayers from emergency rate increases due to unforeseen events such as severe and prolonged drought and major infrastructure failures. 2. Financially stable utilities must engage in CIP financing strategies that move toward an optimal capital structure with the appropriate balance of debt and equity. Such a capital structure limits the financial risk of too much debt and minimizes the rate increases caused by the use of too much cash funded CIP. 3. Austin Water must compete for funds and issue debt in the capital markets. Including in rates the costs incurred to meet reasonable financial benchmarks is prudent because it lowers Austin Water's borrowing costs and ensures unfettered access to the debt markets.
PIC Meeting Dates:	PIC Meeting #3 on October 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #9 January 31, 2017 / PIC Meeting #10 February 21, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #3 on October 5, 2016 / WIC Meeting #5 on November 29, 2016 / WIC Meeting #8 January 31, 2017 / WIC Meeting #9 February 21, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The costs incurred to meet reasonable financial benchmarks should be included in rates and allocated to both retail and wholesale customers.			
PIC & WIC Comments:	**Clay Collins (WIC-Sunset Valley):** My thought is the policy says you should have 1.5x, but staff says we need something else. The policy needs to be changed, but the policy is vague. If the policy said you should never drop below 1.5x, then we need to change it. **Gary Rose (WIC-Southwest Water Co.):** If 1.85x makes the rating agencies comfortable, then it would be an adequate reserve fund level. **David Yanke (Residential):** It should be relatively straight forward to perform a 5-year forecast and how it affects the cost of service with rates by customer class. **Todd Davey (PIC-Industrial/Large Volume):** I called the Fitch representative to ask about the ratings. You are stacking cash reserves. Some of the volatility is created by the rate design in the residential customer class, some is created by policy. Ratings can be improved in other methods, other than increasing the debt service coverage. It's a little misleading to compare the Fitch medians with Austin Water. As a fixed cost dependent utility, the focus needs to be less about cash on hand and more about surcharges needed at the time. More important to focus on how to bring the rates down, look at capital spending plans to get costs more in line. **Grant Rabon (PIC-Residential Rate Advocate):** In the past, when you have had financial hardships some of that was driven of the level of fixed costs recovered. Currently, the percentage is higher. I am going to suggest that it would take a much more significant level of drought to take you down to the revenue loss level of 2010 and 2014. **Lanetta Cooper (PIC – Low Income Residential):** I want to see the rate difference between different debt service coverage. Assume the debt equity and debt service coverage at minimum levels to see the rate differences. It seems like we are changing policy from what city council has recommended. <u>2/21/2017</u> **Katy Phillips (WIC- Sunset Valley):** Has 1.85x been historically consistent? **Howard Hagemann (WIC- Wells Branch MUD):** Isn't this a function of the efficiency of the utility? What is your current level? **Grant Rabon (PIC-Residential Rate Advocate):** The DSC, reserve requirements, and the cash funding of CIP are the three legs of the utility. What is the largest driver? It seems that it would be best to set the other two legs of the stool, and make the DSC an input in the COS model. Rather than taking a rating agency's figure, for rate payer and intergenerational issues, you should match up the level of cash funding of CIP with the projects being financed. Let's decide what level of reserves is appropriate then look at investments in the capital plan and match level of equity funding, so don't have intergeneration issues when cash funding 50 year life assets. Resulting in debt service coverage. I think what you have now is good and don't need to drive this further especially at the cost of affordability. **Todd Davey (PIC-Industrial/Large Volume):** You're moving the equity financing of capital to 50%, and you are now more dependent on your capital spending projections for 10-years. You are moving the cash funding from a third to a half, I still think there is room to reduce the debt service coverage if you change that figure. I agree with Grant. This is a 10-year projection, I think the method of looking at the projects. Changes should not be made until the Independent Hearing Examiner process. That is where all of these issues will be addressed. Without the model to see to see how this works, I don't think any changes should be made. It's not about revenue requirements, it's about the affordability. The decision needs to be made through the Independent Hearing Examiner not now. **Karyn Keese (PIC-Residential):** I think right where you are right now is adequate. I don't see the need to talk about going higher than that. Your current metrics look healthy.			
Executive Team Decision:	**Decision:** AW will target a 1.85x debt service coverage over the next 5-10 years. **Rationale:** Improvement in AW's debt service coverage is a critical component in strengthening our financial position and maintaining our current AA bond ratings. While this target is below the Fitch median for AA credits, it will still provide improvement from our current 1.7x level. The 1.85x target level can be achieved with a reasonable level of rate increases over the time period. Additionally, the 1.85x target level will result in reasonable cash reserve build up and CIP cash financing. In addition, Austin Water's actively manages debt levels to lower overall dollar amount required to maintain debt service coverage targets.			

Issue #4b: Rate Recovery of Costs Incurred to Meet Financial Benchmarks – Cash Reserves Target – Days Cash of Operating Requirements				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Reduce or Eliminate the Cost of Meeting Financial Benchmarks in Rates (Option for Change)**	
			Pros	**Cons**
Is it appropriate for Austin Water to continue to include in rates the costs incurred to meet financial benchmarks related to items such as Debt Service Coverage; Cash Reserves, and specific target levels of debt in the Austin Water capital structure? **Status Quo: Continue to include the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers**		Reduce or eliminate the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers.	1. Austin Water should only include in rates the absolute minimum costs necessary to maintain contractually mandated debt service coverage requirements (nothing more), the minimum possible cash reserve levels. Austin Water CIP financing decisions should be made solely on the basis of what results in the lowest rates today. Consideration of long-term capital structure issues and the reduced risks of have lower amounts of debt should not be considered in CIP financing decisions.	1. Financially stable utilities must maintain debt service coverage and cash reserve levels above the bare minimum. This is the only way to protect ratepayers from emergency rate increases due to unforeseen events such as severe and prolonged drought and major infrastructure failures. 2. Financially stable utilities must engage in CIP financing strategies that move toward an optimal capital structure with the appropriate balance of debt and equity. Such a capital structure limits the financial risk of too much debt and minimizes the rate increases caused by the use of too much cash funded CIP. 3. Austin Water must compete for funds and issue debt in the capital markets. Including in rates the costs incurred to meet reasonable financial benchmarks is prudent because it lowers Austin Water's borrowing costs and ensures unfettered access to the debt markets.
PIC Meeting Dates:	PIC Meeting #3 on October 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #9 January 31, 2017 / PIC Meeting #10 February 21, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #3 on October 5, 2016 / WIC Meeting #5 on November 29, 2016 / WIC Meeting #8 January 31, 2017 / WIC Meeting #9 February 21, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The costs incurred to meet reasonable financial benchmarks should be included in rates and allocated to both retail and wholesale customers.			
	Lanetta Cooper (PIC-Residential/Low Income): There seems to be more piggy banks than needed due to negative watch **Todd Davey (PIC-Industrial/Large Volume):** Bond convent is not on the graph, which is relative high to other systems and income. Volatility is created by Residential rate design and policy. Also, ratings can be improved without coverage for example Fitch customer classes are more rate sensitive. Austin Water should not focus on raising cash to reach 2.0 coverage ratio, but rather wait till there is an issue. The focus should be to bring rates down to a 1.5-1.6 level and use excess cash to fund capital. **David Yanke (Residential):** There is a lot that goes into a rating and AW suggestions are reasonable. A 1.85x over 10-years is a reasonable range for me. It would not impact affordability. **Jay Joyce (WIC-Wellsbranch):** Concerned how cash reserves would be incorporated into utility basis. **Howard Hagemann (WIC-Wellsbranch):** How will would cash reserves be allocated to wholesale customers? **Gary Rose (WIC-Southwest Water Co.):** Are Austin Water bond ratings separate from the City of Austin? **Don Conklin (WIC-North Austin MUD#1):** What is debt service requirement? Would like to see backup information. Are the reserves blocked from the City taking? <u>3/6/2017</u> **David Yanke (Residential):** I know we have talked a lot about days of cash on hand. I would like to go on record that the city hold current residential rates where they are for Fiscal Year 2018. Here in Austin there is an affordability problem. Fitch uses a 2% benchmark, but we (Austin) are at 2.4%. **Karyn Keese (PIC-Residential):** I would echo that the metrics here are too aggressive. California has drought problems and revenue problems. They brought in a debt manager. They prefer to have a low target and exceed that amount. San Diego has a 1.2x debt service target. I think Austin Water is currently fine. You want to go 50% capital funding, but they have a 10% goal. Over time 50% cash funding is less expensive but ignores affordability today. These metrics need to be rethought. I would applaud the debt management program if you increase your debt service coverage. That's fine. **Lanetta Cooper (PIC-Residential/Low Income):** For fiscal year 2017 the debt to equity ratio is 1.7x. Was that an increase from the previous target? The reserves are all interrelated. You were increasing your reserves and the debt service reserves. What happens when you achieve that target, do you lower it? There should be some adjustment to the debt service coverage when you achieve that target. You are going to pay down your debt to achieve 50:50 which means equity goes up. Debt is cheaper than equity financing especially when you have a treatment plant coming online. You don't have depreciation so customers in the future would not be paying for the plant. There are intergeneration subsidies. **Dan Wilcox (PIC-Industrial/Large Volume):** I think these three metrics are on the aggressive side. If you are looking at a balance, when you are pushing affordability it is hard to associate that with these metrics. You have no idea what rates would be to get to 245 days or 1.85x compared to 1.75x. What value is it going to give us in 5-10 years? It's not clear how these more aggressive metrics are going to pay off in the long run. **Karyn Keese (PIC-Residential):** We would like to see the quantifiable impact of these metrics on residential customers. Your recommendation versus exactly where you are today. If it's really not that much to get there. **Grant Rabon (PIC-Residential Rate Advocate):** You are a quality strong AA utility rating. I am struggling to understand the increase to these targets from where they are. I would focus more concern to affordability. **David Yanke (Residential):** I appreciate that you are developing a five year forecast that you cannot show until council approval, but if we could see the impact to affordability that would be beneficial. It helps educate citizens if they have something to look at. **Andrew Hunt (WIC- North Austin MUD):** How many Day of Cash on Hand is needed? 365 days or 245 days?			

	Robert Wood (WIC-City of Westlake Hills): On the decision point chart, is there a way to indicate change from current practice?
Executive Team Decision:	**Decision:** AW will target a base operating cash reserve level of 245 days for both the water fund and wastewater fund over the next 5-10 years. In addition, AW will continue to achieve the 120 days of water reserves in the Revenue Stability Reserve Fund. The overall reserve target will be 365 days for the water fund and 245 days for the wastewater fund. Since the water fund is more volatile, it is appropriate for additional days cash above the base level. **Rationale:** Improvement in AW cash reserves is a critical component in strengthening our financial position and maintaining our current AA bond ratings. Our bond rating agencies have indicated continued improvement in our days cash on hand is appropriate to maintain our ratings. While this target is below the Fitch median for AA credits, this level will provide improvement from our current levels. The levels of cash reserves is related to and a result of the improving debt service coverage levels.

Issue #4c: Rate Recovery of Costs Incurred to Meet Financial Benchmarks – Cash Financing of CIP Target				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Reduce or Eliminate the Cost of Meeting Financial Benchmarks in Rates (Option for Change)**	
			Pros	**Cons**
Is it appropriate for Austin Water to continue to include in rates the costs incurred to meet financial benchmarks related to items such as Debt Service Coverage; Cash Reserves, and specific target levels of debt in the Austin Water capital structure? **Status Quo: Continue to include the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers**		Reduce or eliminate the cost of meeting financial benchmarks in the rates paid by both retail and wholesale customers.	1. Austin Water should only include in rates the absolute minimum costs necessary to maintain contractually mandated debt service coverage requirements (nothing more), the minimum possible cash reserve levels. Austin Water CIP financing decisions should be made solely on the basis of what results in the lowest rates today. Consideration of long-term capital structure issues and the reduced risks of have lower amounts of debt should not be considered in CIP financing decisions.	1. Financially stable utilities must maintain debt service coverage and cash reserve levels above the bare minimum. This is the only way to protect ratepayers from emergency rate increases due to unforeseen events such as severe and prolonged drought and major infrastructure failures. 2. Financially stable utilities must engage in CIP financing strategies that move toward an optimal capital structure with the appropriate balance of debt and equity. Such a capital structure limits the financial risk of too much debt and minimizes the rate increases caused by the use of too much cash funded CIP. 3. Austin Water must compete for funds and issue debt in the capital markets. Including in rates the costs incurred to meet reasonable financial benchmarks is prudent because it lowers Austin Water's borrowing costs and ensures unfettered access to the debt markets.
PIC Meeting Dates:	PIC Meeting #3 on October 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #9 January 31, 2017 / PIC Meeting #10 February 21, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #3 on October 5, 2016 / WIC Meeting #5 on November 29, 2016 / WIC Meeting #8 January 31, 2017 / WIC Meeting #9 February 21, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The costs incurred to meet reasonable financial benchmarks should be included in rates and allocated to both retail and wholesale customers.			
PIC & WIC Comments:	**Robert Wood (WIC-City of Westlake Hills):** Do any of the financial policies have a ceiling? Is there any sort of prioritization given (coverage vs. cash financing). **Gary Rose (WIC-Southwest Water Co.):** I think anything more than 50% is putting too much burden on the customers. With excess cash you could always reduce rates. **Clay Collins (WIC-Sunset Valley):** Could CRFs also be used for infrastructure improvements? **Howard Hagemann (WIC-Wells Branch MUD):** What do you mean by a 50% credit for the CRF calculation?			
Executive Team Decision:	**Decision:** AW will target a 50% use of cash to fund our CIP projects over the next 5-10 years. **Rationale:** Improving our use of cash financing of CIP projects will reduce our dependency on debt financing that can drive our rate increases and reduce debt service coverage. The 50% target level strikes a balance between having current and future customers paying for infrastructure. Improvements in our debt service coverage results in cash that can be used to fund CIP projects and reduce debt service in the future. Financing costs generally double the cost of a CIP project, therefore avoiding debt is a cost effective way of reducing costs for the future.			

Issue #5: Allocation of a Portion of Rate Case Expenses to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Rate Case Expenses to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of rate case expenses to the wholesale customers. Should Austin Water seek to include these costs in the wholesale customer revenue requirement in its next rate case? **Status Quo: If Austin Water incurs rate case expenses in the future, they should continue to be excluded from the wholesale customer revenue requirement.**		If Austin Water incurs rate case expenses in the future, a portion of these costs should be allocated to the wholesale customer revenue requirement.	1. Rate case expenses are a valid operating cost that benefit all customers, retail and wholesale.	1. As the petitioning party challenging Austin Water's rates, wholesale customers should not pay any rate case expenses.
PIC Meeting Dates:	PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #4 on November 29, 2016 / WIC Meeting #6 January 4, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Rate case expenses are a natural outcome of the regulatory process that benefits both retail and wholesale customers. If incurred in the future, wholesale customers should be allocated a portion of Austin Water's rate case expenses.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. **Don Conklin (WIC-North Austin MUD #1):** I don't think allowing any of these is a something we would support. Why do you repeatedly try to include costs that have been repeatedly disallowed by the PUCT? Best case scenario, negotiations result in agreement and a rate case is not necessary. Our concession would be what's included in rate case expenses. Inside City elects the Council who sets rates and they have recourse, but outside city doesn't. **Gary Rose (WIC-Southwest Water Co.):** Rate case expenses can be included but you're not guaranteed to recover them; the PUCT occasionally disallows. **Robert Wood (WIC-City of Westlake Hills):** Inside city should pay all rate case costs. Shareholders are City of Austin residents. If the argument for rate of return is that they bear the risk, then let them bear the risk. **Charles Winfield (WIC-City of Rollingwood):** Exclude them. **Robert Anderson (WIC-Northtown MUD/Wells Branch MUD):** Exclude them. **Howard Hagemann (WIC-Wells Branch MUD):** Exclude them. **Jay Joyce (WIC-Wells Branch MUD):** Yes, of course done properly evidence will be deliberated through judge and a decision will be reached. 1/17/17 **Grant Rabon (PIC-Residential Rate Advocate):** Consistent with my prior comments, I recommend you endeavor to recover. **Todd Davey (PIC-Industrial/Large Volume):** The utility should operate with whatever is the accepted process. 3/6/2017 **Gary Rose (WIC-Southwest Water Co.):** If we challenge the rates, would Austin Water push those costs only to the challenging party			
Executive Team Decision:	**Decision:** No allocation of rate case expenses to wholesale customers, except for the direct recovery of rate case expenses from the challenging parties according to PUC allowances. **Rationale:** Rate case expenses from the 2013 rate challenge have been paid previously by all customer classes except the Petitioners in the case. Future rate case expenses associated with future PUC challenges would ultimately be recovered from the challenging parties. Austin Water would present evidence to justify these rate case expenses as part of any rate proceeding.			

Issue #6: Allocation of a Portion of Reclaimed Water Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Reclaimed Water Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of reclaimed water costs to the wholesale customers. Should Austin Water seek to include these costs in the wholesale customer revenue requirement in its next rate case? **Status Quo: Continue to exclude reclaimed water costs from the wholesale customer revenue requirement.**		Allocate a portion of Austin Water's reclaimed water costs to the wholesale customer revenue requirement.	1. Reclaimed water is a cost effective source of supply that diversifies Austin Water's water supply portfolio and enhances the total amount of water available to all customers (retail and wholesale). Specifically, if more reclaimed water used, more of Austin Water's existing sources of supply are available for potable water customers, retail and wholesale. For this reason, both retail and wholesale customers should be allocated a portion of reclaimed water costs.	1. Even though reclaimed water increases the overall amount of water available to all customers (retail and wholesale), wholesale customers do not use reclaimed water and therefore should not be allocated a portion of reclaimed water costs.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #3 on November 25, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #3 on November 8, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #6 January 4, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Reclaimed water is a valid source of supply that benefits the entire system. A portion of reclaimed water costs should be allocated to wholesale customers.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. **Jay Joyce (WIC-Wells Branch MUD):** I oppose based on testimony in the case. What are the changed circumstances since the ruling in this case? Are there any EPA or regulatory obligations? **Robert Anderson (WIC-Northtown MUD/Wells Branch MUD):** I agree with Jay. The PUCT has already ruled. Why is the city of Austin butting its head against the wall and increasing rate case costs? **Howard Hagemann (WIC-Wells Branch MUD)**: I agree and oppose and we don't use any reclaimed water. **Don Conklin (WIC-North Austin MUD #1):** I recommend disallowing. Decisions are being made by inside city customers and we have no standing to address those choices. **Charles Winfield (WIC-City of Rollingwood):** I agree and oppose. Disallow. Does the PUCT give any reasons for disallowances? **Randall Raemon (WIC-Marsha WSC):** Do not support allocation to wholesale customers. <u>1/17/17</u> **Dan Wilcox (PIC-Industrial/Large Volume):** Is there a precedent saying you should go one way or another? Where did the PUCT decision come from? If most customers don't have access, why should wholesale be treated any differently? Include these costs. **Dave Yanke (PIC-Residential Rate Advocate):** Was there a detailed explanation/background given during the rate case? **Todd Davey (PIC-Industrial/Large Volume):** If reclaimed is a benefit to the entire system, yes wholesale should pay. But another consideration is: is it a reasonable and necessary cost? Is a return on investment there? There are only 66 customers. LCRA is moving ahead with a downstream reservoir; they learned lessons from the drought. Wholesale should bear the burden of costs, too. Can we defer some of the capital to be invested in the near term if the need is pushed out? That adds to debt service, cost of service and rates. **Dan Wilcox (PIC-Industrial/Large Volume):** Is the rate of reclaimed water still subsidized? **Chien Lee (PIC-W/WW Commissioner):** Is the statement 'wholesale customers do not use reclaimed water' true? **Chuck Loy (PIC-Multifamily):** Because reclaimed water benefits all customers, I think it should be included and you can probably make a good argument to the PUCT.			
Executive Team Decision:	**Decision:** AW will allocate reclaimed water costs to all customer classes including wholesale customers. **Rationale:** Austin Water's reclaimed water system is a cost effective water supply component. The reclaimed system extends the potable drinking water supplies, defers needs for additional water supply, and is a drought resistant supply. Texas regional water planning efforts mandate the review of reclaimed water system as a water supply alternative. Use of reclaimed water will contribute to delaying Austin Water hitting the trigger when significant raw water costs must be paid to LCRA. Our conservation and reclaimed system efforts would have avoided a possible LCRA curtailment plan had the lake levels reached critical stage during the recent central Texas drought. All customers benefit from water supply efforts and therefore all customers should be allocated these costs.			

Issue #7: Allocation of a Portion of the Reclassified SWAP and Commercial Paper Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of SWAP and Commercial Paper Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of SWAP and commercial paper costs the wholesale customers. **Status Quo: Continue to exclude SWAP and commercial paper costs from the wholesale customer revenue requirement**		Allocate a portion of Austin Water's SWAP and commercial paper costs to the wholesale customer revenue requirement.	1. SWAP and commercial paper costs are valid debt issuance costs that are incurred by Austin Water to fund CIP projects that provide service to all customers. These costs were previously amortized over the life of each debt instrument. The Governmental Accounting Standards Board now requires these costs to be expensed in the year incurred. It is appropriate for all customers, both retail and wholesale, to be allocated a portion of SWAP and Commercial paper costs.	1.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Annual SWAP and commercial paper costs are a valid operating cost.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. <u>1/17/17</u> **Jay Joyce (WIC-Wells Branch MUD):** When did GASB make the pronouncement? **Howard Hagemann (WIC-Wells Branch MUD):** If we go to a utility basis, would this still be separate from depreciation? **Don Conklin (WIC-North Austin MUD #1):** I have concern regarding the lack of level of detail and breakout. The PUCT has ruled against these costs previously – we do not want these costs included. If more conversation is needed, then more detail is needed. I am concerned the City of Austin is trying to add disallowed costs. I feel like the previous costs were set, then the PUCT ruled, and now you're trying to insert them again. Avoid litigation and save money by reaching an agreement on what regulatory costs need to be included. **Grant Rabon (PIC-Residential Rate Advocate):** GASB indicates this is an operating expense under both cash and utility basis, so there's no rational reason to exclude it. **Todd Davey (PIC-Industrial/Large Volume):** Agree. **Chuck Loy (PIC-Multifamily):** Agree. **Dan Wilcox (PIC-Industrial/Large Volume):** Agree. **Marcia Stokes (PIC-Multifamily):** Agree. **Jesse Penn (PIC-W/WW Commissioner):** Agree.			
Executive Team Decision:	**Decision:** AW will allocate SWAP and commercial paper costs to all customer classes including wholesale customers. **Rationale:** These costs are associated with Austin Water's capital financing mechanisms that benefit all customers. The Governmental Accounting Standards Board (GASB) has required these costs to be expensed in the year they were incurred. These costs are appropriate operations and maintenance costs which should be allocated to all customer classes.			

Issue #8: Allocation of a Portion of the Green Water Treatment Plant Capital Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Green Water Treatment Plant Capital Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of Green Water Treatment Plant costs to the wholesale customers. Green Water has been decommissioned by Austin Water for treatment service. **Status Quo: Continue to exclude the Green Water Treatment Plant costs from the wholesale customer revenue requirement.**		Allocate a portion of Green Water Treatment Plant costs to the wholesale customer revenue requirement.	1. The Green Water Treatment Plant has been decommissioned but there may be some debt service outstanding related to the Green WTP improvements.	1. The Green Water Treatment Plant does not pass the "used and useful" test.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Debt service costs should be allocated to all customer classes including wholesale customers.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. <u>1/17/17</u> **Shirley Ross (WIC-Wells Branch MUD):** Is it still being used for training? Green WTP has never been used to supply water to us? **Howard Hagemann (WIC-Wells Branch MUD):** Since it's not being used, and we're not receiving a benefit, and we've paid on the debt service, how can you say a plant not being used has any costs allocated to wholesale? It's a far reach. I don't see this as having any bearing on water flowing to us. Stay with the status quo and exclude. Response: Costs are allocated through the normal cost of service process; debt service costs are common to all. **Jay Joyce (WIC-Wells Branch MUD):** The City of Austin sold a revenue producing asset that still had revenue bonds payable? **Don Conklin (WIC-North Austin MUD #1):** I'm concerned you acknowledge these costs don't pass the used and useful test. I'm concerned you didn't use the funds for paying off debt but rather for other purposes. Because outside city doesn't have a voice, I strongly encourage the status quo. **Chuck Loy (PIC-Multifamily):** Was the plant retired early? **Chien Lee (PIC-W/WW Commissioner):** What is the amount of outstanding debt? **Jesse Penn (PIC-W/WW Commissioner):** Does used and useful apply in this situation? **Todd Davey (PIC-Industrial/Large Volume):** The debt has probably been refinanced and bundled. It's difficult to trace to a specific asset. Sounds like you've tried – can revenue from the sale of other assets be used to pay this off? It sounds like an immaterial amount. For simplicity, I support requiring wholesale to pay, too. **Chuck Loy (PIC-Multifamily):** It sounds like everyone benefited from the decommissioning, deconstructing and sale of the land so all should pay. Allocate it.			
Executive Team Decision	**Decision:** No Green WTP costs will be allocated to wholesale customers. **Rationale:** The former Green WTP has been decommissioned in 2008. No assets remain. To the extent that any capital cost debt service remains from projects completed prior to decommissioning, these costs will be allocated to retail only customers.			

Issue #9: Allocation of Revenue Stability Reserve Fund Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Revenue Stability Reserve Fund Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of Revenue Stability Reserve Fund costs to the wholesale customers. Should Austin Water seek to include these costs in the wholesale customer revenue requirement in the next rate case? **Status Quo: Continue to exclude Revenue Stability Reserve Fund costs from the wholesale customer revenue requirement.**		Allocate a portion of the Revenue Stability Reserve Fund costs to the to the wholesale customer revenue requirement.	1. The Revenue Stability Reserve Fund protects the financial integrity of Austin Water caused by revenue fluctuations. This is a valid operating cost that accrues to the benefit of all customers, both retail and wholesale.	1. The entire risk of revenue fluctuations should be borne by Austin Water's retail customers. Therefore, no potion of these costs should be allocated to wholesale customers.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The maintenance of a Revenue Stability Reserve Fund is a valid operating cost that benefits all customers. Wholesale customers should be allocated a portion of these costs.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. <u>1/17/17</u> **Don Conklin (WIC-North Austin MUD #1):** When you look at Austin Water's responsibility to operate the utility, you expect Austin Water to save money in years when revenue is over and above requirements, not peel it off and do something else with it. In wet years when you have more revenue than intended, is the extra revenue used to expedite funding of the Revenue Stability Fund? Every dime of additional revenue should go to the Revenue Stability Fund, not to any other expense/activity/cost of service. **Gary Rose (WIC-Southwest Water Co.):** I recommend against including the Revenue Stability Fund. The Revenue Stability Fund gives Austin Water the option to not collect the full cost of service from inside city. Assume wet and dry years will happen and manage it. Cost of service and revenue requirements encourage inside city conservation which leads to reduced revenue which shouldn't be passed to wholesale. I oppose allowing it. **Jay Joyce (WIC-Wells Branch MUD):** Volatility is a product of steep inverted blocks on the retail side, not wholesale. Is it true the Council can do whatever they want with this money? **Andrew Hunt (WIC- North Austin MUD):** It should not be allowed. Is there a number goal for the fund? Does the city of Austin use drought surcharges or pull from this fund? **Todd Davey (PIC-Industrial/Large Volume):** I have concerns about the levels of the funds. Is the value of the reserves that there won't be vast fluctuations in rates? If there's no perceived value for wholesale to benefit, they don't benefit from revenue stability funded by the retail class. **Grant Rabon (PIC-Residential Rate Advocate):** What do you feel are the prospects for success at the PUCT if allocated to wholesale? How will you defend at the PUCT? We all understand the importance of reserves and applaud their growth. While they may not be at the levels of others, they seem to be more than sufficiently addressing the issue. Now we need to balance with the affordability of rates. By number of days cash on hand and total value dollar-wise of the reserves, Austin Water ranks #1 on S&P rating. **Dave Yanke (PIC-Residential Rate Advocate):** If debt can be reduced and reserves are between 180-270 days, would that help affordability? **Todd Davey (PIC-Industrial/Large Volume):** How accurate is your revenue forecasting ability? **Dan Wilcox (PIC-Industrial/Large Volume):** If 180 days if your target, do you shoot for 220 days so you never go below 180? How does this work for Austin Water?			
Executive Team Decision:	**Decision:** AW will allocate revenue stability reserve fund costs to all customer classes including wholesale customers. **Rationale:** The Revenue Stability Reserve Fund protects the financial integrity of Austin Water caused by water revenue fluctuations due to weather, drought, or conservation. Protecting the financial integrity of Austin Water through the use of reserves is a standard practice for utilities which benefits all customer classes. Cash reserves are one of many key financial benchmarks reviewed by rating agencies in assessing credit worthiness in issuing revenue bonds. All customer classes benefit from this reserve and therefore should be allocated these costs. Austin Water has determined that wholesale customers should have a reduced level of surcharge to build these reserves due to their reduced volatility and to approximate their level of rates versus retail rates.			

Issue #10: Allocation of a Barton Springs/Edwards Aquifer Conservation District Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Barton Springs/Edwards Aquifer Conservation District Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of Barton Springs/Edwards Aquifer Conservation District costs to wholesale customers. Should Austin Water seek to include these costs in the wholesale customer revenue requirement in the next rate case? **Status Quo: Continue to exclude Barton Springs/Edwards Aquifer Conservation costs from the wholesale customer revenue requirement**		Allocate a portion of Barton Springs/Edwards Aquifer Conservation District costs to the wholesale customer revenue requirement.	1. The fee paid by Austin Water for the Barton Springs/Edwards Aquifer Conservation District was mandated by State of Texas legislation.	
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The Barton Springs/Edwards Aquifer Conservation District costs, which are paid by AW as mandated by City Council, are a valid operating expense that should be recovered from all customers. Wholesale customers should be allocated a portion of these costs.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. 1/17/17 **Jay Joyce (WIC-Wells Branch MUD):** Austin Water shows $900,000 budget for this fee, but BSEACD only shows $700,000 from Austin Water. **Howard Hagemann (WIC-Wells Branch MUD):** I'm in agreement with excluding this from wholesale. **Todd Davey (PIC-Industrial/Large Volume):** Generally, I support trying to recoup costs from wholesale but this brings up the reasonable and necessary hurdle to jump. **Dave Yanke (PIC-Residential Rate Advocate):** I agree with Todd. This seems like an uphill battle but go for it. **Chuck Loy (PIC-Multifamily):** Are costs charged by BSEACD based on volume? Does is benefit Austin Water customers? **Dan Wilcox (PIC-Industrial/Large Volume):** You should attempt to allocate. **Marcia Stokes (PIC-Multifamily):** Why is it other cities who are wholesale customers don't pay? 3/6/2017 **Grant Rabon (PIC-Residential Rate Advocate):** What is the rationale to not allocate these cost to wholesale?			
Executive Team Decision	**Decision:** No Barton Springs/Edwards Aquifer Conservation District costs will be allocated to wholesale customers. **Rationale:** These costs have been mandated by the Texas Legislature to be paid by the City of Austin. The City has decided these costs will be paid by Austin Water. While some benefit to Austin Water customers comes from this District, there is marginal benefit to wholesale customers.			

Issue #11: Allocation of a Portion of the Govalle Wastewater Treatment Plant O&M and Capital Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Govalle Wastewater Treatment Plant O&M and Capital Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of Govalle Wastewater Treatment Plant costs to the wholesale customers. Should Austin Water seek to include these costs in the wholesale customer revenue requirement in the next rate case? **Status Quo: Continue to exclude the Govalle Wastewater Treatment Plant costs from the wholesale customer revenue requirement**		Allocate a portion of Govalle Wastewater Treatment Plant costs to the wholesale customer revenue requirement.	1. Although the Govalle Wastewater Treatment Plant has been decommissioned, it is still being used for purposes that benefit all customers, both retail and wholesale. This includes various treatment support functions, emergency wastewater flow diversion, and for storage of treatment plant and infrastructure assets.	1. The Govalle Wastewater Treatment Plant does not pass the "used and useful" test and should not be allocated to wholesale customers.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The Govalle Wastewater Treatment Plant operating and maintenance costs should be allocated to all customer classes including wholesale customers.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. <u>1/17/17</u> **Gary Rose (WIC-Southwest Water Co.):** If we use the utility basis, obviously this is not used and useful, so exclude it. I can see why the administrative building is legitimate but the old building for training isn't because training can be done at other sites. **Howard Hagemann (WIC-Wells Branch MUD):** To determine the percentage allocations, etc., would require an inordinate amount of effort and research. What is the percentage usage by wholesale customers? Transparency is a concern that some of these points bring out. How will we get to a dollar amount that would be agreed upon? **Don Conklin (WIC-North Austin MUD #1):** Is there any current/ongoing indebtedness with Govalle even though it's decommissioned? I recognize that administrative and training costs are real costs – do they need to be associated with a decommissioned plant? Is there a more cost effective place for them? We need more detail. I withhold my support until we have more information. **Chuck Loy (PIC-Multifamily):** Costs should be allocated. **Marcia Stokes (PIC-Multifamily):** Yes. **Todd Davey (PIC-Industrial/Large Volume):** It's a hurdle to overcome but yes you should try to include. **Dan Wilcox (PIC-Industrial/Large Volume):** I agree. You should attempt to charge to wholesale. **Grant Rabon (PIC-Residential Rate Advocate):** I agree and don't find it particularly hard to sell to the PUCT. **Chien Lee (PIC-W/WW Commissioner):** Yes, include it. **Jesse Penn (PIC-W/WW Commissioner):** It should be included. What type of training takes places and should that be included?			
Executive Team Decision	**Decision:** AW will allocate costs associated with the continued use of the Govalle WWTP site to all customer classes including wholesale customers. **Rationale:** Govalle WWTP does not provide any wastewater treatment as a functioning plant. However, there are still buildings on the property which provide space for training facilities for our pipeline and treatment staff. Additionally, clearwells from the previous plant provide emergency storage for wastewater during significant rain events. To the extent these costs are for the benefit of all customer classes, these costs will be allocated to all customer classes.			

<table>
<tr><th colspan="5">Issue #12: Allocation of a Portion of the Utility-Wide Contingency to Wholesale Customers</th></tr>
<tr><th rowspan="2">Issue</th><th rowspan="2">Change? (Yes or No)</th><th rowspan="2">If Yes, Option for Change</th><th colspan="2">Allocate a Portion of the Utility-Wide Contingency to Wholesale Customers (Option for Change)</th></tr>
<tr><th>Pros</th><th>Cons</th></tr>
<tr><td>The PUCT disallowed Austin Water's allocation of a portion of its utility-wise contingency to the wholesale customers. Should Austin Water seek to include these costs in the wholesale customer revenue requirement in the next rate case?

Status Quo: Continue to exclude the Utility-Wide Contingency from the wholesale customer revenue requirement</td><td></td><td>Allocate a portion of the Utility-Wide Contingency to the wholesale customer revenue requirement.</td><td>1. The utility revenue requirement item designed to provide funds in case of emergency repair or other unplanned contingency. This is a valid operating cost that benefits all customers, both retail and wholesale.</td><td>1. Austin Water maintains other reserve funds and the use of a utility-wide contingency cost is redundant.
2. Austin Water must ensure that the amount of the contingency included in its revenue requirement is appropriate based on its actual history of expenditures.</td></tr>
<tr><td>PIC Meeting Dates:</td><td colspan="4">PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017</td></tr>
<tr><td>WIC Meeting Dates:</td><td colspan="4">WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017</td></tr>
<tr><td>Consultant Recommendation:</td><td colspan="4">Austin Water must demonstrate why its requested contingency is appropriate to be included in the revenue requirement. If justified, a portion of this cost should be allocated to wholesale customers.</td></tr>
<tr><td>PIC & WIC Comments:</td><td colspan="4">Grant Rabon (PIC-Residential Rate Advocate): Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis.

<u>1/17/17</u>
Don Conklin (WIC-North Austin MUD #1): Is this a fund? Continue to disallow it. Absent this being allocated specifically to a contingency fund, I oppose.
Gary Rose (WIC-Southwest Water Co.): You've set rates based on the test year. Including contingency plans in a test year lets you get around the cost of service and charge customers more. In my business we push back into future years if something unexpected happens. Exclude it.
Grant Rabon (PIC-Residential Rate Advocate): Does this issue go away if you used actuals and not a fund:
Dan Wilcox (PIC-Industrial/Large Volume): It should be allocated to the wholesale class. Would it be a factor if they used utility vs cash?
Todd Davey (PIC-Industrial/Large Volume): I agree. You should try to allocate it. Try to not take on debt.

<u>3/6/2017</u>
Lanetta Cooper (PIC-Residential/Low Income): It should be a known and measurable change, or it should be a separate cost of service item altogether. I think wholesale and retail should be treated the same.</td></tr>
<tr><td>Executive Team Decision</td><td colspan="4">Decision: No Utility-wide contingency costs will be allocated to wholesale customers.

Rationale: These costs are budgeted to allow for funding for any contingencies that may arise during the budget year which were unplanned. Since these costs are not known and measurable, none of these costs will be allocated to wholesale customers.</td></tr>
</table>

Issue #13: Allocation of Water Treatment Plant No. 4 Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Wastewater Treatment Plant No. 4 Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of Water Treatment Plant No. 4 costs to the wholesale customers. Should Austin Water seek to include these costs in the wholesale customer revenue requirement in the next rate case? **Status Quo: Continue to exclude Water Treatment Plant No. 4 costs from the wholesale customer revenue requirement**		Allocate a portion of Water Treatment Plant No. 4 costs to the wholesale customer revenue requirement.	1. At the time of Austin Water's 2013 rate case, Water Treatment Plant No. 4 was not in service. Water Treatment Plant No. 4 is now in service. Austin Water operates a fully integrated utility system and all customers, including both retail and wholesale, benefit from Water Treatment Plant No. 4.	1. Water Treatment Plant No. 4 is not specifically dedicated to wholesale customer service. Therefore, no potion of these costs should be allocated to wholesale customers.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Water Treatment Plant No. 4 related costs are a valid and benefits all customers. Wholesale customers should be allocated a portion of these costs.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. 1/17/17 **Gary Rose (WIC-Southwest Water Co.):** On a peak day, is WTP4 used? If yes, it's a legitimate cost. **Randy Wilburn:** The more appropriate question is: is it necessary to operate WTP4? No. It's a $1 billion boondoggle. We have survived for 50 years with two plants. **Jay Joyce (WIC-Wells Branch MUD):** I have no opinion on whether to include it; it certainly could be a discussion regarding used and useful. The PUCT will conduct a prudence review. They will quantify the amount that should apply to all. **Grant Rabon (PIC-Residential Rate Advocate):** You can't possibly spend too much time defending how this is a prudent and necessary investment in system planning for current and future customers. Allocate it to all. **Dan Wilcox (PIC-Industrial/Large Volume):** I agree. It should be included. **Chien Lee (PIC-W/WW Commissioner):** WTP4 is partially to replace the capacity of decommissioning other plants. **Jesse Penn (PIC-W/WW Commissioner):** I agree. **Todd Davey (PIC-Industrial/Large Volume):** I agree. It's used and useful, reasonable and necessary. You should try to recover. If not, revisit reasonable and necessary for retail as this shouldn't only be the responsibility of retail. **Chuck Loy (PIC-Multifamily):** I agree. Include it and allocate. **Marcia Stokes (PIC-Multifamily):** I agree.			
Executive Team Decision	**Decision:** AW will allocate Water Treatment Plant No. 4 costs to all customer classes including wholesale customers. **Rationale:** Water Treatment Plant #4 was put into service in November 2014. This plant is a critical component of the integrated water system which provides service to all water customers. These costs will be allocated to all customer classes including wholesale customers.			

Issue #14: Allocation of Green Power Costs to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Wastewater Treatment Plant No. 4 Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of Green Choice electricity costs to wholesale customers. Should Austin Water seek to include the cost of "green power" in the wholesale customer revenue requirement in the next rate case? **Status Quo: Continue to exclude the cost of green power from the wholesale customer revenue requirement**.		Allocate a portion of green power costs to the wholesale customer revenue requirement.	1. At the time of Austin Water's 2013 rate case, Austin Water purchased electric power from Austin Energy under the Green Choice electricity tariff. The PUCT disallowed the estimated cost of the Green Choice electricity in excess of standard Austin Energy electric rates. Austin Water is now purchasing electricity from Austin Energy under the Commercial Energizer rate. The Commercial Energizer rates are lower than the rates charged under the Green Choice program but are still in excess of standard Austin Energy rates. 2. If the Austin City Council wishes Austin Water to purchases electricity produced by green power sources, this is a valid operating cost that should be allocated to all customers, both retail and wholesale.	1. Wholesale customers should not be required to pay for green power costs in excess of standard electric rates because of the City of Austin's environmental/sustainability concerns. These excess costs should only be borne by retail customers located within the jurisdictional boundaries of the City of Austin.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Austin Water's purchase of green power electricity is City Council mandated and is a valid operating cost that benefits all customers. Wholesale should be allocated a portion of these costs.			
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** Per our discussion at the PIC meeting on 11/29/16, I am formally indicating my strong belief that Austin Water should pursue the inclusion of previously disallowed costs into the revenue requirement allocated to wholesale customers. The only exception to this general statement would be if Austin Water opts to utilize the utility basis for these customers (which I support) and, then, Austin Water could exclude only those disallowed costs that are inconsistent with, or inappropriate for, inclusion under the utility basis. 1/17/17 **Don Conklin (WIC-North Austin MUD #1):** This is a City of Austin choice. Wholesale is outside city, so we have no standing. I recommend we continue to exclude. **Todd Davey (PIC-Industrial/Large Volume):** I don't think Green Choice should be part of anything that's not reasonable and necessary. It's a City Council decision and the premium shouldn't be paid by any customer. It's discretionary and an added expense. But it retail has to pay it, all should pay. **Chuck Loy (PIC-Multifamily):** Allocate it. **Dan Wilcox (PIC-Industrial/Large Volume):** Allocate it. I second Todd's comments. **Grant Rabon (PIC-Residential Rate Advocate):** Allocate to all. **Jesse Penn (PIC-W/WW Commissioner):** I generally agree with an allocation to all. It affects all customers regardless of inside city or outside city. **Marcia Stokes (PIC-Multifamily):** I agree. **Chien Lee (PIC-W/WW Commissioner):** Allocate it to all but you will have a hard time defending a decision made by the City Council.			
Executive Team Decision	**Decision:** AW will allocate green power costs to all customer classes including wholesale customers. **Rationale:** Austin Water supports the City's goal of using 100% green power for operations. This is also in support of the City's Climate Action Plan. The use of green power benefits all customers and therefore should be allocated to all customers including wholesale.			

Issue #15: Modify the Peaking Factor Methodology Used in the Water Cost of Service Model				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Modify the Peaking Factor Methodology Used in the Water Cost of Service Model (Option for Change)**	
			Pros	**Cons**
Representatives of large industrial customers have stated that the current method used by Austin Water to estimate customer class maximum day and maximum hour peaking factors does not adequately reflect the nuances of large industrial customer water use and results in an overstatement of the industrial class revenue requirement. **Status Quo: Maintain the peaking factor methodology currently used in the water model.**		Modify the peaking factor methodology currently used in the water model to reflect data provided by the industrial customers.	1. The current peaking factor methodology used in the water model does not reflect the actual daily or hourly water consumption of any customer in any retail customer class. To the extent customer-specific data is available it should be used; this would allow for customer-specific peaking factor determinations.	1. Austin Water uses an industry standard methodology to estimate customer maximum day and maximum hour peaking factors. This methodology is recommended in AWWA Manual M1, Principles of Water Rates, Fees, and Charges. This industry standard methodology is used for all retail and wholesale customer classes. 2. Unless and until Austin Water installs advanced metering technology that records individual customer water consumption on an hourly basis, the peaking factor methodology used by Austin Water is a fair and equitable method for assessing customer class water consumption characteristics and allocating costs between customer classes. 3. Modifying the current methodology to estimate peaking factors would inappropriately benefit large industrial customers by shifting costs to other retail and wholesale customer classes. In order to maintain fairness, the same peaking factor methodology should be used for all customer classes.
PIC Meeting Dates:	PIC Meeting #6 December 13, 2016 / PIC Meeting #8 January 17, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #5 December 13, 2016 / WIC Meeting #7 January 17, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Continue to use the industry standard peaking factor methodology currently employed by Austin Water (do not modify the current methodology to estimate customer class peaking factors).			
PIC & WIC Comments:	**Howard Hagemann (WIC-Wells Branch MUD):** The solution seems to be a better metering process, to continue with the status quo. Debating this issue is essentially moot as we don't have enough information to gauge against. **Jay Joyce (WIC-Wells Branch MUD):** The method Austin Water is following is not in the AWWA Manual; the Manual doesn't endorse a rote mechanical method. We'll present at the PUCT and their engineers will say it's not the right way to do it. I recommend the methodology be modified to be in conformation with the AWWA Manual and appendix. **Gary Rose (WIC-Southwest Water Co.):** I appreciate the 3-year smoothing for peaking. **Don Conklin (WIC-North Austin MUD #1):** I appreciate that Austin Water is working with unusual circumstances. If the issue is specific to large volume, each major stakeholder having separate smart meters will help. Each major stakeholder should have a separate peaking factor like their separate rates. If data and evidence show large volume aren't contributing to peaking and retail rates will increase because large volume pays less, that's legitimate and fair. I favor tweaking the methodology as it applies to large volume customers and think we can all together come up with that. I make the argument that we alone should be excluded from peaking factors altogether because we had storage but traded with the city of Austin for consideration of a lift station. We have overpaid our share of the bonds by paying for storage we never got. **Randall Raemon (WIC-Marsha WSC):** How many meters are we talking about for wholesale and large volume customers to get more accurate data? **Dan Wilcox (PIC-Industrial/Large Volume):** The method doesn't actually follow the AWWA Manual exactly and doesn't represent actuals. If the data on meters are available and would be helpful, customers can provide it. Each class should have its own metering/rate/method. **Todd Davey (PIC-Industrial/Large Volume):** The application isn't consistent with the AWWA Manual. Our consumption patterns are more consistent and predictable. Use available data and allocate accordingly. **Grant Rabon (PIC-Residential Rate Advocate):** Any data should be collected by Austin Water and not supplied by customers. Until we're at the point data is readily available, treat all classes the same. **Chuck Loy (PIC-Multifamily):** Do you have any data available at this point? Wait until everyone can use data. I recommend modification. **Todd Davey (PIC-Industrial/Large Volume)/ Dan Wilcox (PIC-Industrial/Large Volume):** We recommend the methodology be modified. **Marcia Stokes (PIC-Multifamily):** This is an opportunity because most peaking is due to irrigation during the summer, and large volume and residential usage drive it. Compare peak days to what class is allowed to water on those days. It's worth looking at modifying the methodology. Up to what size meter will be changed out? **Chuck Loy (PIC-Multifamily):** If you change the methodology, how will it work? Will wholesale and large volume provide hourly, daily data, etc.? This would probably need a demand study. **Chuck Loy (PIC-Multifamily):** I'm concerned this could really swing costs. **Dan Wilcox (PIC-Industrial/Large Volume):** Look at targeting the largest 6-7 industrials with meters first to begin to get an idea of what the data will show. **Grant Rabon (PIC-Residential Rate Advocate):** If there are going to be winners and losers, I would like to be assessed with the same method/rules for all. **Chuck Loy (PIC-Multifamily):** I could support large volume having a different hourly/daily peaking if the data is available, but generally I agree with Grant.				

	3/6/2017 **Dan Wilcox (PIC-Industrial/Large Volume):** Is Austin Water incorporating the AMI data from customers at the same time? What about customers that already have the smart meters? Could some accommodation in the model be made to include the data? If the residential customer class is 95% of the accounts, it seems like it will take a lot longer than 5-7 years. Will the residential customer volume be looked at individually? What are other cities doing? **Lanetta Cooper (PIC-Residential/Low Income):** Once they put smart meters online, there is going to be a time period to determine if they actually work. It's a brand new technology, and water meters have not been as good as electric smart meters. **Karen Keese (PIC-Residential**): I have several clients that have fully gone AMI, and it's a big shakeout. You have to work the bugs out. **Howard Hagemann (WIC-Wells Branch MUD):** When you bring in the peaking factor, is this going to be a fixed costs? Is it going to vary based on the volume of water used? There's a certain capacity that has to be reserved, and that capacity is not always used. In your formula, you use the system average day and system maximum month. What is the difference between the max day and max month by customer? When you do a 3-year average, do you use all variables by customer? That could create some disparity in the relationship between the customer and system. **Andrew Hunt (WIC-North Austin MUD #1):** Have you identified the 3-years you are going to use?
Executive Team Decision	**Decision:** AW will continue current use of AWWA methodology guidelines for peaking factor calculation. **Rationale:** Austin Water currently uses AWWA guidelines for non-coincident peaking factor calculation. Use of AWWA guidelines is appropriate for calculation of peaking factors. Austin Water provides further benefit to customers in the calculation of the peaking factors by using a 3-year rolling average for each customer class which smooths any adverse impacts of single year peaking factors. Additionally, Austin Water uses a 5-day average of water system peak day peaking factors to smooth any adverse impacts of single day system peak day factors used in estimated peak day and peak hour factors from monthly billing data.

Issue #16: Inflow/Infiltration cost determination and allocation to customer classes				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Pros**	**Cons**
Austin Water currently allocates I/I to customer classes based on 100% volume in wastewater COS model. **Status Quo: Allocate I/I flows to customer classes based on 100% volume**.			1. I/I is a flow related cost. Allocation of costs to customer class flow provides the appropriate link for cost causation.	1. Charging I/I by 100% flow allocation reduces costs for the residential class.
PIC Meeting Dates:	PIC Meeting #9 January 31, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #8 January 31, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	I/I is essentially a hydraulic cost, most directly linked to volumetric flow, and thus it is appropriate to recover 100% by volume.			
PIC & WIC Comments:	**Lanetta Cooper (Residential):** I see the change, but it would make a difference. Some wholesale customers could be double counted for I&I (with flow meters). **Shirley Ross (WIC-Wells Branch MUD):** In addition to TVing our lines, we inspect our manholes. It would be nice to consider giving a credit to wholesale customers who maintain their wastewater lines. **Clay Collins (WIC-Sunset Valley):** Right now the 10.5% is being allocated based on contributed flow. It's really just a mathematical calculation for allocation. **Andrew Hunt (WIC-North Austin MUD #1):** North Austin TVs their lines yet we don't get any credit from the city for reducing the Inflow & Infiltration. **Karyn Keese (PIC-Residential):** Recommend maintaining the status quo. In San Diego Wholesale customers are metered to give an incentive to tighten up their system. Austin needs to meter WW flows. **Todd Davey (PIC-Industrial/Large Volume):** People should be rewarded for taking care of their issues. Agree with the current system. **Marcia Stokes (PIC-Multifamily):** We have a private water line and private sewer line. We get charged 100% of our water usage regardless if it's going into the sewer system. Allocate costs based upon system usage. **Dave Schneider (Industrial/Large Volume):** You're allocating on the same percentage, regardless of I&I contributed flow by class. If there are holes in the wholesale system, you are assuming their Inflow & Infiltration is consistent. <u>3/6/2017</u> **Robert Wood (WIC-City of Westlake Hills):** Does that effectively raise everyone's flows by 10.5%? You assume that everyone's influent is actual flows plus 10.5% and then raise the billed flows? If the flow was 100k gallons, then you are going to raise it by 10.5%, right?			
Executive Team Decision	**Decision:** AW will continue to determine the amount of I/I which results in I/I being 10.5% of the resulting Total Flows into our wastewater system. This is achieved by applying an 11.7% to the customer class contributed flow. In addition, AW will continue to allocate estimated I/I costs based on contributed flow volume by customer class. **Rationale:** This methodology is consistent with the current practice used within the 2008 cost of service rate study. While a specific I/I study has not been done recently, the 10.5% seems reasonable considering a study in 1999 identified approximately 15%. The reduction was decided in a cost of service rate study following AW's Austin Clean Water Program which addressed wastewater system overflows partially caused by I/I.			

Issue #17: Adding additional wastewater strength parameters				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Pros**	**Cons**
AW wastewater COS model assumes that most customer classes have the discharge strengths. **Status Quo: AW BOD of 200 mg/L and TSS of 200 mg/L**			Adding strength parameters would identify costs associated with higher strength wastewater dischargers and appropriately allocate costs to those customers.	Adding strength parameters would require sampling and setting standard limits for typical customer flow. It would also increase complexity in the cost of service cost allocation process. Treatment costs related specifically to the treatment of the additional strength parameters would need to be identified and segregated in the process.
PIC Meeting Dates:	PIC Meeting #9 January 31, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #8 January 31, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	AW should not incorporate any additional strength parameters until there is cost causation, such as inclusion in enhanced permit requirements.			
PIC & WIC Comments:	**Lanetta Cooper (PIC-Residential):** If the TCEQ increases the treatment requirements, we are already treating these. Should we add additional cost allocation parameters? Then yes. **Dave Schneider (PIC-Industrial/Large Volume):** Stay with status quo. **Gary Rose (WIC-Southwest Water Co.):** Overall, wastewater ammonia loads are coming out much stronger at our facilities. **Shirley Ross (WIC-Wells Branch MUD):** In the future, it makes since if the TCEQ requires lower levels of ammonia that you would charge. **Andrew Hunt (WIC-North Austin MUD):** Where would you sample MUDs, at plants? <u>3/6/2017</u> **Grant Rabon (PIC-Residential Rate Advocate):** Are you currently charging any customer for these new items? How are you deciding who/when to sample? Large customers are getting sampled annually. How do you decide who/when gets sampled?			
Executive Team Decision	**Decision:** AW will not add any additional wastewater strength parameters in its cost of service methodologies. However, high levels of ammonia strengths for some customers will be considered using the current Industrial Waste Surcharge mechanism. **Rationale:** AW currently uses industry standards of BOD and TSS as strength parameters. While some systems add phosphorus, nitrogen or ammonia, AW does not plan to use these parameters for all customer classes.			

Issue #18: Allocation of Drainage Fees to Wholesale Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Allocate a Portion of Wastewater Treatment Plant No. 4 Costs to Wholesale Customers (Option for Change)**	
			Pros	**Cons**
The PUCT disallowed Austin Water's allocation of a portion of drainage fees to wholesale customers. Should Austin Water seek to include the cost of "green power" in the wholesale customer revenue requirement in the next rate case? **Status Quo: Continue to exclude the drainage fees from the wholesale customer revenue requirement**.		Allocate a portion of drainage fees to the wholesale customer revenue requirement.	1. The drainage charge is calculated individually for Austin Water's facilities, based on the amount and percent of impervious cover to address flooding, erosion and water pollution within the City of Austin. Austin Water is charged at the same rates as other properties within the City.	1. Wholesale customers do not receive any direct benefits from the City of Austin drainage utility. These costs should only be borne by retail customers located within the jurisdictional boundaries of the City of Austin.
PIC Meeting Dates:	PIC Meeting #2 on November 5, 2016 / PIC Meeting #5 on November 29, 2016 / PIC Meeting #10 February 21, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #2 on November 5, 2016 / WIC Meeting #4 on November 29, 2016 / WIC Meeting #9 February 21, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	Drainage fees charged to Austin Water are a cost of doing business and is a valid operating cost required to be recovered from all AW customers.			
PIC & WIC Comments:	**Jay Joyce (WIC-Wells Branch):** Is the drainage fee charged to other government entities? **Katy Phillips (WIC-Sunset Valley):** How are drainage fees allocated to Wholesale? **Howard Hagemann (WIC-Wellsbranch):** PUC has disallowed it, so it should continue to be excluded **Lanetta Cooper (PIC-Residential):** Are drainage fees addressed by the Texas Legislature? This is cost allocation as opposed to the City has the right to charge for these fees. You should charge these fees because it is a cost of doing business.			
Executive Team Decision	**Decision:** AW will allocate drainage fees to all customer classes including wholesale customers. **Rationale:** Drainage fees are similar to other utility fees such as electric and gas. All properties within the City of Austin are assessed drainage fees based on a consistent formula related to their impervious cover. As AW owns property within the City, we are assessed drainage fees. This cost is a cost of doing business in Austin, and should be allocated to all customer classes.			

Issue #19: CAP Customer Costs, Allocation to Classes, and Recovery Method (Community Benefit Charge)				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Pros**	**Cons**
Austin Water's Customer Assistance Program currently provides discounted rates for eligible customers. **Status Quo: Maintain current level of CAP discount and do not implement CBC.**		Add volumetric discount for wastewater service and/or implement Community Benefit Charge to fund program.	1. Provides funding for low-income, most vulnerable customers who need assistance to pay water and wastewater bills. 2. Provides a discount on water services including waivers of fixed fees and discounted volumetric rates for water.	Costs of CAP program must be allocated to all other retail customer classes.
PIC Meeting Dates:	PIC Meeting #9 January 31, 2017 / PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #8 January 31, 2017 / WIC Meeting #10 March 6, 2017			
Consultant Recommendation:	The implementation of a Community Benefit Charge (CBC) would more closely align the messaging/customer assistance mechanism provided by AW with Austin Energy's CBC; resulting in a more effective/transparent customer assistance program. We also support the expansion of the assistance to include a discount on the wastewater volumetric rate.			
PIC & WIC Comments:	**Gary Rose (WIC-Southwest Co.):** I am a supporter of the customer assistance program, but the PUCT has told us that we cannot push these types of costs to all customers, so it was taken out of the rate of return. It should only be borne by the retail customer class and not by the wholesale class. **Jay Joyce (WIC-Wells Branch MUD):** During the rate proceeding at the PUCT, this was not an issue. It seems like we are intertwining the water conservation with low income and they are not the same. I really agree with Mr. Rose, I don't know how that's going to flow into the wholesale rates. On the water conservation in the rate case, we received a list of instances where low flow devices had been provided to the wholesale customers. **Katy Phillips (WIC-Sunset Valley):** I think the CBC idea makes sense for the retail classes, but for the wholesale class it needs to be transparent what portion is for water conservation. **Howard Hagemann (WIC-Wells Branch):** I don't think we have a customer assistance program, so we would want to be a part of the program. **Karyn Keese (PIC-Residential):** Are you looking at the rate structure for the CAP program? My feeling is that the CAP rates get a discount on the 4th tier, but not the 5th tier. This is not fair because there should be some price signal just like the rest of us. Water conservation should be promoted in this program as well. **Todd Davey (PIC-Industrial/Large Volume):** We also have no issue with CAP program and I have no concerns with reviewing the rate tiers. Some issues came up on the AE side regarding the administration of the program with auto-enrollment. That's an AE issue. I don't believe this an issue that can be resolved here. We think it's a good idea to have a discount program. I think the CBC is the most transparent and it's consistent with how AE displays on the bill. **Lanetta Cooper (PIC-Residential):** I know that AE thinks it's transparent, but the three tariffs administered by AE does not improve customer understanding. I don't have a formal decision. I don't know if it's necessary. I don't think you're going to get a lot more benefit for the cost incurred. I have concern with high CAP users. I have not received a CAP bill frequencies yet. We don't have the data yet to analyze what the effect would be to CAP customers. I had a tenant CAP participant who had a leak, but the owner did not repair it. The tenant received a high water bill. Other public policy changes that we might want to look at and not harm customers who cannot fix the leak. **Grant Rabon (PIC-Residential Rate Advocate)** You can also have old fixtures for water and it can happen on the water side as well. If the outside city customers are paying into the fund, it makes sense that they can receive the benefits. **Marcia Stokes (PIC-Multifamily**): Table 57 from the COS water model shows several large meters (2", 3/4"). Is the CBC pure volume based and not based on the fixed charge? The more you use, the more you contribute. 3/6/2017 **Karyn Keese (PIC-Residential):** What about outside city retail customers, will they receive this benefit?			
Executive Team Decision	**Decision:** AW will recommend creation of a Community Benefit Charge (CBC) to recover costs associated with the CAP program. Also, AW will recommend an increase in the wastewater discount to include a volumetric rate discount. No costs associated with the CAP Program will be allocated to wholesale customers. **Rationale:** By creating a CBC, the costs associated with the CAP program will be transparently identified and detailed on our customers' monthly bills. This is consistent with how Austin Energy manages their CAP program through their CBC. This will also allow for participation in CAP program initiatives, such as the arrearage management program. These funds will be segregated from other utility funds which will provide better reporting and transparency.			

Issue #20: Modification of Fire Demand Meter Fixed Charges				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Modify the Fire Demand Meter Fixed Charge Rate Design**	
			Pros	**Cons**
Retail small multi-family customers must currently pay fixed charges that contain a potentially high allocation of public fire protection costs. **Status Quo: Maintain the current small multi-family fixed charge rate design.**		Modify the current small multi-family fixed charge rate design.	Fix unintended consequences of some low-volume customers with large fire demand meters having significantly higher fixed charge portions of their monthly bill.	Will require extensive research on approximately 500-600 fire demand meters to determine appropriate domestic use. Reduced fixed revenue from these customers that will be made up on volumetric charges.
PIC Meeting Dates:	PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #9 February 21, 2017			
Consultant Recommendation:	Multifamily customers should not be charged based on fire meter size. Instead, they should be assessed a fixed charge for a meter size as determined by that customer's typical monthly use.			
PIC & WIC Comments:	**Gary Rose (WIC-Southwest Co.):** Fixed charges should be based off smaller meter and read volume for both. Only charge higher fixed charge if they use a larger meter. **Howard Hagemann (WIC-Southwest Co.):** How are peaking factors impacted? **Karyn Keese (PIC-Residential):** I think that basing the fixed charge on the smaller meter size is the best option. If you base it on the volume, you can open another can of worms. **Grant Rabon (PIC-Residential Rate Advocate)** Is this specific solution only targeting the Multifamily customer class? You might have some customers that are using the larger meter size. Has Austin Energy advised if this will be a difficult re-programming process? **Todd Davey (PIC-Industrial/Large Volume):** This is a portion of a larger rate design issue and should be discussed during rate discussion. **Marcia Stokes (PIC-Multifamily):** I have already submitted comments on how to fix this. This is an issue that not only affects Multifamily but all classes with fire demand meters			
Executive Team Decision	**Decision:** AW will modify the fixed charges for fire demand meter charges by basing the fixed meter charge on the smaller meter size rather than the larger meter size. **Rationale:** Analysis of the fire demand meters showed virtually no consumption being used through the larger meter size. All of the fire demand customers generally only use the larger size meter during annual required testing. For low monthly volume customers with fire demand meters, the current practice of charging on the larger size meter was causing some to have fixed charges as high as 90% of their total monthly bill. This unintended consequence of AW's increased fixed charge goals, will be corrected by this change in methodology.			

Issue #21: Fire Protection Costs and Allocation to Customer Classes				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Fire Protection Cost Allocation**	
			Pros	**Cons**
Fire protection costs must be allocated to customer classes based on fire demand. **Status Quo: Maintain the current fire protection cost identification and allocation as developed in 2008 COS study.**		Modify the current fire demand cost determination and allocations to customer classes.	Provides equitable allocation of fire protection costs associated with ensuring water system has sufficient capacities at all times Differences in fire protection needs between customer classes can be addressed through allocation	Fire protection is a standby service and most customers rarely use
PIC Meeting Dates:	PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #9 February 21, 2017			
Consultant Recommendation:				
PIC & WIC Comments:	**Grant Rabon (PIC-Residential Rate Advocate):** The minimum fixed charge column, the meter charge is based on the AWWA standard. When you say AWWA equivalency, I am expecting that to mean that you have looked up the max flow rate in the tables and done the math to determine the 5/8" versus the 3/4"? When I look at the tables, I get slightly different numbers than what you have chosen. **Karyn Keese (PIC-Residential):** Some of the meter allocations have changed over the years. **Marcia Stokes (PIC-Multifamily):** Meeting 6, slide 31 shows the table Austin Water is using. The customer charge is the same as the meter charge is the table, but the fire charge is higher. Those ratios are different. My concern has been, you have this model and the numbers get changed. The stuff on the left should be the AWWA standard and the stuff on the right should adjust. The fire protection charge should be based on the AWWA standards. The last COS study showed the least effective way was to use the usage by meter size to allocate fire protection charges. Private fire hydrants are only an administrative function that Austin Water has. We pay a contractor to test our fire hydrants, and then we pay the city $28/month to put it into a database. According to the model, you only allocate 1.7% to the fire protection category as a credit back. We are not even getting full credit in that category. Not only am I paying for a private hydrant to get tested and on top of that I am paying for all fire hydrants to get tested, and I'm not even getting the credit. In your model, why don't you credit 100% of that credit to those who are collected? 75% of the hydrants are allocated to the fire protection category, but we get less credit back 1.7% to that category. 27% of fire hydrants are private. Do you require the city fire hydrants to be maintained annually, are they in the same database? If there really are 10k private hydrants, you model said you only collected $58k. **Lanetta Cooper (PIC-Residential):** These costs include the customer charge, if we were to exclude the customer charges ($4.83) how would these fixed costs compare? **Marcia Stokes (PIC-Multifamily):** How do we transition from one model to another? That rate model has the AWWA ratios for meters, but when you get over to the rate sheet it's something different. Is there some council action that said the 5/8" meter charge had to stay at that amount ($7.10)? **Karyn Keese (PIC-Residential):** Are you going to unbundle that (fixed charges)? So keeping it at $7.10 will go away? I think we would like to see it unbundle based on current data with AWWA standards. **Lanetta Cooper (PIC-Residential):** Rate design is a different issue than COS allocation. The inverted block rate and conservation. It is premature to make an argument that the fixed fees are driving the subsidy. There would be a subsidy between the classes based on cost allocation and not the rate design. **Marcia Stokes (PIC-Multifamily):** Wholesale does not pay fire protection charges. What about outside city retail customers? **Lanetta Cooper (PIC-Residential):** Don't we oversize the mains due to fire protection? Why don't we charge wholesale for fire protection needs? **Marcia Stokes (PIC-Multifamily):** In the model, under hydrants 25% of those costs are allocated to joint (wholesale and retail).			
Executive Team Decision	**Decision:** AW will modify the fire protection allocation using revised meter equivalencies based on hydraulic capacity by meter type as identified in AWWA M6, Water Meters - Selection, Installation, Testing, and Maintenance. **Rationale:** Source for current meter equivalencies was undetermined and had some overrides for associated fixed charge rate design. This methodology will ensure a specific source is identified for each meter equivalency.			

Issue #22: Elimination of Commercial and Large Volume Subsidy of Residential Water Customers				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Subsidy Elimination**	
			Pros	**Cons**
Residential rates currently subsidized by commercial and large volume customers. **Status Quo: Maintain current level of rate subsidy.**		Eliminate residential rates subsidy.	All customer classes would be charged rates that would recover their identified cost of service. All customers treated consistently with rates at their cost of service.	Customer impact to residential class.
PIC Meeting Dates:	PIC Meeting #11 March 6, 2017			
WIC Meeting Dates:	WIC Meeting #9 February 21, 2017			
Consultant Recommendation:	RFC recommends the elimination of the interclass subsidy. Depending on the magnitude of the updated cost of service, this may be phased in over a short-term period, such as 3 years.			
PIC & WIC Comments:	**Karyn Keese (PIC-Residential):** What would it take to get residential to 100%? Subsidy are one of my pet peeves. Affordability is a priority, and making sure everyone is at their cost of service is the goal. The elimination of the subsidy would depend on the results of the cost of service study. We are very concerned about affordability. **Marcia Stokes (PIC-Multifamily):** The goal of the last COS study was to eliminate the subsidy in 5-7 years, but it is still not there.			
Executive Team Decision	**Decision:** AW will recommend to eliminate the current commercial and large volume subsidy of residential water customers. However, based on levels of impacts to residential customers, AW will likely recommend a short-term transition of this subsidy. **Rationale:** AW's goal is to have rates for each customer class cover their identified cost of service, with no subsidy of any one class.			

Issue #23: Test Year for Revenue Requirements (Not a Specific PIC/WIC Meeting Topic)				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Actual Test Year**	
			Pros	**Cons**
Test year that will be used to determine total revenue requirements. **Status Quo: Use the proposed budget as the revenue requirement test year.**		Historical actual expenses with possible adjustments for known and measurable changes.	Actual expenses in a historical test year is a good representation of costs needed to operate the water and wastewater systems. Adjustments for known and measurable provides transparent justifications.	Not consistent with budgeting process of municipality. Could result in a lower revenue requirement than cash flow needs
PIC Meeting Dates:	PIC Meeting #10 February 21, 2017			
WIC Meeting Dates:	WIC Meeting #9 February 21, 2017			
Consultant Recommendation:				
PIC & WIC Comments:	**Jay Joyce (WIC-Wells Branch):** Are we going to discuss known and measurable changes as a group? Labor costs, the PUC likes to use the latest payroll runs and keeps a running total. If the actual data is ending in September 2016, then we are adjusting for known and measurable for September 2017 which we already know when the hearings examiner process begins (same month). Are you going to lose a year? The City of Ft. Worth used a similar process. **Todd Davey (PIC-Industrial/Large Volume):** What's the timeline for delivery? When do you expect for the model to be complete? **Lanetta Cooper (PIC-Residential/Low Income):** My only concern is that not all of the known and measurable changes associated with revenue and costs are accounted for. PUC requires most recent data.			
Executive Team Decision	**Decision:** AW will use a historical actual test year adjusted for known and measurable changes. **Rationale:** Actual expenses from a prior fiscal year provides justification of what it takes to operate and maintain our systems. Adjusting for known and measurable changes provides further justification of requirements to meet cash needs. Actual expenses adjusted for known and measureable changes provides transparency of our costs and justifications of any expected changes. It ensures the cash flow needs of the utility can be met.			

Issue #24: Creation of Outside City Retail Customer Classes and Rates (Not a Specific PIC/WIC Meeting Topic)				
Issue	**Change? (Yes or No)**	**If Yes, Option for Change**	**Create Outside City Retail Customer Classes**	
			Pros	**Cons**
Whether to create outside city retail customer classes for residential, multifamily, and commercial. **Status Quo: Austin Water does not have outside city retail customer classes.**		Create the outside city customer classes and develop cost of service rates for each.	Identifies cost of service and associated rates for these customers. Provides cost of service justification for those customers that have jurisdiction with the PUC for rate challenges.	Different rates for customers who live just beyond the city limits as compared to city customers that might be in similar proximity Possibly have lower rates than inside city rates due to the consumption patterns generally being higher than inside city rates.
PIC Meeting Dates:	N/A			
WIC Meeting Dates:	N/A			
Consultant Recommendation:				
PIC & WIC Comments:	**Lanetta Cooper (PIC-Residential/Low Income):** Why would we create a separate outside city retail customer class? Throughout this process, we have been told these costs are intermingled. How would you calculate an outside city rate? The PUCT uses a system wide cost of service. It would add administrative costs. It doesn't seem like it's worth the money. I can't think why you would need an outside city customer class. Would you charge them more if their COS requirements were higher? **Grant Rabon (PIC-Residential Rate Advocate):** There is a natural breakpoint you go with this COS, are you going to have different peaking ratios for each (Inside City/Outside City)? I am suspicious that your O&M and Capital costs capture the difference between the two classes? Will they have different peaking factors? You are limited by the detail of your assets tracking.			
Executive Team Decision	**Decision:** AW will create outside city retail customer classes and rates. **Rationale:** The creation of outside city retail customer classes and rates provides for specific identification of cost of service revenue requirements for each class. These outside city classes have PUC jurisdiction for their rates, so this specific identification of revenue requirements and rates is necessary for any future PUC rate challenge. Additionally, the specific customer class information and transparency might help to mitigate any future PUC rate challenges.			