

**FAIRFAX COUNTY
WASTEWATER MANAGEMENT PROGRAM**



Quality of Water = Quality of Life

**Wastewater Revenue Sufficiency
and Rate Analysis**

**Forecast Period Fiscal Year 2015
Through Fiscal Year 2020**

October 31, 2014



Public Resources Management Group, Inc.

Utility, Rate, Financial and Management Consultants



October 31, 2014

Mr. Randy Bartlett
Deputy Public Works Director
County of Fairfax
Department of Public Works and Environmental Services
12000 Government Center Parkway, Suite 358
Fairfax, VA 22035-0058

Subject: 2015 Wastewater Revenue Sufficiency and Rate Analysis

Dear Mr. Bartlett:

Public Resources Management Group, Inc. ("PRMG") has completed the study of the sufficiency of the existing and adopted wastewater rates for Fairfax County, Virginia (the "County") and have summarized the results of our analyses, assumptions, recommendations, and conclusions in this report that is submitted for your consideration. This report summarizes the basis for the recommended rates for wastewater services that are considered necessary, along with other appropriate sources of funds, to meet the near term expenditure requirements of the wastewater system (the "System"). The System revenue sufficiency and rate analysis was based on the Adopted Fiscal Year 2015 and 2016 Budget and encompassed the subsequent five (5) fiscal year period ending June 30, 2020 (collectively, the "Forecast Period"). Although the analysis focused primarily on the financial needs identified for the Forecast Period, the financial analysis also included a ten (10) fiscal year period ending June 30, 2024 (referred to as the "Planning Period") to support management's ongoing long-term planning efforts.

The proposed rates are intended to meet a number of goals and objectives. The most important objective of the study was to develop proposed wastewater utility rates that fully recover the projected expenditure requirements of the System in order to maintain sound financial operations and fund the anticipated capital needs of the utility system. The other goals and objectives considered in the study include:

- Wastewater rates should be based on cost of service (full cost recovery) principles;
- Wastewater rates should be reasonable among customer classes;
- Wastewater rates should comply with the covenants as required by the resolutions and loan agreements adopted by the Board of Supervisors of the County (the "Board");
- Wastewater rates should comply with requirements associated with adopted County financial policies attributable to the wastewater utility system; and

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- Proposed wastewater rates should promote the Wastewater Management Program's (the "WMP") financial creditworthiness and maintain adequate reserves for emergencies and unforeseen capital needs.

The report following this letter summarizes the results of our study and outlines our recommendations and conclusions with respect to the recommended rates for the Forecast Period. The accompanying study provides additional details regarding the rate and financial analyses conducted on behalf of the County.

The recommended rates for wastewater service are based on the recovery of the total costs anticipated for the County's wastewater utility service area and overall capacity needs of the System. As such, the recommended rates and charges are considered by PRMG to be reasonable and to reflect the cost of providing service.

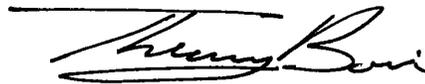
We appreciate the opportunity to be of service to the County.

Respectfully submitted,

Public Resources Management Group, Inc.



Robert J. Ori
President



Thierry Boveri, CGFM
Supervising Analyst



Michael P. Francis
Senior Analyst

RJO/dlc
Attachments

**FAIRFAX COUNTY
WASTEWATER MANAGEMENT PROGRAM**

WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS

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WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS

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WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS

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**FAIRFAX COUNTY
WASTEWATER MANAGEMENT PROGRAM**

WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS

EXECUTIVE SUMMARY

General

The mission of the Wastewater Management Program ("WMP") is to collect, treat and monitor wastewater in compliance with all regulatory requirements, using state-of-the-art technology in the most effective manner. Financial management and planning is integral to the mission of the utility recognizing that revenues and rates should be sustainable to meet the needs of the wastewater system. As part of the management and planning cycle, WMP annually prepares a six (6) year projection of utility financial operations, cash balances, and fiscal position in order to assess, among other things, the adequacy of rates and revenues to meet: i) future or planned funding requirements for operations and capital investment; ii) compliance with financial policies and required rate (debt) covenants; and iii) certain financial targets to maintain the overall long-term creditworthiness of the utility. The basis for the financial forecast relied upon a review of the recent historical revenues, expenses and customer billing / sales records to identify trends, the adopted budget and planned capital improvements, desktop analysis of the utility plant-in-service life, as well as, information provided by others (e.g., treatment by contract providers). The financial forecast is developed with a conservative outlook of the utility's financial performance and considers, among other things, external conditions affecting future costs such as projections of near-term and long-term inflation as reported by the Congressional Budget Office and industry trends in actual construction and capital costs as reported by Engineering News Record. WMP staff also considers and evaluates the financial effects of changes in regulations, such as the Clean Water Act and the Chesapeake Bay Program.

Fiscal Year 2014 Results Summary

WMP continuously tracks and reviews prior financial forecasts relative to the actual results and considers such actual results in the financial and rate planning process. For Fiscal Year 2014, WMP observed better than forecasted results primarily due to: i) lower than projected operating expenses of approximately \$1.3 million; and ii) greater revenues and availability charge receipts totaling approximately \$5.7 million above initial projections. The greater than forecasted revenues is primarily associated with greater receipts of growth-related availability charges at \$24 million compared to the amount assumed for the prior forecast at \$20 million. Overall, WMP outperformed net revenue and availability charge forecasts by approximately \$7 million. However, reported capital spending was approximately \$20 million greater at \$121 million compared to prior forecasts of approximately \$101 million. The increased spending is attributable to an increase in capital reinvestment and spending compared to recent historical trends. In particular, capital spending for Treatment-by-Contract ("TBC") providers was significantly greater than recent historical trends at \$65 million for the Fiscal Year 2014 compared to historical averages of \$35 million for the Fiscal Years 2009 through 2013. The increased spending is partly attributable to the regulatory driven improvements to the wastewater treatment facilities at the Alexandria Sanitation Authority (d/b/a Alexandria Renew Enterprises).

Overall, WMP began the Fiscal Year 2015 with a lower cash reserve / liquidity balance than previously forecasted due to the greater than expected capital expenditures assumed as part of the prior financial forecast. For more detail concerning the actual operating results please reference the *Fiscal Year 2014 Results* in subsequent sections of this report (Pages 4-6).

Principal Findings and Recommendations

As previously mentioned, the development of the financial forecast relied upon certain information such as recent financial reports, customer billing statistics, adopted budgets, and year-to-date results, projected capital expenditure and associated funding requirements, as well as certain assumptions concerning the forecast as discussed in greater detail throughout this report, which should be read in its entirety. The forecast also relies upon information and projections of operations and capital funding requirements as provided by the County's contractual wastewater treatment providers, which primarily include: Alexandria Renew Enterprises, Arlington County, District of Columbia Water and Sewer Authority ("DCWASA"), Loudoun Water and the Upper Occoquan Service Authority ("UOSA"). Based upon this information and assumptions disclosed throughout this report the following findings and recommendations are offered for consideration:

Revenue Forecast

- The System primarily generates revenues from: i) ongoing charges for wastewater service (user charges); and ii) availability charges related to new customer growth. For the Fiscal Year 2014 the utility generated approximately \$187 million in user charges; including approximately \$11 million in bulk wastewater sales of service. In addition to the reported user charges, WMP reported approximately \$24 million in growth-related availability charges. These revenue sources account for the majority or 99% of gross revenues, with the remaining revenues derived from investment earnings, sewer connection charges, grants and other revenues reported at approximately \$2 million for the Fiscal Year 2014. Overall the County reported approximately \$213 million in gross revenues and income during Fiscal Year 2014.
- With respect to revenue derived from quarterly wastewater service charges, billed wastewater flows have experienced marginal increases of approximately 0.2% annually since the Fiscal Year 2009, which is less than the reported growth rate in average customer accounts billed of 1.6% for the same period. This implies a declining trend in the amount of billed wastewater flows per account and is generally consistent with trends experienced by other northern Virginia utilities. While changes in the amount of billed wastewater flows is a significant driver for reported user charges, customer account growth is a primary driver for growth in availability charge collections. The financial forecast generally assumes a continuation in this trend.

Expenditure Forecast

- The expenditures of the System funded from the utility revenues (referred to as the "Gross Revenue Requirements") can be primarily categorized as follows: i) operating and maintenance expenses accounting for 44% of the Gross Revenue Requirements; ii) annual debt service payments accounting for 22% of the Gross Revenue Requirements; and

iii) transfers for maintaining minimum cash reserves and for funding capital (for utility plant renewals, replacements, upgrades and betterments) accounting for approximately 34% of the Gross Revenue Requirements.

- With respect to the operating and maintenance expenses, the System has observed average annual growth in such expenses of approximately 2.3% per year since the Fiscal Year 2010. The projection of the operating and maintenance expenses assumes a higher rate of growth in such expenses at 3.3%, which is primarily due to: i) average annual growth in TBC expenses of 3.9% annually based on forecasts of wastewater treated flows and information reported by the TBC providers, which account for approximately 45% of total operating expenses; ii) assumed average annual increases in personnel salaried and benefit expenses of 2.9% above budgeted Fiscal Year 2016 amounts to account for cost-of-living adjustments and inflation of employee benefits (e.g., health insurance) representing approximately 29% of total operating expenses; and iii) escalation of remaining expenses employing varying factors for electricity, chemicals, general inflation, etc. resulting in an average annual increase of 3.7% and representing 26% of the total operating expenses.
- With respect to existing indebtedness, as of June 30, 2014 the System had approximately \$617 million in debt outstanding, which includes approximately \$277 million in subordinated debt issued by UOSA which is allocable to the County. The annual debt service payments (expressed on accrued basis) for the Fiscal Year 2014 was approximately \$49 million. The outstanding debt was issued to finance capital improvements to the System or for the acquisition of wastewater treatment capacity rights from the County's TBC providers.
- WMP has identified approximately \$819 million in both County-owned wastewater and TBC capital projects for the next six (6) fiscal years (i.e., Fiscal Years 2015 through 2020) (the "CIP"). Approximately \$247 million or 30% of the CIP is associated with TBC capital funding requirements, which the County has no control relative to the timing or amount of such expenditures. The identified funding also includes approximately \$10 million for departmental (operating) capital outlay related to vehicles, equipment, and other short-lived assets (commonly referred to as General Plant). Based on discussions with WMP staff, it is anticipated that a portion of the identified capital funding requirements (County projects) may be deferred during the Forecast Period due to timing of initiation and duration of construction for such projects. Therefore, for purposes of this analysis the financial forecast assumes approximately \$90 million in deferred capital funding beyond the Fiscal Year 2020 resulting in a net amount of capital funding identified at \$729 million or approximately \$122 million a year on average.
- With respect to funding for the capital program, approximately seventy-five percent (75%) or \$550 million of the total capital expenditure requirements are anticipated to be funded from internal sources. The forecast assumes the majority of internal funding to be derived from programmed transfers from annual operations totaling approximately \$461 million or \$77 million on average during the Forecast Period. The remainder of funding from internal sources is derived from the use of existing cash reserves generated in prior periods, unspent proceeds from previously issued bonds of \$84 million, and approximately \$4 million in

grant funding. WMP has applied for future grants to fund capital projects; should the County receive such additional grants, the need for additional debt to finance the capital improvements in subsequent years to the Forecast Period may be reduced or deferred.

- The remaining twenty-five percent (25%) or approximately \$179 million of identified capital improvement program for the Forecast Period assumes the issuance of the following additional bonds. The following summarizes the principal amount of bonds assumed to be issued and the assumed annual debt service payments on such additional bonds (the "Additional Bonds").

Additional Debt Financing for the Forecast Period Fiscal Year 2015 through 2020					
	Proposed Bonds [1]		Proposed UOSA Debt [2]		Total
	Series 2017	Series 2019	Series 2017	Series 2019	
Principal Amount	\$68,970,000	\$71,730,000	\$24,362,471	\$28,412,197	\$193,474,668
Issuance Date (On or About)	July 1, 2016	July 1, 2018	N/A	N/A	N/A
Fiscal Year of Final Maturity	2046	2048	2050	2052	N/A
Annual Debt Service Payment:					
2015	\$0	\$0	\$0	\$0	\$0
2016	0	0	0	0	0
2017	4,745,508	0	0	0	4,745,508
2018	4,745,508	0	328,894	0	5,074,401
2019	4,745,508	4,935,411	986,680	0	10,667,598
2020	4,745,508	4,935,411	1,486,372	383,565	11,550,854
2021 (Outside Forecast) [3]	4,745,508	4,935,411	1,657,208	1,150,694	12,488,820
2022 (Outside Forecast) [3]	4,745,508	4,935,411	1,657,811	1,733,977	13,072,706
2023 (Outside Forecast) [3]	4,745,508	4,935,411	1,658,387	1,933,366	13,272,671

[1] Amounts reflect additional senior lien parity bonds issued by the County.

[2] Amounts reflect the County's allocated share of proposed UOSA Regional Sewer Revenue Bonds and are subordinate obligations. Amounts shown were provided by UOSA's financial advisor.

[3] Amounts shown reflect projected debt service payments beyond the Forecast Period but are presented for informational purposes to identify the initial year (Fiscal Year 2023) of when the proposed debt service payments will become level for the identified Additional Bonds.

Risk and Forecast Sensitivity

With any financial forecast there exists certain assumed risks. The following provides a summary of the primary risks identified for this study:

- The majority of a utility's costs are fixed and include, but are not limited to the following: personnel, insurance, debt repayment, capital funding and other related costs. Continued declines in billed wastewater flows beyond what is already assumed within this study can erode financial margins from what is projected and result in reduced funds available for ongoing capital reinvestment. For every one (1.0%) percent decline in billed wastewater flows the utility would currently realize an approximate (0.89%) percent or \$1.6 million decline in rate revenues. The adopted and recommended rates attempt to minimize this risk through an increase in fixed charges which does not vary by flow and is recommended to be phased in over the next several years.

- The financial forecast has assumed average collection of availability charges at approximately \$21 million annually, which is essentially equal to the average annual collection in such charges for the last ten (10) fiscal years, but less than recent reported collections for the Fiscal Year 2014 of \$24 million. The receipt of these fees varies greatly and is based on new development in the wastewater service area. For the last ten years the greatest annual amount of collections was reported during the Fiscal Year 2006 at \$36 million while the lowest amount of collections was reported during the Fiscal Year 2010 at less than \$11 million. If the System realized lower collections than what is assumed for the forecast, the projected level of transfers for capital reinvestment would be proportionally reduced or would require a corresponding reduction in expenses or increase in rate revenues to offset such a decline in the availability charge revenues.
- TBC providers account for a substantial portion of the total utility expenditures accounting for: i) approximately \$42 million or 43% of total operating expenses; and ii) \$247 million or 34% of the identified capital funding for the Forecast Period. Additional increases in the cost of operations or capital needs beyond what is assumed within the forecast and which is not under the control of WMP can materially affect the projected financial position of the utility, however it should be noted that the utility is currently in a strong financial position and annually re-evaluates the financial forecast and position to address and minimize the long-term effect of such risks.
- The financial forecast assumes average annual capital spending of approximately \$122 million which is approximately 5.4% of the reported gross fixed assets of the System. Capital spending at this level is greater than the reported depreciation expense (accounts for 2.3% of reported gross fixed assets) and is indicative of significant capital reinvestment and regulatory improvements. The continuation in capital spending at current period levels is anticipated to result in continued declines to cash reserves and may require the issuance of additional debt beyond the Forecast Period. WMP staff should continue to closely monitor capital spending requirements relative to fiscal policy targets for the fiscal strength and credit rating of the utility.
- Regulations such as the Clean Water Act and the Chesapeake Bay Program have required significant capital investment from wastewater utilities, including the County and the County's TBC providers, in order to improve water quality by limiting the amount of pollution or nutrient loadings (e.g., nitrogen) contained in wastewater effluent discharged to the Chesapeake Bay. Pursuant to the FY 2013 Chesapeake Bay and Virginia Waters Clean-up Plan as prepared by the Virginia Secretary of Natural Resources for the Governor and the Chairmen of the Senate and House Committees for Agriculture, Conservation and Natural Resources dated November 2013:

"From 2009 to 2012, Virginia saw greater reductions from wastewater facilities than any other state in the Chesapeake Bay watershed. Annual nitrogen discharges were reduced by about 7,010,000 pounds; phosphorus annual loads were reduced by almost 567,000 pounds, exceeding the milestone commitments set in Virginia's Watershed Implementation Plan (WIP) for both nutrients. As a result of these ongoing nutrient control

upgrades, point source loads continue to be well below the allocations called for in the WIP and TMDL."

It is unclear how implementation of additional regulation, if any, may affect future costs, however recent success experienced with reductions from point-source pollution at wastewater treatment facilities may place more focus on non-point source pollution and stormwater management for the future.

Observations and Recommendations

- WMP reviewed the financial forecast last year through the Wastewater Revenue Sufficiency and Rate Analysis for the Forecast Period Fiscal Year 2014 through Fiscal Year 2019 (the "2014 Report"). The 2014 Report was prepared in support of the Fiscal Year 2014 Budget and made several recommendations including: i) additional increases in wastewater service rates; and ii) as part of the service rate adjustments, an increase in the level of fixed charges assessed to customers in order to minimize financial risk and recover a greater proportion of the System fixed costs from a non-variable rate and promote rate equity. The table below provides a summary of the adopted rates based on the forecast performed during the Fiscal Year 2014 Report and associated average rate revenue increases:

Fiscal Year 2014 Adopted Rate Adjustments						
Description	2015	2016	2017	2018	2019	2020
Adopted Rates:	Existing	Adopted	Adopted	Adopted	N/A	N/A
Quarterly Base Charge	\$15.86	\$20.15	\$24.68	\$27.62	N/A	N/A
Flow Charge	\$6.62	\$6.65	\$6.68	\$6.75	N/A	N/A
Rate Revenue Adjustment [*]	N/A	3.5%	3.6%	3.0%	N/A	N/A

[*] Amounts shown reflect projected increases to revenues from adopted rates.

- The recommended rates and the annual changes identified in the 2014 Report which were subsequently approved by the Board of Supervisors of the County (the "Board") included: i) a reduction in previously adopted rates for current Fiscal Year 2015; ii) a continuation of the phase-in of the fixed cost recovery charge; and iii) marginal increases in the recommended volumetric rates. The purpose of introducing the fixed cost recovery charge was to: i) promote revenue stability (certainty) in revenue recovery; ii) promote equitability in the recovery of cost among the wastewater users; and iii) reflect industry norms and trends in rates.
- WMP's financial and rate implementation plan has resulted in a strong financial position in support of meeting the adopted financial policies and selected performance metrics or targets. The rates for service allows for the continuation of a capital re-investment rate equivalent to the annual depreciation, which will minimize the need for long-term debt and help promote the sustainability of rates. It is recommended that the business-evaluation approach for the development of the annual net revenue requirements be maintained and that the financial forecast be reviewed annually.

- It is recommended that the Board continue with implementation of the adopted rates (as initially identified in the 2014 Report). Recognizing that the Board adopted rates through the Fiscal Year 2018, the following table illustrates the identified rate adjustments which are recommended to be adopted by the Board for the remainder of the Forecast Period:

Description	Recommended Rate Adjustments					
	Existing	Prior Board Adopted			Identified	
	2015	2016	2017	2018	2019	2020
Recommended Rates:						
Quarterly Base Charge	\$15.86	\$20.15	\$24.68	\$27.62	\$29.83	\$32.22
Flow Charge	\$6.62	\$6.65	\$6.68	\$6.75	\$6.82	\$6.89
Rate Revenue Adjustment [*]	N/A	3.5%	3.6%	3.0%	2.5%	2.4%

[*] Amounts shown reflect projected increases to revenues from recommended rates.

WMP staff should continue monitoring the need for the adopted and identified rate adjustments closer towards implementation of the respective rate adjustments; however, the County should continue to target the increased fixed charge recovery to promote increased revenue stability and reduce financial risk.

- The proposed rate adjustments by the County are anticipated to be sufficient to provide net revenues to meet the rate covenant of the General Bond Resolution initially adopted by the Board on July 29, 1985, and as amended and restated from time to time (the "General Bond Resolution") that authorized the issuance of the County's outstanding senior lien bonds, meet the terms and conditions of the Virginia Resources Authority ("VRA") Financing Agreement between the County and the Virginia Water Facilities Revolving Fund administered by the VRA, debt service on Additional Bonds anticipated to be issued by the County to fund System capital improvements, and to meet the financial targets or objectives of the System during the Forecast Period.
- The adopted rates for the Fiscal Year 2015 and the Fiscal Year 2016 will remain competitive with the rates charged by other neighboring public wastewater utility systems. This competitive position is also anticipated to be maintained during the remainder of the Forecast Period. The table below provides a comparison of the existing and adopted monthly wastewater utility bill at 6,000 gallons relative to other or neighboring utilities:

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**Single-Family Residential Wastewater Service
6,000 Gallons of Billed Wastewater Service Per Month [1][2]**

	Monthly Bill
<u>Fairfax County:</u>	
Existing Rates – Fiscal Year 2015	\$45.01
Adopted and Recommended Rates – Fiscal Year 2016	46.62
<u>Other Neighboring Utilities:</u>	
City of Alexandria (Served by ARenew) [3][4]	\$55.72
Arlington County	53.64
District of Columbia Water and Sewer Authority[3][5]	59.18
Loudoun Water [3][6]	35.46
Prince William County Service Authority [3]	46.80
Washington Suburban Sanitary Commission [3][7]	45.21
 Other Neighboring Utilities' Average	 <u>\$49.34</u>

- [1] Unless otherwise noted, amounts shown reflect residential rates in effect October 2014 and are exclusive of taxes or franchise fees, if any, and do not include any surcharges for service rendered outside the corporate limits of the local jurisdiction, for specific capital improvements or for any other purpose. All rates are as reported by the respective utility. This comparison is intended to show comparable charges for similar service for comparison purposes only and is not intended to be a complete listing of all rates and charges offered by each listed utility.
- [2] It should be noted that utilities may differ as to the term of billing period and units of measurement used in order to determine the respective utility customer's wastewater bill. For purposes of this comparison, all bills shown have been adjusted to match bills rendered on a monthly basis and recognized in units of gallons.
- [3] Utilities shown bill a fixed cost or base charge per billing period per respective account or meter.
- [4] The bill shown for Alexandria Renew Enterprises includes the collection System or facilities charge billed by the City of Alexandria to provide consistency to the rates charged for the other surveyed utilities.
- [5] Amounts shown assumes: i) the Clean Rivers Impervious Area Charge of \$16.75 per month associated with runoff entering the sewer system; ii) a 50% allocation of the metering fee of \$3.86; iii) a 50% allocation of the a Right-of-Way fee to the District of Columbia of \$0.22 per 1,000 gallons; iv) 50% allocation of the PILOT fee charged to water and wastewater customers of \$0.62 per 1,000 gallons; and v) the residential wastewater flow charge of \$6.33 per 1,000 gallons.
- [6] Loudoun Water has adopted an approximate 3% rate increase for wastewater service to become effective April 1, 2015. Amounts shown reflect the current rates in effect (without the anticipated rate adjustment).
- [7] The Washington Suburban Sanitary Commission ("WSSC") bills customers of the utility by calculating the respective customer's average daily flow of use, which is in turn used to determine the variable rate charged to the customer. The calculated bill assumes 6,000 gallons per month or approximately 200 gallons per day. Amounts shown assume a 50% allocation of the quarterly Account Maintenance fee of \$11.00.

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**FAIRFAX COUNTY
WASTEWATER MANAGEMENT PROGRAM**

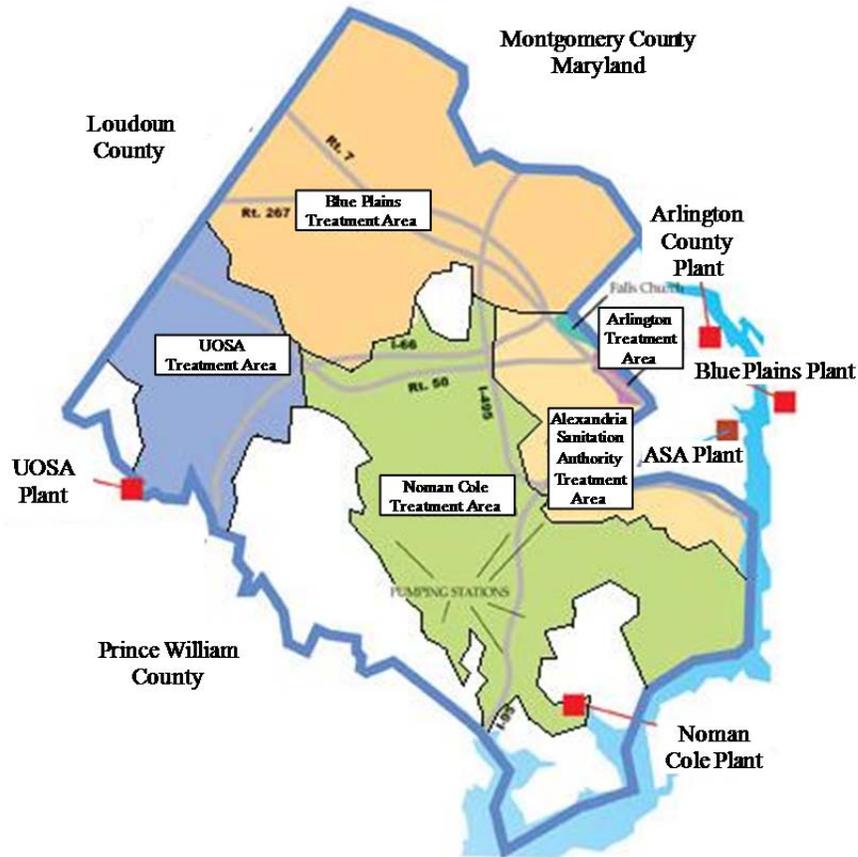
WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS

INTRODUCTION

As shown on Figure 1 below, the County provides wastewater service to residents through a combination of wastewater treatment and disposal facilities owned and operated by the County as well as through wholesale service agreements with four adjacent public utilities providing regional wastewater treatment and disposal service, referred to as Treatment by Contract ("TBC"), based on the sewer shed location within the County. Wastewater collected from customers in the northern part of the County is routed to the Blue Plains Advanced Wastewater Treatment Plant, owned and operated by the District of Columbia Water and Sewer Authority ("DCWASA"). Wastewater collected from customers in the western part of the County is routed to the Upper Occoquan Service Authority's ("UOSA") Regional Water Reclamation Plant. Wastewater collected from customers in the central and southern part of the County is routed to the County-owned Noman Cole Pollution Control Plant ("Noman Cole PCP"). Wastewater collected from customers in the eastern part of the County is routed either to the Alexandria Renew Enterprise's (formally Alexandria Sanitation Authority) ("ARenew") Advanced Wastewater Treatment Plant or to Arlington County's Water Pollution Control Plant ("WPCP") depending on the physical location of the customers in this sewer shed.

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FIGURE 1 – WASTEWATER SERVICE AREA MAP



As shown below, WMP staff currently manages the County-owned capacity of 67.0 million gallons a day ("MGD") at Noman Cole PCP as well as having secured an entitlement to 90.08 MGD of TBC wastewater treatment capacity. The County's TBC capacity represents 58% of the total wastewater treatment capacity of the System. In this Report, the County's Noman Cole PCP and TBC capacity, together with the County's collection and transmission system, pumping stations and related facilities and equipment are referred to collectively as the "System."

Total Wastewater Capacity – As of July 1, 2014

Wastewater Entity	Current Capacity (MGD)
Fairfax County (Noman Cole PCP)	67.00
Alexandria Renew Enterprises (ARenew)	32.40
Arlington County	3.00
UOSA	22.60
DCWASA	31.00
Loudoun Water	1.00
Cholchester	0.08
Total	157.08

The WMP currently provides service to an estimated population of 935,435^[1] residents. As of June 30, 2014, WMP reported that its gross plant investment in the System, including construction-in-progress and capacity entitlements in wastewater treatment facilities owned by other local governments, was approximately \$2.4 Billion.

WMP monitors its financial position and results on an ongoing basis, continuously prepares financial forecasts to identify anticipated trends in financial position and establishes rates and charges to meet certain financial goals. To support this financial evaluation and rate process, the WMP has engaged the services of Public Resources Management Group, Inc. ("PRMG") to assist in the preparation of a five-year financial forecast in order to evaluate trends and anticipated performance results based on the most recent actual and current year budgetary information and WMP's management practices. The purpose of this rate sufficiency and rate analysis report (the "Report") is to document the financial and rate evaluation prepared on behalf of Fairfax County, Virginia (the "County") and to provide our observations and recommendations as to the level of wastewater system rates that should be charged for utility service and support the recommendations for sewer service charges to be adopted by the Board of Supervisors of the County (the "Board").

This analysis is prepared annually primarily in support of the County's budget and capital improvement planning process. The revenue sufficiency and rate analysis reflected in this Report was based on the Adopted Fiscal Year 2015 and Fiscal Year 2016 Budget and encompassed the subsequent five (5) fiscal year period ending June 30, 2020 (collectively, the "Forecast Period"). Although the analysis focused primarily on the financial needs identified for the Forecast Period, the financial analysis also included a ten fiscal year period ending June 30, 2024 (referred to as the "Planning Period") to support management's ongoing long-term planning efforts.

As documented in this Report, WMP's operations and financial position are impacted by a variety of factors, including: i) increased and immediate capital expenditures required for renewals and replacements and regulatory mandates associated with the Chesapeake Bay Program; ii) continued effects of inflation on the cost of operations and construction; iii) need to maintain a strong financial position to promote the creditworthiness and sustainability of sewer service charges or user fees for the System; and iv) maintain compliance with the rate covenant requirements of the General Bond Resolution adopted by the Board on July 29, 1985, as amended, restated, and supplemented from time to time (the "General Bond Resolution") authorizing the issuance of the Outstanding Bonds^[2]; v) meeting the terms and conditions of the Virginia Resources Authority ("VRA") Financing Agreement between the County and the Virginia Water Facilities Revolving Fund acting by and through the VRA (the "VRA Financing

[1] Population figures per Demographic and Economic Statistics reported in the County's Comprehensive Annual Financial Report for the Fiscal Year 2014 for the Integrated Sewer System Enterprise Fund.

[2] The Outstanding Bonds reflect bonds issued by the County in accordance with the General Bond Resolution and include: Sewer Revenue Bonds, Series 2004 originally issued in the principal amount of \$94,005,000 and refinanced by the issuance of the Sewer Revenue Refunding Bonds, Series 2014 originally issued in the principal amount of \$61,755,000; Sewer Revenue Bonds, Series 2009 originally issued in the principal amount of \$152,255,000; and the Sewer Revenue Bonds, Series 2012 originally issued in the principal amount of \$90,710,000.

Agreement"); and vi) providing sufficient funds for the payment of the System's allocable share of subordinate debt issued (and held) by UOSA on behalf of the County.

The effect of these factors was recognized last year in the preparation of the Wastewater Revenue Sufficiency and Rate Analysis for the Forecast Period Fiscal Year 2014 through Fiscal Year 2019 dated January 31, 2014, which was prepared in support of the Fiscal Year 2015 Budget (the "2014 Report"). The 2014 Report evaluated the overall expenditure requirements of the System and recognized the criticality of the need for a change in the level and structure of wastewater rates charged for service to meet the projected financial requirements but also to increase revenue stability (reduced financial risk). The recommended rates and the annual changes identified in the 2014 Report which were subsequently approved by the Board included: i) continuation of the phase-in of a fixed cost recovery charge; and ii) a marginal increase in the recommended volumetric rate or to the per bill service charge. The purpose of introducing the fixed cost recovery charge was to: i) promote revenue stability (certainty) in revenue recovery; ii) promote equitability in the recovery of cost among the wastewater users (readiness-to-serve); and iii) reflect industry norms and trends in rates. The following is a summary of the Board adopted rates for the Fiscal Years 2015 through 2018 and the net change in the quarterly wastewater bill for the typical residential customer.

Summary of Fiscal Year 2014 Board-Adopted Rates

	Fiscal Year Ending June 30, [1]			
	In Effect	Adopted		
	2015 [2]	2016	2017	2018
Volumetric Rate – \$ per 1,000 Gallons	\$6.62	\$6.65	\$6.68	\$6.75
Change from Prior Year		\$0.03	\$0.03	\$0.07
Base Charge – \$ per ERC per Meter Size [3]	\$15.86	\$20.15	\$24.68	\$27.62
Change from Prior Year		\$4.29	\$4.53	\$2.94
Average Quarterly Residential Bill – Usage of 18,000 Gallons per Quarter				
Quarterly Residential Bill	\$135.02	\$139.85	\$144.92	\$149.12
Percent Combined Change from Prior Year for Usage of 18,000 Gallons per Quarter	3.3%	3.6%	3.6%	2.9%
Quarterly Increase in Wastewater Bill for Usage of 18,000 Gallons per Quarter [4]	<u>\$4.33</u>	<u>\$4.83</u>	<u>\$5.07</u>	<u>\$4.20</u>

[1] All rates scheduled to be adopted on July 1st and became effective with bills rendered on October 1st of each fiscal year.

[2] Recommended rates as identified in the 2014 Report which were adopted by the Board in April 2014.

[3] Amount reflects increase in the base charge to recover a portion of the identified fixed costs incurred to provide wastewater service in order to improve revenue stability and equitability in cost recovery.

[4] Calculated from immediately preceding Fiscal Year bills.

FISCAL YEAR 2014 RESULTS

The adopted rates for the Fiscal Years 2015 through 2018 were based on, among other things, the Fiscal Year 2013 actual results, the Fiscal Year 2014 Budget, the year-to-date Fiscal Year 2014 actual results available at the time of rate evaluation, and the Fiscal Year 2014 ten-year capital improvement plan including capital expenditures associated with the County's TBC providers. A comparison of the forecasted and actual results for the Fiscal Year 2014 is now available for

consideration and incorporated into the Fiscal Year 2015 Financial Forecast. In evaluating the Fiscal Year 2014 results, a number of observations were made:

1. The reported Fiscal Year 2014 Service Charge (retail) revenues was \$176,471,310, which is approximately \$0.2 million higher than the estimates developed for the financial forecast included in the 2014 Report. The difference is less than 0.2% of the budget estimates, indicating consistency among forecasted and actual reported revenues.
2. Actual Fiscal Year 2014 Sales of Service (wholesale) revenues were \$10,930,495 which was approximately \$1.2 million greater than estimates presented in the 2014 Report for the same period. This difference is approximately 11% greater than what was forecasted and is considered to be associated with greater wastewater treatment flows from wholesale customers.
3. Actual Fiscal Year 2014 availability charge revenues were \$24,007,197, which was i) approximately \$3.5 million greater than reported receipts for the Fiscal Year 2013, and ii) approximately \$4.0 million greater than estimates presented in the 2014 Report for the same period. The projections of availability charges revenues are considered difficult to forecast since such amounts: i) are associated with the timing of new development; ii) are received only from new development requesting wastewater capacity; and iii) are considered as non-recurring revenue sources. The Fiscal Year 2014 fee receipts were less than the amounts received during the relatively high growth period of the Fiscal Years 2002 through 2006 (averaging approximately \$31.7 million annually) and significantly higher than the low growth period of Fiscal Years 2007 through 2011 (averaging approximately \$13.4 million annually). The collection of availability charge revenues, which are assumed to average approximately \$20.6 million for the Forecast Period for the financial forecast reflected in this report, provide a financial benefit to offset new customer (expansion)-related debt payments during the Forecast Period reflected in this Report, thus providing improved cash flow projections from Service Charge revenues.
4. Actual Fiscal Year 2014 operating and maintenance expenses (not including depreciation which is a non-cash operating expense) were \$91,111,419, which was approximately \$1.3 million less than the estimates recognized in the Fiscal Year 2014 Financial Forecast. The lower than forecasted expenses were primarily due to lower than forecasted personnel and TBC operating costs.
5. Actual Fiscal Year 2014 capital expenditures were \$120,786,033, which was approximately \$20.2 million greater than what was anticipated to be spent during such fiscal year as referenced in the 2014 Report, which represents a negative forecast variance from a cash flow standpoint. The greater capital expenditures were primarily due to completion of County identified projects in advance of estimates assumed for the prior forecast.
6. The total debt service payments (cash basis – when payments are made to investors or the VRA) for Fiscal Year 2014 were approximately \$48.0 million. When expressed on an accrual basis (when deposits required to Debt Service Sinking Fund to match the reduction of the liability incurred), the total debt service liability was \$48.8 million which is

consistent with what was anticipated to be required from System revenues during the Fiscal Year 2014 Financial Forecast.

Recognizing the above, the financial results experienced during the Fiscal Year 2014 were positive when compared to the projections contained in the financial forecast as shown below:

Fiscal Year 2014 Financial Results Comparison			
	Actual Results	Financial Forecast [1]	Variance Positive/ (Negative)
Operating Revenues and Investment Earnings [2]	\$188,652,807	\$186,958,503	\$1,694,304
Operating Expenses	(91,111,419)	(92,364,912)	1,253,493
Net Revenues	\$97,541,388	\$94,593,591	\$2,947,797
Total Debt Service Payments [3]	(48,757,826)	(48,757,826)	0
Net Available for Capital Funding	\$48,783,562	\$45,835,765	\$2,947,797
Capital Funding Allowance [4]:			
County Owned Facilities	(\$36,107,260)	(\$36,107,260)	N/A
Treatment-by-Contract Facilities	(28,030,363)	(28,030,363)	N/A
Net Available before Availability Charges	(\$15,354,061)	(\$18,301,858)	\$2,947,797
Availability Charges [5]	24,007,197	20,003,370	4,003,827
Net Available for System Use	<u>\$8,653,136</u>	<u>\$1,701,512</u>	<u>\$6,951,624</u>

- [1] Represents forecast prepared and presented in the 2014 Report and was based on Fiscal Year 2014 Budget and Fiscal Year 2013 and year-to-date Fiscal Year 2014 operating results.
- [2] Includes charges for service, sales of service (wholesale sales), and other operating revenues. Additionally, amounts shown include interest income on available fund balances.
- [3] Includes debt payments on senior debt and subordinate obligations on an accrual basis (when deposits to sinking fund is required) and not when the debt payments are made to the lenders. The actual debt service payments during Fiscal Year 2014 were \$47,996,779.
- [4] Amount shown reflects a 3% capital asset replacement funding ratio based on: i) County reported gross plant in service, less land and construction-work-in-progress; and ii) original book value of capacity rights for the County's Treatment-by-Contract providers. The allowance is considered necessary for ongoing capital funding needs and is the funding target recognized in the current financial forecast.
- [5] Reflects availability charges received by WMP. Amounts shown do not include any receivables or contributed property donations which are available to fund expansion-related debt service payments and capital additions.

As can be seen the table above, the historical Fiscal Year 2014 revenues, including availability charges, derived from annual operations were sufficient to fully fund the identified revenue requirements, including the dedication of funds for ongoing programmed capital reinvestment (with any deficiency in funding being financed either by available operating reserves or the application of availability charges to fund debt service payments, which allows operating funds to be used for other purposes). However, it should be noted that the System does rely on the receipt of availability charges in order to fully fund the programmed capital funding allowance; to the extent the fees were less than projected this would affect the long-term capital funding plan and the amount of future bonds that may need to be issued to finance the identified capital improvements. The forecast of revenues and availability charges was based on customer and flow growth projections which PRMG considers as being reasonable for financial and rate planning purposes.

PROJECTED FINANCIAL RESULTS

The Board annually approves a multi-year rate plan and constantly re-evaluates its financial position as part of its rate evaluation process. As previously mentioned above, the most recent Board-approved rates, including the currently effective rates for the Fiscal Year 2015, were

based on an analysis prepared by WMP and PRMG and presented in the 2014 Report. The Board-approved rates adopted in connection with the Fiscal Year 2014 financial forecast were designed with the intent of meeting the expenditure funding needs of the System and achieving the financial parameters and performance measures established for the System during the Forecast Period presented in such study. These results and assumptions have enhanced the ability to fund the System expenditure requirements and meet the identified financial benchmarks for the Forecast Period. Accordingly as part of this revenue sufficiency study, a re-evaluation of the System rate adjustments (i.e., total rate revenues estimated to be earned) was considered.

The Fiscal Year 2015 financial forecast includes a multi-year rate phasing program which was prepared to identify the Fiscal Year 2016 through 2020 rates which are considered necessary to fund the identified revenue requirements for the System and continue to meet the financial planning benchmarks (i.e., financial position and targets) identified with WMP staff to promote the long-term creditworthiness of the System. The creditworthiness objective focuses on maintaining a "AAA" credit rating with the bond rating agencies, limiting long-term financial risks to the System through prudent liquidity and financial operating strategies, and promoting the long-term sustainability of rates while limiting future increases to wastewater customers. Based on the assumptions recognized in the development of the financial forecast and the result of actual Fiscal Year 2014 results the following rate adjustments are recommended:

Description	Recommended Rate Adjustments					
	Existing	Prior Board Adopted			Identified	
	2015	2016	2017	2018	2019	2020
Recommended Rates:						
Quarterly Base Charge	\$15.86	\$20.15	\$24.68	\$27.62	\$29.83	\$32.22
Flow Charge	\$6.62	\$6.65	\$6.68	\$6.75	\$6.82	\$6.89
Rate Revenue Adjustment [*]	N/A	3.5%	3.6%	3.0%	2.5%	2.4%

[*] Amounts shown reflect projected increases to revenues from recommended rates.

As can be seen above, it is recommended that the previously Board-adopted rate adjustments (through Fiscal Year 2018) be maintained and additional identified rate adjustments for the Fiscal Years 2019 and 2020 be adopted.

Principal Considerations and Assumptions Regarding Projected Operating Results

The development of the projected net revenue requirements for the System required several assumptions and considerations and the presentation of certain analysis relative to utility operations. Major assumptions, considerations and analyses that were considered in the development of the projected revenue requirements for the Forecast Period for the System are as follows:

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- The forecast in accounts, equivalent residential units ("ERU") and billed wastewater flow was based on historical trends and is summarized below:

Summary of Historical and Projected Customers and Sales Statistics [1]				
<u>Fiscal Year</u>	<u>Accounts</u>	<u>Equivalent Residential Units (ERU) [2]</u>	<u>Billed Wastewater Sales (Flow)</u>	<u>Average Use per ERU</u>
Historical Period				
2009	259,859	313,362	24,510,612	6,518
2010	261,423	315,248	24,962,443	6,599
2011	268,750	324,084	23,934,607	6,154
2012	268,700	324,023	23,913,067	6,150
2013	271,900	327,882	24,012,730	6,103
2014	274,900	331,500	24,764,339	6,225
Average Annual Compound Growth Rate				
	1.13%	1.13%	0.21%	(0.92%)
Forecast Period [3]				
2015	277,100	334,153	24,649,708	6,147
2016	279,300	336,806	24,783,965	6,132
2017	281,500	339,459	24,917,254	6,117
2018	283,700	342,112	25,048,440	6,101
2019	285,900	344,765	25,179,785	6,086
2020	288,100	347,418	25,310,161	6,071
Average Annual Compound Growth Rate [4]				
	0.78%	0.78%	0.36%	(0.42%)

[1] Amounts shown derived from Tables 1 and 2.

[2] An Equivalent Residential Unit (ERU) is calculated based upon application of a meter equivalency factor per water meter associated with wastewater service for a customer. The meter equivalency standards are based on the American Water Works Association (AWWA) instantaneous demand relationships among larger meter sizes relative to a 5/8" meter and are also used to factor the base charge for the adopted rates. Amounts shown are estimated based on application of a weighted ERU to account ratio of 1.2x recognizing: i) detailed customer account and meter billing data for the Fiscal Year 2011; and ii) recent base charge receipts for the Fiscal Year 2014.

[3] Reflects customer and sales forecast which formed the basis of the rate revenue from approved and recommended rates.

[4] Reflects annual compound growth rate from Fiscal Year 2014.

As can be seen above, the projection in accounts and equivalent residential connections is assumed to increase approximately 0.8% annually through Fiscal Year 2020. This average growth rate is slightly more conservative, but approximates the recent historical trends in customer growth statistics and is assumed to be attainable by County staff. Additionally, although billed sales are anticipated to increase during the Forecast Period, the projections assume a continued reduction in the average wastewater billed per customer (sales) based on recent trends resulting in reduced operating revenue per customer received.

- The Adopted Fiscal Year 2015 Budget and Fiscal Year 2016 Budget estimates as provided by WMP staff served as the basis for the expenditure projections for the System. The underlying assumptions and expenditure amounts included therein were assumed to be reasonable and reflect anticipated operations, unless otherwise noted. Such budgetary amounts are incorporated into the development of the Operating Expenses and certain other

funding requirements for the first two years of the Forecast Period, except for adjustments and assumptions as noted hereunder.

3. Projected revenues from existing and adopted rates (sewer service charges) for the System were based on the customer, equivalent residential unit ("ERU"), and sales forecast as shown on Table 2 and summarized above (reference Item No. 1) and the schedule of rates approved by the Board of Supervisors on February 25, 2014.
4. The projected sales of service (wholesale) revenues were based on the individual parameters of each specific agreement for providing service, a review of recent invoices rendered by the County for such service, the adopted and projected County retail wastewater rates and billing relationships, the capital plan (as discussed later in this Report), the forecast of Operating Expenses at both the Noman Cole PCP and the TBC Contract wastewater facilities and the recovery of costs from those bulk customers required to share in such costs and other factors. Based on the contract parameters and the overall costs reflected in the analysis, the following sales of service revenue for wholesale service by respective customer was recognized:

Summary of Sales of Service Revenues [*]						
For the Forecast Period – Fiscal Years Ending June 30,						
	2015	2016	2017	2018	2019	2020
City of Fairfax	\$1,902,482	\$2,037,131	\$2,085,880	\$2,136,541	\$2,189,013	\$2,240,053
Town of Herndon	3,458,000	3,458,000	3,458,000	3,458,000	3,458,000	3,458,000
Arlington County	644,641	699,682	732,188	754,462	775,534	799,692
Fort Belvoir	2,152,000	2,152,000	2,152,000	2,152,000	2,152,000	2,152,000
City of Falls Church	1,078,603	1,126,808	1,164,610	1,190,598	1,214,899	1,241,181
Town of Vienna	584,963	618,719	630,967	643,694	656,874	669,697
Fairfax Water	99,038	99,638	100,088	100,988	101,250	101,250
I-95 ERRF (Covanta)	264,100	265,700	266,900	269,300	270,000	270,000
Loudoun (County) Water	174,664	182,549	190,951	200,028	209,602	219,705
Total Sales of Service Revenues	\$10,358,491	\$10,640,226	\$10,781,583	\$10,905,610	\$11,027,173	\$11,151,577

[*] Amounts based on respective wastewater flow forecast and current contractual billing relationships for each sales of service customer; does include projected impacts associated with potential changes in retail rates based on adopted rates for service as approved by the Board of Supervisors for customers whose rates are the same as the retail rates. For sale of service customers that have contractual rates tied to the County's retail rates, such revenues include the pro rata increase due to the implementation of the adopted rates as provided in such agreement for service with the County.

5. The System receives availability charges from retail customer growth associated with new development occurring in the County's wastewater service area. The general policy of WMP is to use the charges first to pay for expansion-related debt service payments (to limit immediate rate increases to existing customers) and then to fund capital expenditures associated with growth or expansion. The use of the availability charges to fund annual expenditures serves to reduce the amount of net revenue requirements that need to be funded annually from Sewer Service Charges or rates. For the Forecast Period, the estimate of availability charge revenues is based on the forecast of ERUs and the current rate for service which was held constant for the Forecast Period (includes no increase or indexing provision applied to the current availability charges). The estimated amount of availability charges anticipated to be received during the Forecast Period was determined as follows:

Summary of Estimated Availability Charges Revenues

	For the Forecast Period – Fiscal Years Ending June 30,					
	2015	2016	2017	2018	2019	2020
ERCs Connecting to System	2,653	2,653	2,653	2,653	2,653	2,653
Availability Charge (\$/ERU) [*]	\$7,750	\$7,750	\$7,750	\$7,750	\$7,750	\$7,750
SAC Revenue (\$ millions)	\$20.560	\$20.560	\$20.560	\$20.560	\$20.560	\$20.560

[*] Amounts shown for the Fiscal Years 2015 to 2018 reflect adopted availability charges by the Board of Supervisors. The remainder of the Forecast Period assumes no change to the availability charge.

6. The County does not formally segregate the availability charges received from other revenues of the System. To estimate the amount of funds on hand, a historical analysis of fee collections and expenditures was performed. Based on the estimated beginning cash balance associated with the availability charge receipts, a forecast of the use of the fees and ending cash balances were estimated. For the Forecast Period, such amounts were based on: i) the estimated current cash balance in the new customer (availability charge) fund as of July 1, 2015; ii) the level of fees anticipated to be collected during such period, including interest income earned on funds on deposit; and iii) the amount of expansion-related debt service payments identified during the Forecast Period. Based on the above, the following use of the availability charge funds was recognized during the Forecast Period:

Summary of Estimated Balance of Availability Charge (SAC) Funds [1]

	For the Forecast Period – Fiscal Years Ending June 30,					
	2015	2016	2017	2018	2019	2020
Beginning Fund Balance	\$18,461,165	\$0	\$0	\$0	\$0	\$0
Plus Sources of Funds:						
Estimated SAC Receipts	20,560,477	20,560,477	20,560,477	20,560,477	20,560,477	20,560,477
Investment Income [2]	46,000	0	0	0	0	0
Less Uses of Funds:						
Debt Service Payments	\$20,606,477	\$20,560,477	\$20,560,477	\$20,560,477	\$20,560,477	\$20,560,477
Capital Project Expenditures [3]	18,461,165	0	0	0	0	0
Ending Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0

[1] Amounts reflect funds that are allocated to new customers; which resources are derived primarily from the application of availability charges.

[2] Amounts include earnings of funds that are allocable to new customers which are in addition to earnings on the availability charge funds (primarily earnings on expansion-related debt service – related accounts).

[3] Based on a multi-year historical review of expansion related debt service and proceeds from the sale of capacity, a starting fund balance allocable to availability fees was recognized for purposes of this analysis. Therefore, such assumed starting cash balances were recognized to fund a portion of the new customer related capital improvements for the System.

As can be seen above, it is projected that the estimated availability charge fund balance funded from new customer growth are projected to be exhausted during the Forecast Period (all funds received will be applied to expansion-related debt payments) and that the revenues derived from sewer service charges will be responsible to fund a portion of the ongoing expansion-related debt service payments. As can be seen below, it is estimated that the existing customers may need to finance new customer debt payments and that a carry-forward liability will accrue over time which should eventually be funded from new development.

Summary of Estimated Carry Forward Balance of Availability Charge (SAC) Funds (in \$000s) [1]

	For the Forecast Period – Fiscal Years Ending June 30,					
	2015	2016	2017	2018	2019	2020
Beginning Balance – Carry Forward [1]	\$0	\$11,446	\$23,075	\$36,851	\$50,649	\$66,636
Total Debt Service Payments	47,419	47,561	52,374	52,735	58,382	58,952
Expansion-related Allocation						
Expansion Debt Percentage	68%	68%	66%	65%	63%	61%
Allocated Debt Service	32,053	32,189	34,336	34,359	36,547	36,226
SAC Applied to Debt Service Payments [2]	20,606	20,560	20,560	20,560	20,560	20,560
Current Period Exp.- Debt not Funded	11,446	11,629	13,775	13,799	15,986	15,665
Ending Balance – Carry Forward	<u>\$11,446</u>	<u>\$23,075</u>	<u>\$36,851</u>	<u>\$50,649</u>	<u>\$66,636</u>	<u>\$82,301</u>

[1] Assumes no carry-forward balance and historical application of all applicable availability charges to the payment of expansion-related debt. It is estimated that a balance of approximately \$18.5 million in additional availability charge (see prior table) are to fund other expansion-related construction projects.

[2] Assumes all availability charges applied to expansion-related debt service payments. Any balance of fees available after payment of the expansion-related debt service payments was assumed to be carried over to the subsequent years for future debt service payment application; any deficiency in availability charge expansion-related debt funding represents a due from the availability charge to operating reserves as fees are received.

7. Included in the financial projections are other operating revenues associated with lateral spur fees, connection charges and other customer-related requested service revenues. For the purposes of this Report, other operating revenues were based on: i) the Fiscal Year 2015 budgeted revenues; ii) a review of historical amounts received from such charges; and iii) discussions with WMP staff. Based on a review of such sources, it was assumed that such revenues would fluctuate either in relation to anticipated new connections to the System during the Forecast Period or would be held constant during such period.

8. Table 3 at the end of this Report summarizes the projected Operating Expenses for the System. The projected System Operating Expenses have been escalated from Fiscal Year 2016 levels based upon several assumptions and the nature of the expense being incurred by the System. The Fiscal Year 2016 budget represents the County's most recent annual financial plan for the System and based on a comparison of such projections to recent reported amounts, it was assumed that the underlying assumptions used by the County in the development of such budget was considered reasonable and reflects anticipated costs for the System operations. With respect to the remainder of the Forecast Period, such amounts were projected above the Fiscal Year 2016 preliminary budget amounts based on a variety of escalation parameters respective of the specific cost to provide service. A summary of the primary assumptions is provided below:
 - a. Personnel expenses were escalated recognizing: i) inflation in salaries and wages at annual factors ranging from 2% recognizing cost of living adjustments and merit increases; and ii) increases in medical and other benefits assumed at 5% annually based on a review of recent historical increases and expectations for such costs for the forecast period. It should be noted that the County provides healthcare benefits through a self-insurance policy.

- b. Based on discussions with the County, no additional personnel will be required for the Forecast Period to meet additional demands due to System growth, the imposition of the capital improvement program, as a result of the increased treatment requirements associated with the Chesapeake Bay Program or due to increased utility service needs during the Forecast Period. Accordingly, no additional personnel costs have been recognized over the Forecast Period.
- c. General expenses, other contractual services and certain other operating expenses have been projected to increase at an annual rate equal to inflation ranging from 2.1% to 2.4%. These escalation factors were based on the Consumer Price Index and the Implicit GDP Deflator forecasts prepared by the Congressional Budget Office as contained in the Economic and Budget Outlook dated August 2014, recent historical trends experienced by the System and discussions with WMP Staff.
- d. Repair and Maintenance operating expenses were escalated based upon a factor of 4.0% over the Forecast Period, reflecting the continued trend in increased construction materials costs used in the repair and maintenance of existing wastewater facilities.
- e. General insurance for property, plant and equipment was held constant for the Forecast Period based on discussions with WMP staff and recognizing that the County is expected to control costs through a self-insurance policy.
- f. The projection of variable costs for the County's Noman Cole PCP operations, which included purchased power and chemicals cost, was determined utilizing the cost estimates as outlined in the County's Fiscal Year 2015 and Fiscal Year 2016 budget. These costs were compared to recent trends, fiscal year-to-date 2015 reported amounts and were escalated for the Forecast Period based on an allowance for inflation, which is consistent with recent historical trends, and the projection of flow requirements as discussed earlier in this Report. For the Forecast Period, the following was assumed for specific variable expenses:
 - i. Electrical expenses were escalated over the Forecast Period at a base annual inflation rate of 3.0% based on information published by the Bureau of Labor Statistics regarding historical trends in energy prices and the anticipation of increased energy costs. Based on discussions with WMP staff with respect to the Chesapeake Bay Program regarding the cost of power, no additional significant increase in power expenses is anticipated with the increased treatment requirements as a result of the anticipated energy efficiencies expected to be achieved based on the implementation of the capital plan as previously discussed.
 - ii. Chemical expenses were escalated at the same rate as electrical expenses assumed at 3.0% annually based on a review of historical indices published by the Bureau of Labor Statistics for industrial chemicals as well as a historical review of actual chemical expenses for WMP.
- g. Bills for retail wastewater service are rendered on a contractual basis by Fairfax Water and the Town of Vienna. For the Forecast Period, the cost of the billing services was based on: i) a composite cost to provide such service predicated on the total bills being

rendered; ii) the growth in accounts billed for the Forecast Period; and iii) allowances for inflation on the cost of billing (rate charged for service by the billing agents). For the Forecast Period, this expense was estimated to average approximately \$7.9 million annually.

- h. No contingency allowance has been recognized during the Forecast Period to account for any unknown or unplanned expenditures that may occur during such period or to account for potential changes in the revenues that may occur due to weather, conservation, and other factors has been recognized based on discussions with WMP staff. The forecast in operating expenses is considered reasonable and attainable by PRMG.
9. As previously mentioned, the County has entered into several service agreements with other local governments or agencies (i.e., the TBC Partners) for wastewater treatment and disposal service. The costs associated with the service for each entity supplying wastewater treatment services were based on: i) the agreement for service between the County and the specific TBC Partners; ii) where available and applicable, the costs reflected in the fiscal year 2015 operating and capital budget for the TBC Partners; iii) recent invoices as billed by the TBC Partners to the County for service; and iv) the recognition of inflation and flow growth in the projection of the operating costs billed by the respective entity. The cost for wastewater treatment purchases is summarized on Table 4 at the end of the Report and was estimated as follows:
- a. Alexandria Renew Enterprises (formally Alexandria Sanitation Authority) ("AREnew") – The operating expenses include the allocated share of the wastewater treatment and certain conveyance (referred to as joint facilities) costs based on the wastewater flow relationships between the two entities as reflected in the service agreement. The projection of the total joint facility costs was provided by AREnew as part of its financial planning process. In addition, the costs include deposits to a joint use facilities account of AREnew to be used exclusively for improvement, repair and replacement of certain County and AREnew shared facilities (the "Joint IR&R") in an amount equal to 0.7% of the total amount of the capital expenditures made (reported gross plant investment) with respect to the joint use facilities as defined in the service agreement. For the Forecast Period and based on a review of trends in the percent of flow delivered to the AREnew wastewater treatment plant, it was assumed that the County would account for approximately 54% of the total wastewater flows at the AREnew wastewater treatment facilities and therefore responsible for the proportionate share of the joint facility operating expenses.

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With respect to the County, the costs are considered as an Operating Expense of the System and were estimated as follows:

Purchases from Alexandria Renew Enterprises						
For the Forecast Period – Fiscal Years Ending June 30,						
	2015	2016	2017	2018	2019	2020
Operating Expenses	\$11,166,862	\$12,193,675	\$12,680,061	\$13,166,446	\$13,652,831	\$14,193,260
Deposit to Joint IR&R Account	2,667,561	2,978,563	3,137,651	3,243,750	3,334,233	3,435,411
Accruals / Fiscal Year End Adjustments	(38,459)	(334,454)	(161,368)	(148,121)	(144,217)	(160,402)
Total Expenses	\$13,795,963	\$14,837,785	\$15,656,343	\$16,262,075	\$16,842,847	\$17,468,269

The County also shares in the capital expenditures by ARenew for the facilities that are considered joint facilities (with the County being responsible for 60% of such capital costs based on the capacity entitlement in the wastewater treatment facility). Any costs that are required to be directly funded by the County for the joint facility plant in service are included as a component of the capital improvement plan for the System since they must be funded upfront by the County (it should be noted that the agreement between the parties does allow ARenew to issue debt for joint use improvements for which the County would be responsible for 60% of such debt, but based on discussions with ARenew staff and historical precedent, we have assumed that no ARenew debt obligations will be issued to fund joint use facility capital costs during the Forecast Period).

- b. Arlington County – The projected Operating Expenses include the County's allocated share of the wastewater treatment and certain conveyance costs based on the wastewater flow relationships between the two entities as reflected in the service agreement. The projection of the total wastewater plant flows and wastewater plant operating expenses was provided by Arlington County as part of its financial planning process. For the Forecast Period, it was assumed that the County would account from 8% to 9% of the total wastewater flows at the Arlington County wastewater treatment facilities. Based on the estimated operating costs for the Arlington County facilities and the County's flow contribution to such facilities, the expenses for wastewater treatment and disposal services provided by Arlington were estimated as follows:

Estimated Purchases from Arlington County						
For the Forecast Period – Fiscal Years Ending June 30,						
	2015	2016	2017	2018	2019	2020
Operating Expenses	\$2,403,821	\$2,472,085	\$2,544,620	\$2,624,251	\$2,706,213	\$2,790,570

The County also shares in the capital costs performed by Arlington County on certain facilities (with the County being responsible for approximately 7.5% of such capital costs). Any allocable capital costs that are required to be funded by the County are included in the capital improvement plan of the County since it is assumed that such improvements will not be financed by Arlington County on behalf of the County but will require the complete payment upfront by the County for its proportionate share of such capital costs.

- c. District of Columbia Water and Sewer Authority ("DCWASA") – The projected Operating Expenses include the allocated share of the wastewater treatment and certain conveyance costs based on the wastewater flow relationships between the two entities as reflected in the service agreement. The projection of the total wastewater plant flows and operating expenses for the Fiscal Year 2015 was provided by DCWASA as part of its budgetary process. The estimated cost for wastewater treatment and disposal service by DCWASA is shown below:

Estimated Purchases from DCWASA						
For the Forecast Period – Fiscal Years Ending June 30,						
	2015	2016	2017	2018	2019	2020
Operating Expenses	\$12,765,126	\$12,826,467	\$13,212,357	\$13,620,167	\$14,027,807	\$14,453,968

The County also shares in the capital costs performed by DCWASA on the facilities that are considered as being allocable to the County (the County being responsible for 8.4% of such capital costs). Any capital costs that are required to be funded by the County for the allocated plant in service are included in the capital improvement plan of the County since it is assumed that such improvements will not be financed by DCWASA on behalf of the County but will require the complete payment upfront by the County for its proportionate share of such capital costs.

- d. Upper Occoquan Service Authority ("UOSA") – The projected Operating Expenses include the allocated share of the wastewater treatment and certain conveyance costs based on the wastewater flow relationships between the two entities as reflected in the service agreement. The projection of the total wastewater treatment costs was provided by UOSA as part of its annual budgeting process and such costs were escalated for inflationary allowances. In addition, the County's allocated costs under the service agreement include deposits to a Reserve and Maintenance Account, which costs are allocated based on the County's reserved capacity in the UOSA facilities. For the Forecast Period, it was assumed that the County would account for an average of 41% of the total wastewater flows at the UOSA wastewater treatment facilities and maintain a 22.6 MGD capacity allocation in such facilities. With respect to the County, the costs considered as System Operating Expenses were estimated as follows:

Estimated Purchases from Upper Occoquan Sewage Authority						
For the Forecast Period – Fiscal Years Ending June 30,						
	2015	2016	2017	2018	2019	2020
Operating Expenses	\$11,460,017	\$11,966,331	\$12,493,417	\$13,055,889	\$13,630,772	\$14,218,469
Deposit to Reserve and Maintenance Account	1,707,558	1,758,784	1,811,548	1,865,894	1,921,871	1,979,527
Total Expenses	\$13,167,575	\$13,725,115	\$14,304,965	\$14,921,783	\$15,552,643	\$16,197,996

The County also shares in the capital costs expended by UOSA on the facilities based on the allocated capacity to the County (with the County being responsible for approximately 46% of the treatment-related capital costs; the conveyance allocation

basis varies by interceptor use). Any major treatment or conveyance capital expenditures are generally debt financed by UOSA, and the County is responsible for its allocable share of the UOSA debt service payments with such debt requirements being considered as subordinate to the County-issued bonds for the wastewater system. It should be noted that most of the primary capital expenditures (i.e., which are not funded from the Reserve and Maintenance Account) are debt financed by UOSA, which the County's proportionate share is allocated to the System. Such debt liability and payment is considered as a subordinated debt of the System.

- e. Utilities, Inc. (Colchester Facilities) – Utilities, Inc. currently operates and maintains a wastewater treatment and collection system for service within a development referred to as Harbor View which consists of approximately 170 accounts that are considered as retail customers of the County. No additional growth in the service area served by the Utilities, Inc. wastewater facilities is anticipated by the County. The cost for wastewater treatment and collection service to be paid to Utilities, Inc. was based on recent invoices for services provided by Utilities, Inc. and costs were escalated annually for inflationary allowances for the remainder of the Forecast Period.

10. As of June 30, 2014, the County had \$296,580,000 in senior lien bonds outstanding issued pursuant to the General Bond Resolution ("Outstanding Senior Lien Bonds"). A summary of the debt service attributes for the Outstanding Senior Lien Bonds is presented below:

Outstanding Senior Lien Bonds					
Description	Series 2004	Series 2009	Series 2012	Series 2014	Total
Principal Amount of Bonds					
Outstanding [1]	\$3,335,000	\$142,220,000	\$89,270,000	\$61,755,000	\$296,580,000
Fiscal Year of Final Maturity	2015	2040	2043	2029	N/A
Annual Debt Service [2]:					
2015	\$353,979	\$9,718,661	\$5,584,811	\$5,401,807	\$21,059,258
2016	0	9,725,629	5,593,067	5,750,813	21,069,509
2017	0	9,725,702	5,593,016	5,799,844	21,118,562
2018	0	9,731,775	5,598,350	5,813,718	21,143,843
2019	0	9,735,213	5,600,038	5,850,688	21,185,939
2020	0	9,739,493	5,601,808	5,865,896	21,207,197

[1] Amounts shown reflect amounts outstanding as of June 30, 2014 as reported by the County in the Comprehensive Annual Financial Report.

[2] Amounts shown on an accrued basis based on the monthly deposits for payments coming due and are not representative of the actual payment made by fiscal year.

[3] The Series 2014 Bonds were issued during the Fiscal Year 2014 to refinance the then outstanding Series 2004 Bonds.

The debt service requirements included in this Report for the Outstanding Senior Lien Bonds were based on the actual debt service schedules for the issue and are presented on a "gross" basis (i.e., not net of interest earnings on any debt service-related funds or accounts). Furthermore, the amounts shown are based on the monthly funding requirements for the Outstanding Senior Lien Bonds under the General Bond Resolution (essentially an accrual basis) as opposed to when the debt service requirements are actually paid.

11. The County has incurred and issued subordinate obligations to finance capital improvements to the System. The subordinate obligations consist of: i) loans incurred by the County from the State of Virginia's Water Facilities Revolving Fund loan program

acting by and through the VRA; and ii) the County's share of debt service on bonds issued by UOSA for capital projects, which debt service is allocated to the County by a wastewater service agreement based on the amount of wastewater treatment capacity reserved for the County by UOSA. A summary of the Subordinate Obligations liability as reported by the County is set forth below:

Outstanding Subordinate Obligations				
Description	VRA Sewer Revenue Bonds		UOSA Revenue Bonds [2]	Total
	Series 2001	Series 2002		
Principal Amount of Bonds Outstanding [1]	\$17,918,532	\$24,753,207	\$277,293,041	\$319,964,780
Fiscal Year of Final Maturity	2021	2022	2043	N/A
Annual Debt Service [3]:				
2014	\$2,791,078	\$3,412,199	\$20,156,637	\$26,359,914
2015	2,791,078	3,412,198	20,287,813	26,491,089
2016	2,791,078	3,412,199	20,306,381	26,509,658
2017	2,791,078	3,412,199	20,313,682	26,516,959
2018	2,791,079	3,412,198	20,325,313	26,528,590
2019	2,791,079	3,412,199	19,990,533	26,193,811

[1] Amounts shown reflect amounts outstanding as of June 30, 2014 as reported by the County in the Comprehensive Annual Financial Report.

[2] The County has an allocable share of several series of subordinate obligations with UOSA with final maturities ranging from Fiscal Year 2015 through 2043.

[3] Amounts shown reflect the accrued debt service payments (i.e., when payments are deposited to the debt service sinking fund and not when actual payments are made) associated with the Outstanding Subordinate Obligations Debt Service. Amounts shown were also adjusted to reflect the reduction in the annual debt service realized from the recent issuance of the Series 2013B Bonds (during the Fiscal Year 2014) to refinance the then outstanding UOSA Series 2003 Bonds. Amounts shown for UOSA are also shown net of the receipt of Federal direct subsidies associated with the issuance of Build America Bonds and / or use of debt service reserve funds applied towards final maturity for repayment.

The Subordinate Obligations loan repayment requirements included in this Report were based on the actual loan repayment schedules for each issue. With respect to debt service issued on behalf of the County by UOSA, amounts shown are presented net of any applicable BAB subsidy payments and use of debt service reserve funds (funded from previous UOSA bond financing) applied to final payment for maturity, where applicable. The amounts shown are based on monthly funding (accrual basis) for the interest and principal components of the Subordinate Obligations of the System. A summary of the Subordinate Obligations debt service payments for the Forecast Period is included on Table 8 at the end of this Report.

12. In order to fund the capital improvement plan for the System as shown on Table 10, it is anticipated that the County will issue additional utility system revenue bonds on parity with the Outstanding Senior Lien Bonds (the "Additional Parity Bonds"). The issuance of such Additional Parity Bonds was assumed to be incurred consistent with the capital funding plan based on the estimated construction drawdown or needs schedule as identified in the County's Capital Improvement Plan, which is shown on Table 10.

The following Additional Parity Bonds were assumed in the financing plan reflected in this Report:

Additional Senior Obligations			
Description	Series 2017 Bonds [1]	Series 2019 Bonds [2]	Total
Principal Amount of Bonds Issued	\$68,970,000	\$71,730,000	\$140,700,000
Fiscal Year of Final Maturity	2046	2048	N/A
Annual Debt Service:			
2015	\$0	\$0	\$0
2016	0	0	0
2017	4,745,508	0	4,745,508
2018	4,745,508	0	4,745,508
2019	4,745,508	4,935,411	9,680,918
2020	4,745,508	4,935,411	9,680,918

[1] Assumes construction fund deposit of \$62,500,000, 5.5% interest rate, 30 year repayment term, 2.5% issue costs, level debt service and issuance on or about July 1, 2016 (i.e., Fiscal Year 2017).

[2] Assumes construction fund deposit of \$65,000,000, 5.5% interest rate, 30 year repayment term, 2.5% issue costs, level debt service and issuance on or about July 1, 2018 (i.e., Fiscal Year 2019).

Table 8 at the end of this Report provides a summary of the annual Debt Service Requirements for each year of the Forecast Period.

13. Pursuant to the wastewater service agreement between UOSA and the County, the County is, among other things, responsible for the payment of its allocable share of debt service on the bonds. Historically, the County has treated its payment obligations to UOSA with respect to the County's portion of the debt service on UOSA's bonds as a "Debt Service Component" of the "Cost of Contracted Services" under the County's General Bond Resolution on a basis subordinate to its Outstanding Senior Lien Revenue Bonds.

For the Fiscal Year 2015 and based on information provided by UOSA's financial advisor, the UOSA Board anticipates issuing additional bonds to finance certain capital improvements to their treatment facilities. The County anticipates to cash-fund these improvements with available reserves; thus, no additional subordinated debt associated with the UOSA Series 2015 Bonds issue will be allocated to the County. Additionally, UOSA has identified the need to issue additional bonds subsequent to the Fiscal Year 2015 for future capital financing. It has been assumed that the County will participate in such debt and will be allocated on a pro rata share of the annual debt payment responsibility consistent with the approach used by the parties in previous UOSA financings. However, the County does anticipate evaluating such future series of bonds at the time of financing by UOSA and will determine at that time if it would be more appropriate to cash-fund the future UOSA capital improvements as opposed to the issuance of additional debt.

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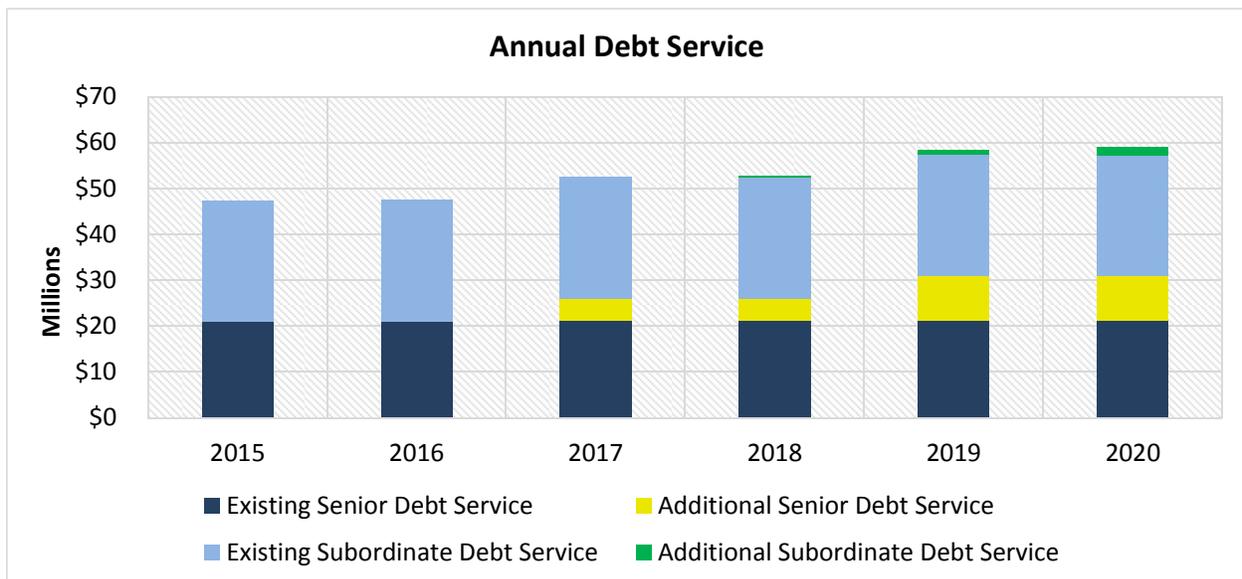
The following additional Regional Sewer Revenue Bonds were assumed to be issued by UOSA during the Forecast Period based on their current financing plan:

Additional UOSA Bonds – Subordinate Obligations Allocated to County [1]

	Series 2015 Bonds [2]	Series 2017 Bonds	Series 2019 Bonds	Total
Principal Amount of Bonds Outstanding	\$0	\$24,362,471	\$28,412,197	\$52,774,668
Fiscal Year of Final Maturity	2045	2050	2052	N/A
Annual Debt Service:				
2015	\$0	\$0	\$0	\$0
2016	0	0	0	0
2017	0	0	0	0
2018	0	328,894	0	328,894
2019	0	986,680	0	986,680
2020	0	1,486,372	383,565	1,869,936
2021 [3]	0	1,657,208	1,150,694	2,807,902
2022 [3]	0	1,657,811	1,733,977	3,391,788
2023 [3]	0	1,658,387	1,933,366	3,591,753

- [1] Amounts reflect estimated the County’s allocable share of UOSA Regional Sewer Revenue Bonds and are considered subordinate obligations.
- [2] County anticipates to cash-fund its proportionate share of the 2015 UOSA capital improvements estimated at \$13 million in-lieu of participating in the debt financing for such improvements.
- [3] Amounts shown are presented beyond the Forecast Period to demonstrate the maximum level of annual debt service anticipated from the proposed issuance.

As can be seen above, the amount of UOSA annual debt service payments allocated to the County is assumed to increase by approximately \$1.9 million by the end of the Forecast Period and \$3.6 million once the full debt repayment schedule is recognized. No other additional subordinated debt was assumed during the Forecast Period. Based on the above assumptions relative to the allocable existing and future debt liability allocable to the System, the following figure reflects the anticipated senior and subordinated debt service payments required to be funded from System revenues during the Forecast Period.



14. The Capital Improvement Program for the System was based on: i) the current status of projects under construction or appropriated (funded) for future construction as of June 2014; ii) the County's most recent Ten Year Capital Improvement Plan; iii) deferral of certain projects based on discussions with WMP staff to levelize capital spending and ability to manage capital projects; and iv) projections for capital expenditure requirements as provided by the TBC entities. The capital improvement plan is summarized on Table 10 at the end of this Report.

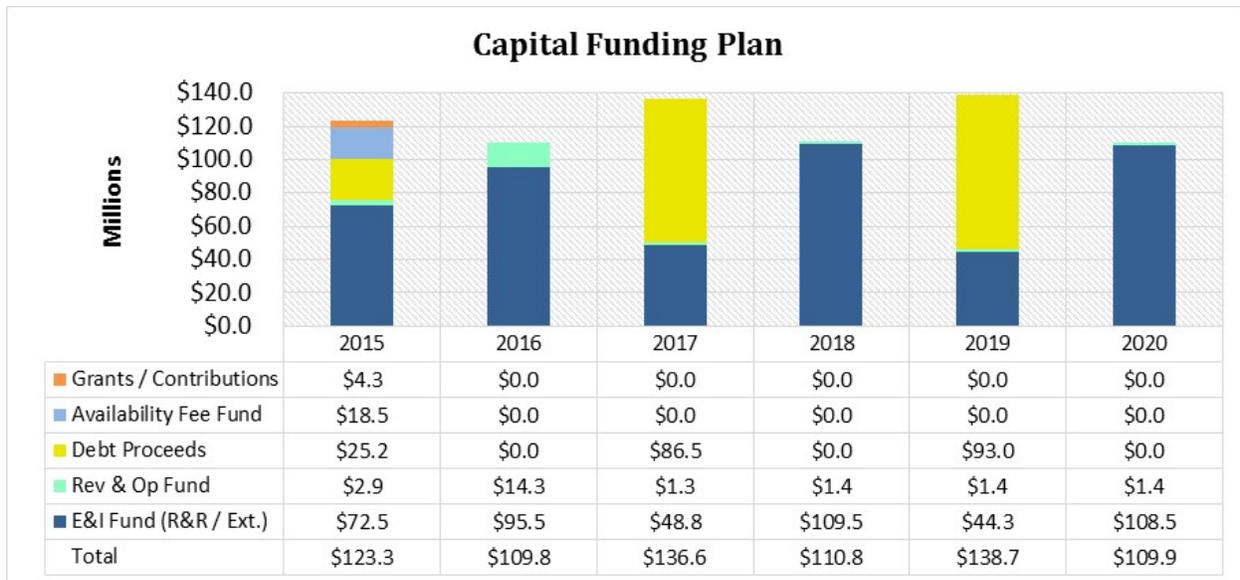
In order to minimize the financial impacts to customers and based on discussions with staff, the financial forecast assumes the deferral of capital funding beyond the Forecast Period. The following table provides a summary of the total funding requirements and proposed deferral:

Level of Capital Funding Recognized (\$000s)							
Description	Projected Fiscal Year Ending June 30,						Total
	2015	2016	2017	2018	2019	2020	
Capital Funding [*]	\$147,348	\$109,808	\$136,643	\$132,810	\$159,728	\$132,942	\$819,278
Deferred Funding	(24,000)	0	0	(22,000)	(21,000)	(23,000)	(90,000)
Total Funding Recognized	\$123,348	\$109,808	\$136,643	\$110,810	\$138,728	\$109,942	\$729,278

[*] Includes estimated allocable capital expenditures from UOSA, including the County's proportionate share of estimated capital expenditures funded through the issuance of Subordinate Obligation Debt by UOSA on behalf of the County.

As can be seen above, based on discussions with WMP staff the proposed capital funding plan deferred approximately \$90 million in funding requirements beyond the Forecast Period. The capital funding plan associated with the adjusted capital funding program was based on i) the purpose of the expenditures (e.g., renewals and replacements, new customer-related); ii) available fund balances in accounts established by the County which are available for capital projects; iii) anticipated availability charges for receipts derived from new development which is recognized as a financial resource in the development of the cash flow estimates of the System; iv) the use of existing proceeds from previously issued bonds; and v) Additional Parity Bonds and UOSA-related Subordinate Obligations issued during the Forecast Period. The following provides a summary of the Capital Improvement Funding plan as shown in greater detail on Table 11:

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As previously discussed, the County expects UOSA to issue approximately \$53 million in additional Subordinate Obligations to finance the County's allocable share of certain capital improvements. In total the County is expected to fund approximately \$730 million in County and TBC constructed capital improvements (after programed deferrals), of which approximately \$179 million or 25% is assumed to be funded from additional debt proceeds during the Forecast Period. This implies that the majority of the capital program is funded from internal sources (i.e., 75%) derived from: i) rate revenues; ii) availability charges; and iii) existing cash reserves and previously issued bond proceeds. This funding approach through the use of limited additional bonds is also projected to result in the stabilization of rates over the long-term.

15. Recognized in the capital improvement program is the use of the Extension and Improvement ("E&I") Fund (designated by the County as Fund 69300) which assumes annual dedicated funding transfers from System operations to finance the recurring capital projects for the betterment or replacement of the capital fixed assets. This fund was established by the General Bond Resolution to be used by the County for, among other things, the purpose of paying the costs of unusual or extraordinary maintenance or repairs, repairs or maintenance not recurring annually, and additions to or improvements, extensions or enlargements of the System. The purpose of the fund is to provide a defined ongoing annual funding mechanism to continue to provide high quality service (i.e., maintain same level of service) to its customers as the System plant-in-service ages and reaches the end of its useful service live (the E&I Fund in this report is not just a fund used for the extension of wastewater service to unserved developed areas to eliminate on-site disposal systems). The General Bond Resolution does not mandate a minimum funding requirement or an annual deposit for the Subfund. For purposes of this report and based on discussions with WMP staff the programed transfers to the E&I Fund recognized: i) minimum transfers for capital funding allowance of 3.0% of County-owned depreciable utility plant; and ii) additional transfers recognizing investments in capacity rights for the County's TBC providers and based on the level of identified capital improvement program

funding requirements. The following table provides a summary of the projected transfer to the E&I Fund:

Programmed Deposit to E&I Fund (Capital Reinvestment) for the Forecast Period (in \$000s) [1]						
	Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
Gross Depreciable Plant-in-Service [2]	\$2,340,275	\$2,416,704	\$2,537,811	\$2,646,251	\$2,781,722	\$2,888,961
Less Non-Applicable Assets [3]	(1,057,227)	(1,092,134)	(1,145,249)	(1,167,194)	(1,218,364)	(1,229,492)
Net Applicable Plant-in-Service	\$1,283,048	\$1,324,571	\$1,392,562	\$1,479,058	\$1,563,358	\$1,659,469
% of Net Applicable [4]	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Minimum E&I Deposit (\$) [4]	\$38,491	\$39,737	\$41,777	\$44,372	\$46,901	\$49,784
Additional E&I Deposits [5]	\$27,830	\$33,297	\$30,379	\$31,247	\$25,789	\$25,539
Total E&I Deposits	\$66,321	\$73,034	\$72,156	\$75,619	\$72,690	\$75,323
As % of Gross Depreciable Plant-in-Svc.	2.9%	3.1%	2.9%	2.9%	2.7%	2.7%

[1] Reflects deposits for ongoing renewals, replacement and betterments of utility plant, but does not include deposits for the wastewater line extension program for developed but unserved customers.

[2] Amounts shown are exclusive of land and construction work-in-progress; was based on reported utility plant as of June 30, 2014 as contained in the Comprehensive Annual Financial Report adjusted for the Forecast Period based on the addition of the capital plan assets being placed into service less an estimated allowance for asset retirements for utility plant assumed to be replaced.

[3] Amounts shown include equipment, purchased capacity rights and allowances for retirement of fixed assets.

[4] Reflects minimum deposit at 3% of Net Applicable Plant-in-Service.

[5] Reflects additional deposits for additional Pay-Go funding associated with the identified capital funding program and the need for capital reinvestment associated with the purchased capacity rights of the County's TBC providers.

As can be seen above, the forecast assumes annual deposits to the E&I fund of approximately 3% of the projected gross depreciable fixed assets of the System during the Forecast Period, which is considered a strong rate of capital reinvestment.

16. In addition to the minimum deposits to the E&I Fund for ongoing renewals, replacement and betterments of utility plant, the County also deposits funds into an account to fund the extension of wastewater service to developed but unserved customers. WMP and County policy is to make deposits into the fund (considered as a sub-fund of the E&I Fund) until there is on deposit an unencumbered balance of \$5,000,000 for service extensions and then no further deposits are assumed. In addition, the County also deposits other related revenue into this account for service extension purposes (lateral spur fee, connection charge and frontage fee revenues). For the Forecast Period, it was assumed that the County would expend approximately \$3,000,000 annually in facility extension capital costs and would fund a like-kind amount from annual revenues and deposits such that a \$5,000,000 balance in the fund for extensions was maintained.
17. In order to validate the existing level of annual deposits to the E&I Fund, PRMG conducted a desktop analysis of the WMP fixed assets. WMP staff provided PRMG with the System's 2011 Fixed Assets listing, which was grouped by five (5) asset categories, Collection, Treatment, Pump Station, Force Main, and Other. PRMG then calculated the estimated replacement cost assuming a 3% inflation rate based on the historical averages for the construction cost index reported by Engineering News Record ("ENR"). A summary of the estimated replacement cost of County owned assets is summarized below:

Estimated Replacement Asset Value (\$ Millions) by Asset Age and Category

Asset Category	0-10	10-20	20-30	30-40	40-50	50-60	60-70	\$ Millions Total
Collection	\$98.64	\$166.11	\$225.01	\$358.42	\$300.33	\$133.20	\$35.07	\$1,316.79
Treatment	183.15	61.30	301.13	81.50	58.53	5.50	0.00	691.10
Pump Station	4.24	35.05	46.86	56.63	6.78	4.79	0.58	154.93
Force Main	33.13	3.69	32.41	1.80	1.19	0.21	0.00	72.42
Other	7.07	7.38	1.45	0.05	0.00	0.00	0.00	15.97
TOTAL	\$326.22	\$273.53	\$606.87	\$498.40	\$366.83	\$143.71	\$35.66	\$2,251.21
% of TOTAL	14.5%	12.2%	27.0%	22.1%	16.3%	6.4%	1.6%	100.0%

As can be seen above from the prior table, the majority or 77% of the estimated replacement cost for the County's fixed assets are aged between 10 and 50 years.

The following table provides a comparison of the weighted average age by estimated replacement cost relative to the assumed service life by asset category. Notable observations and findings include: i) the average service life of assets (weighted by estimated replacement cost) is approximately 29 years or 59% of the estimated service life for such assets; and ii) pump stations are identified at 92% of assumed service life and County staff reports that active maintenance has allowed for the extension and prolonged service life for many of the County's pump stations; however, significant capital reinvestment in this asset category is recognized within the capital improvement program for the Forecast Period.

Estimated Amortized Asset Replacement

Asset Category	Asset Category Service Life			Asset Category Total		Annual Amortization (\$M)
	Programmed Service Life	Average Service Life	Asset Age (%)	Total (\$M)	% of Total	
Collection	60	34	57%	\$1,316.79	58%	\$21.95
Treatment	35	22	63%	691.10	31%	19.75
Pump Station	30	28	92%	154.93	7%	5.16
Force Main	60	17	28%	72.42	3%	1.21
Other	30	12	40%	15.97	1%	0.53
Total	50	29	59%	\$2,251.21	100%	\$48.60

With respect to the validation of the programmed E&I transfers and based on this desktop financial analysis, the amortization of the estimated replacement cost over the assumed service life for the County's fixed assets is approximately \$49 million annually (reference prior table). In addition and as previously discussed, the County has capital investments in capacity rights to the treatment facilities of the County's TBC providers. As of June 30, 2014, the County reported approximately \$869 million in the valuation of such capacity rights. Assuming application of a 2.3% factor to the valuation of the capacity rights (i.e., approximately 43 year amortization) implies a \$20 million annual amortization. In aggregate, the combined amortization for the replacement cost of County-owned assets and TBC capacity rights is approximately \$69 million and is consistent with current levels of capital funding. However, it should be noted that these findings do not reflect any condition assessment or engineering evaluation of the County's system or that of the County's TBC

providers and our findings are based on financial records, which are not necessarily indicative of the actual replacement value of an asset. Recognizing that programmed transfers to the E&I fund represent a revenue requirement funded by rates and ultimately affect rate recommendations, WMP staff should continue to annually re-evaluate the capital needs of the System and program transfers as needed to achieve the funding requirements and financial goals of the utility.

18. Included as a source of funds is interest income earned on available System fund balances. For the Forecast Period, interest income was based on the estimated balances for all cash accounts or funds anticipated to be on deposit for the System and the availability of such earnings to fund the revenue requirements based on the purpose of the fund. The earnings on cash balances included the Revenue Subfund, Debt Service Subfund, Debt Service Reserve Subfund, Extension and Improvement Subfund, and other funds established by WMP, including the capital-related accounts, which were recognized as being available to fund System revenue requirements. Earnings on the estimated availability charge balances (although considered as a component of operating revenues) were assumed to be restricted for expansion-related expenditure funding and therefore were considered restricted to such fund. Any earnings on balances from debt proceeds held in the Construction Funds were considered restricted. The earnings on availability charge and Construction Fund balances were assumed in this Report to: i) not be a component of the Gross Revenues and not be available to fund the revenue requirements or for determination of the rate covenant as defined in the General Bond Resolution for the System; and ii) only available to provide an additional source of funds for capital expenditure financing in relation to expansion-related projects as designated from time-to-time by the County. A summary of the interest earnings recognized in the financial forecast for each Fiscal Year are summarized as follows:

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Summary of Projected Interest Earnings – Forecast Period

	Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
Unrestricted Interest Earnings:						
Funds 69000 and 69010 – Revenue Fund [1]	\$314,000	\$358,000	\$402,000	\$622,000	\$646,000	\$897,000
Fund 69000B – VRA Subordinate Obligation						
Reserve Fund [2]	31,000	47,000	62,000	93,000	93,000	124,000
Fund 69300 – Extension and Improvement Fund [3]	121,000	163,000	267,000	367,000	371,000	506,000
Fund 69300A – Extension Fund	25,000	38,000	50,000	75,000	75,000	100,000
Fund 69020 – Debt Service Fund [3]	35,000	53,000	86,000	129,000	154,000	206,000
Fund 69030 – Debt Service Reserve Fund [3]	109,000	160,000	237,000	392,000	429,000	621,000
Fund 69040 – Subordinate Obligations Fund	33,000	50,000	66,000	101,000	103,000	140,000
Total Unrestricted Interest Earnings [4]	\$668,000	\$869,000	\$1,170,000	\$1,779,000	\$1,871,000	\$2,594,000
Restricted Interest Earnings:						
Fund 400-A –Availability Charge Fund [5]	46,000	0	0	0	0	0
Fund 69310 – Bond Construction Fund	63,000	0	0	0	0	0
Total Restricted Interest Earnings [6]	\$109,000	\$0	\$0	\$0	\$0	\$0
Total Interest Earnings	\$777,000	\$869,000	\$1,170,000	\$1,779,000	\$1,871,000	\$2,594,000

- [1] Reflects estimated earnings on Fund 69000 and 69010 cash balances that were assumed to benefit existing customers and therefore earnings are available to meet any expenditure requirement allocable to existing customers.
- [2] Reflects estimated earnings on Fund 69000 cash balances that are allocable to the VRA debt service reserve requirements. The VRA loans were fully allocated to existing customers and therefore earnings on any balances associated with repayment of the VRA loans were assumed to be available to meet any expenditure requirement allocable to existing customers.
- [3] Amounts shown include additional interest increase due to increases in debt payments and reserves based on the issuance of the Additional Bonds.
- [4] Reflects earnings on various funds and reflects earnings recognized in development of Gross Revenues.
- [5] Reflects earnings that were assumed to be allocable to new customers (expansion-related) and therefore were restricted to this particular purpose for the purposes of the review of rates.
- [6] Interest earnings presented for information purposes only; amounts were assumed to be restricted for a specific purpose and not included in the forecast of Gross Revenues.

The growth in investment income is primarily related to assumed increases in the rate of return on investments which range from 0.5% for the current period to 2.0% in the final year of the Forecast Period. This interest rate assumption is based on WMP's recent earnings performance results and discussions with WMP Staff. The assumed average interest rate was maintained at a low level to limit the overall volatility of such earnings in the financial plan and to provide a level of assurance that such earnings would be available for the determination of Net Revenues. The assumed average interest rate was applied to the estimated average fund balances for each specific fund as maintained by the County for financial reporting and accounting purposes of WMP.

19. Based on the assumptions recognized in the development of the financial forecast and the result of actual Fiscal Year 2014 results, the following forecast of the net revenue requirements and availability of funds for financial performance evaluations was prepared:

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Projected Net Revenue Requirements from Rates – Forecast Period (\$000s) [1]

	Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
Gross Revenue Requirements						
Operating Expenses	\$95,167	\$97,741	\$101,201	\$104,635	\$108,156	\$111,889
Senior Lien Debt Service	21,059	21,070	25,864	25,889	30,867	30,888
Subordinate Lien Debt Service	26,360	26,491	26,510	26,846	27,515	28,064
E&I Fund Deposit [2]	66,320	73,033	72,156	75,620	72,691	75,323
E&I Fund Deposit (Sewer Extension Program)	2,940	2,940	2,939	2,939	2,938	2,938
Transfer to Reserves	0	0	913	1,544	1,709	1,808
Departmental Capital from Rates [3]	2,859	1,275	1,313	1,352	1,393	1,435
Total Gross Revenue Requirements	\$214,705	\$222,549	\$230,896	\$238,824	\$245,270	\$252,345
Less Other Revenue and Income:						
Sales of Service and Other Revenues [4]	(\$10,358)	(\$10,640)	(\$10,782)	(\$10,906)	(\$11,027)	(\$11,152)
Other Operating Revenues	(150)	(150)	(150)	(150)	(150)	(150)
Unrestricted Interest Income	(668)	(869)	(1,170)	(1,779)	(1,871)	(2,594)
Transfers from Reserves – Fund 69000	0	0	0	0	0	0
Availability Charges – Pay Debt [5]	(20,606)	(20,560)	(20,560)	(20,560)	(20,560)	(20,560)
Net Revenue Requirements	\$182,923	\$190,329	\$198,234	\$205,429	\$211,661	\$217,889
Recognized System Rate Adjustment						
Existing Rate Revenue – Fiscal Year 2015 Rates	\$182,923	\$183,969	\$185,009	\$186,036	\$187,063	\$188,084
Effective Rate Adjustment [6]	N/A	3.5%	3.6%	3.0%	2.5%	2.4%
Adjusted Rate Revenue	\$182,923	\$190,329	\$198,234	\$205,429	\$211,661	\$217,889
Surplus / (Deficiency)	\$0	\$0	\$0	\$0	\$0	\$0

[1] Amounts shown derived from Table 6.

[2] Reflects total transfers to the E&I Fund, with exception to transfers for the E&I extension program, and include: i) minimum transfer for capital funding allowance of 3.0% of County-owned depreciable utility plant; and ii) additional transfers recognizing investments in capacity rights for the County's TBC providers and funding requirements of the identified capital improvement program.

[3] Reflects equipment funded annually from rate revenues (short service live assets which are recurring).

[4] Includes other miscellaneous operating revenues not set aside for extension program, interest income on available fund balances exclusive of availability charge and bond-funded construction funds which were assumed to be restricted to such account, and sales of service (bulk) revenue which is predicated on a contractual service agreement.

[5] The first priority of use for availability charges is to fund new customer-related debt service payments and since full debt service requirements included as a component of the gross revenue requirements, such estimated fees collected (after the payment of the debt) provide additional monies for funding operating reserves at minimum reserve levels and for additional capital funding (was recognized as available funds in the overall capital financing plan; if funds were not available, an increase in additional bonds issued would result and increase the total debt service payment liability).

[6] Amounts shown reflect the effect of proposed rate changes to rate revenues, including recognition of timing and application of recommended rates. Assumes implementation of recommended rates on or before October 1st of each fiscal year.

The following table provides a summary of the recommended rate adjustments for the Forecast Period:

Description	Recommended Rate Adjustments						
	Existing	Prior Board Adopted				Identified	
	2015	2016	2017	2018	2019	2020	
Recommended Rates:							
Quarterly Base Charge	\$15.86	\$20.15	\$24.68	\$27.62	\$29.83	\$32.22	
Flow Charge	\$6.62	\$6.65	\$6.68	\$6.75	\$6.82	\$6.89	
Rate Revenue Adjustment [*]	N/A	3.5%	3.6%	3.0%	2.5%	2.4%	

[*] Amounts shown reflect projected increases to revenues from recommended rates.

Primary Reasons for Rate Adjustments

The primary reasons for the continued implementation of additional rate adjustments during the Forecast Period include:

1. Continued inflationary impacts on the cost of providing service and construction of capital improvements, especially as the economy continues to improve and the demand for goods and services increases;
2. The need to fund the capital program associated with repairs, betterments, and improvements and compliance with regulatory driven capital improvements (i.e., Chesapeake Bay Program);
3. The continued effects of reduced billed wastewater flow per customer due to continued declines in wastewater use which reduces "per customer" contributions to meeting the annual net revenue requirements;
4. The need to maintain existing net revenue margins to promote capital reinvestment on a "Pay-As-You-Go" basis, which reduces the need for issuing debt and maintains lower rate levels over the long-run; and
5. The need to meet the adopted financial policies and targets for the System which, among other things, is structured to be a "AAA" credit utility which results in the lowest costs to borrow and recognizes the reduced financial risks to the System resulting in a long-term sustainable (lowest cost over time) rate program. The presentation of the financial position can be found in subsequent sections to this report.

PROPOSED RATE STRUCTURE AND CUSTOMER IMPACT

General

In Fiscal Year 2013, WMP evaluated changing the design of rates to more fully recover fixed costs of operations and subsequently adopted a multi-year rate plan to phase-in over-time a base charge to more equitably recover the cost of providing wastewater service based on the recommendations of the rate consultant. The purpose of the charge is to recognize that the System must invest in a significant amount of capital and must provide service on a "readiness-to-serve" basis (which links to demand or capacity reservation, not flow). This change is in keeping with industry norms; the advantages and disadvantages to this structure are as follows:

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Advantages

1. Increases revenue stability since a higher proportion of the rate revenues are recovered on a fixed basis (not subject to flow which is variable and has been decreasing).
2. Reflects industry trends in rates; especially as the predictability in flows and corresponding revenue per customer decreases.
3. Promotes fairness since it recovers costs from users that impact the system from a demand standpoint even though the amount of use may be low.
4. Residential Customers with low winter quarter average to total annual use relationships are paying their fair share of the cost of providing service.
5. Structure favorably viewed by Credit Rating Agencies since tends to increase rate revenue predictability and recovery.

Disadvantages

1. Low-flow customers experience a higher proportionate (%) increase in wastewater charges during the implementation phases of the rate structure change. Results in a higher percentage (%) increase to the bill, but should be noted not a higher overall increase to the bill.
2. May be more difficult to explain utility bill to customers since reflects a change (recent) in rate structure and most do not understand the magnitude of the capital investment required to serve the customer base.

Proposed Rates for Charges for Sewer Service

The proposed and recommended rates continue the phase-in of the fixed cost recovery charge over a five (5) fiscal year period to limit the impact to low use customers as a result of the rate structure change. The recommended rates were designed to: i) target a fixed cost recovery relationship (i.e., the percent of total rate revenue recovered from a non-volumetric rate) equal to approximately 20% of the total rate revenues by the end of the phase-in period and ii) maintain a constant flow charge during such phase-in period, all as based on the then revenue requirement needs (cost recovery) of the wastewater system. Based on the updated revenue requirements identified for the current Fiscal Year 2015 study, the recommended rates are consistent with those previously recommended in the 2014 Report. Recognizing that the County has adopted rates through the Fiscal Year 2018 the currently recommended rates identify additional increases for the remainder of the Forecast Period for the Fiscal Years 2019 and 2020. The recommended rates for the Fiscal Year 2019 and 2020 continue the overall rate initiative to increase the fixed cost recovery with the goal of targeting an approximate 20% fixed cost recovery. The following table provides a summary of the recommended rates and resulting calculated fixed charge recovery as percent of total retail rate revenues:

Summary of Recommended Residential Quarterly Rates per Fiscal Year 2015 Rate and Forecast Period [1]

	Fiscal Year Ending June 30,					
	Existing	2016	2017	2018	2019	2020
Base Charge – \$ per ERC per Meter Size	\$15.86	\$20.15	\$24.68	\$27.62	\$29.83	\$32.22
Volumetric Rate – \$ per 1,000 Gallons	\$6.62	\$6.65	\$6.68	\$6.75	\$6.82	\$6.89
Calculated Fixed Charge Recovery [*]	<u>11.0%</u>	<u>13.5%</u>	<u>16.1%</u>	<u>17.9%</u>	<u>19.1%</u>	<u>20.2%</u>

[*] Presented as a percent of total revenues derived from charges for sewer service (user rates).

As can be seen above the recommended rates result in achieving an approximate 20% fixed charge recovery by the end of the Forecast Period.

Proposed Rates – Average Residential Customer Impact

The following is a summary of the monthly rate impact to residential customers (the majority of the customers served by the System) for the Fiscal Years 2016 through 2020 when comparing the Approved Rates to the proposed rates based on the 2015 Revenue Sufficiency Analysis:

Average <i>Monthly</i> Residential Bill at Proposed Rates at Usage of 6,000 Gallons per Month						
Scenario	Fiscal Year Ending June 30,					
	Existing	2016	2017	2018	2019	2020
Adopted Rates:						
Existing and Adopted Rates	\$45.01	\$46.62	\$48.31	\$49.71	N/A	N/A
Monthly Customer Increase		\$1.61	\$1.69	\$1.40	N/A	N/A
Recommended Rates:						
Proposed Rates	\$45.01	\$46.62	\$48.31	\$49.71	\$50.86	\$52.08
Monthly Customer Increase		\$1.61	\$1.69	\$1.40	\$1.16	\$1.22

The proposed rates as recommended in this report are consistent with that of the most recent rates approved by the Board. The recommended charges identify an average monthly increase ranging from \$1.22 to \$1.61 for the Forecast Period.

Average Residential Sewer Charge Rate Comparisons

The average residential customer for the System is billed approximately 18,000 gallons of wastewater service on a quarterly basis (6,000 gallons per month). A comparison of the wastewater bill for service between the County and a number of utilities surveyed is shown on the table below.

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**Single-Family Residential Wastewater Service
6,000 Gallons of Billed Wastewater Service Per Month [1][2]**

	Monthly Bill
<u>Fairfax County:</u>	
Existing Rates – Fiscal Year 2015	\$45.01
Adopted and Recommended Rates – Fiscal Year 2016	46.62
<u>Other Neighboring Utilities:</u>	
City of Alexandria (Served by ARenew) [3][4]	\$55.72
Arlington County	53.64
District of Columbia Water and Sewer Authority[3][5]	59.18
Loudoun Water [3][6]	35.46
Prince William County Service Authority [3]	46.80
Washington Suburban Sanitary Commission [3][7]	45.21
 Other Neighboring Utilities' Average	 <u>\$49.34</u>

- [1] Unless otherwise noted, amounts shown reflect residential rates in effect October 2014 and are exclusive of taxes or franchise fees, if any, and do not include any surcharges for service rendered outside the corporate limits of the local jurisdiction, for specific capital improvements or for any other purpose. All rates are as reported by the respective utility. This comparison is intended to show comparable charges for similar service for comparison purposes only and is not intended to be a complete listing of all rates and charges offered by each listed utility.
- [2] It should be noted that utilities may differ as to the term of billing period and units of measurement used in order to determine the respective utility customer's wastewater bill. For purposes of this comparison, all bills shown have been adjusted to match bills rendered on a monthly basis and recognized in units of gallons.
- [3] Utilities shown bill a fixed cost or base charge per billing period per respective account or meter.
- [4] The bill shown for Alexandria Renew Enterprises includes the collection System or facilities charge billed by the City of Alexandria to provide consistency to the rates charged for the other surveyed utilities.
- [5] Amounts shown assumes: i) the Clean Rivers Impervious Area Charge of \$16.75 per month associated with runoff entering the sewer system; ii) a 50% allocation of the metering fee of \$3.86; iii) a 50% allocation of the a Right-of-Way fee to the District of Columbia of \$0.22 per 1,000 gallons; iv) 50% allocation of the PILOT fee charged to water and wastewater customers of \$0.62 per 1,000 gallons; and v) the residential wastewater flow charge of \$6.33 per 1,000 gallons.
- [6] Loudoun Water has adopted an approximate 3% rate increase for wastewater service to become effective April 1, 2015. Amounts shown reflect the current rates in effect (without the anticipated rate adjustment).
- [7] The Washington Suburban Sanitary Commission ("WSSC") bills customers of the utility by calculating the respective customer's average daily flow of use, which is in turn used to determine the variable rate charged to the customer. The calculated bill assumes 6,000 gallons per month or approximately 200 gallons per day. Amounts shown assume a 50% allocation of the quarterly Account Maintenance fee of \$11.00.

As can be seen on the comparison, the Fiscal Year 2015 existing rates and the proposed 2016 rates for the County produce bills which are lower on average when compared with the bills charged for similar service by other neighboring utilities. It should be noted that several of the utilities surveyed are anticipating a rate change in the next twelve months (pursuant to a rate evaluation that is underway, an adopted rate-phasing program, or through the application of a price [inflationary] index) which should promote a continuing of the favorable competitive position of the County's rates during the Forecast Period.

Availability Charges

It is recommended that the County maintain the current availability charge (which is charged to new development to recover the cost of capacity allocated to such development and which provides additional funds to the System) for the Fiscal Year 2016. The following charges for the standard residential dwelling unit were recognized during the Forecast Period:

Recommended Availability Charges

	Existing Charge	Recommended Charge [*]				
	2015 (\$/SFRE)	2016 (\$/SFRE)	2017 (\$/SFRE)	2018 (\$/SFRE)	2019 (\$/SFRE)	2020 (\$/SFRE)
Single-Family Detached	\$7,750	\$7,750	\$7,750	\$7,750	\$7,750	\$7,750
Lodging House, Hotel, Inn, or Tourist Cabin	\$7,750	\$7,750	\$7,750	\$7,750	\$7,750	\$7,750
Townhouse	6,200	6,200	6,200	6,200	6,200	6,200
Apartment	6,200	6,200	6,200	6,200	6,200	6,200
Mobile Home	6,200	6,200	6,200	6,200	6,200	6,200
Any Other Residential Dwelling Unit	6,200	6,200	6,200	6,200	6,200	6,200
Hotel, Motel, or Dormitory Rental Unit	1,938	1,938	1,938	1,938	1,938	1,938
All Other Uses per Fixture Unit Commercial or Industrial	\$401	\$401	\$401	\$401	\$401	\$401

[*] Represents no change from previous year. The County will conduct a detailed review of the calculation of the availability charge each year; these fees will be adjusted based upon the results of this review in the FY 2016 through FY 2020 rate recommendations.

The availability charges were initially developed from a detailed analysis performed by WMP which included a review of the unit flow factors, identification of the capital costs associated with new customer capacity, and allocation of new customer administrated-related operating expenses and recovery of such costs from future customers.

Residential Customer Availability Charge Impact and Charge Comparison

A survey of the County's existing and recommended availability charges with neighboring utilities levels was prepared.

Wastewater Availability Charge – Rate per ERC

	Rate per ERC
<u>Fairfax County:</u>	
Existing Charge – Fiscal Year 2015	\$7,750
Recommended Charge – Fiscal Year 2016	7,750
<u>Other Neighboring Utilities [1]</u>	
City of Alexandria [2]	\$8,404
Arlington County [3]	2,760
District of Columbia Water and Sewer Authority	N/A
Loudoun Water	7,896
Prince William County	10,800
Washington Suburban Sanitary Commission – Unimproved [4]	3,500
Washington Suburban Sanitary Commission – Improved [4]	10,750
Other Surveyed Average Utilities	\$7,352

[1] It should be noted that no evaluation of the methodology for determining these availability charges was conducted. The availability charges reflect differences in the methodology utilized in their development as well as differences in such factors as the level of service, regulatory requirements, and receipt of grants.

[2] Alexandria Renew Enterprises does not charge an Availability charge. Amounts shown reflect charges from the City of Alexandria related to the collection system infrastructure.

[3] The County charges the availability based on a number of fixture counts or equivalent dwelling fixture unit ("DFU")

[4] WSSC charges separate availability charges based a customer's geographic location for improved and unimproved areas.

This comparison was based on wastewater availability charges that would be charged to a typical residential single family residence (considered as 1 equivalent residential connection or "ERC") as shown below. As can be seen in the comparison, the existing and recommended fees imposed by the County produce charges which are similar to the level of fees billed by other neighboring utilities. It should be noted that several of the utilities surveyed are anticipating a fee change in the next twelve months, which may affect the competitive position of the County.

DEBT SERVICE COVERAGE AND COVENANT COMPLIANCE

An important component in the development of the revenue sufficiency analysis is the determination of whether the rate covenants as outlined in the General Bond Resolution authorizing the issuance of WMP's Outstanding Senior Lien Bonds and any Additional Parity Bonds (the "County Bonds") will be met. Generally, these covenants are in the form of certain debt service coverage ratios, which are applicable to the level of rates both currently and projected to be in place.

The County's General Bond Resolution contains a rate covenant (reference is made to Article V, Section 501 (a)) which provides that the County will at all times fix, charge and collect reasonable rates and charges so that:

"The Net Revenues, excluding for purposes of paragraph (a)(i)(A) Excluded Revenues, will be sufficient to provide in each Bond Year an amount at least equal to

(A) one hundred twenty-five percent (125%) of the sum of

(I) the Principal and Interest Requirements in such Bond Year on account of all the Bonds then outstanding under this Resolution in such Bond Year, and

(II) the Debt Service Requirement relating to Parity Indebtedness in such Bond Year; and

(B) one hundred percent (100%) of the sum of

(I) the debt service requirements of Subordinate Obligations in such applicable Bond Year,

(II) the Debt Service Requirements relating to Parity Indebtedness in such Bond Year; and

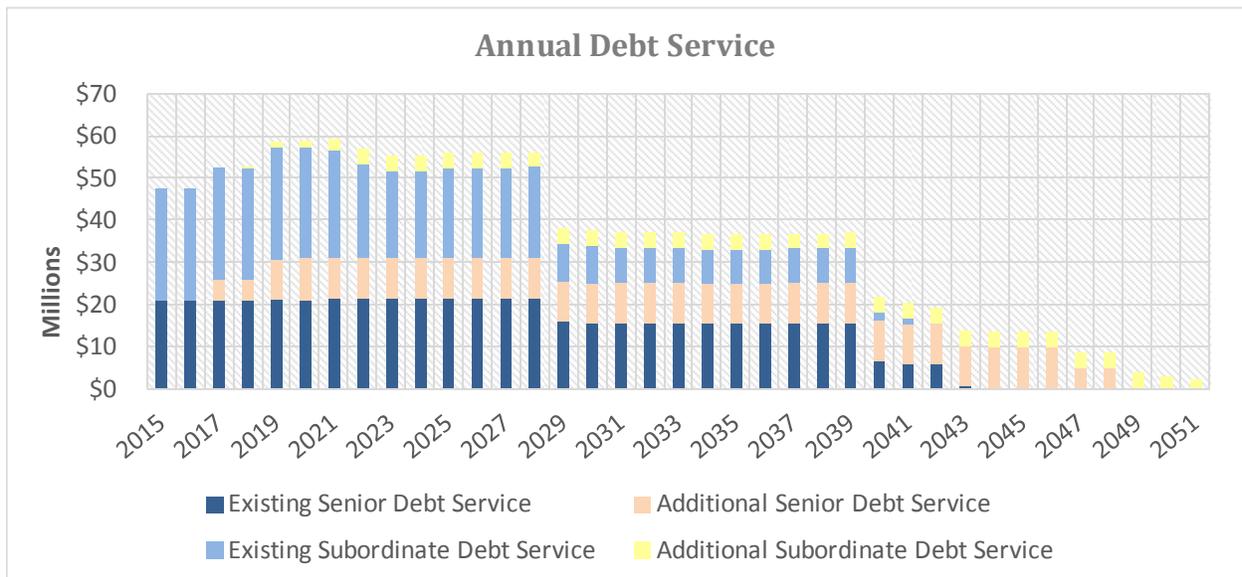
(III) the sum of Principal and Interest Requirements in such Bond Year on account of all the Bonds then outstanding under this Resolution in such Bond Year."

In addition to the terms of the General Bond Resolution, the County must also set rates to meet the terms and conditions of the VRA Financing Agreement between the County and the Virginia Water Facilities Revolving Fund acting by and through the VRA. The VRA Loans are considered as Subordinate Obligations to the Outstanding Senior Lien Bonds. Under the terms of

the Financing Agreement, the County shall fix, charge, and collect reasonable rates and charges so that:

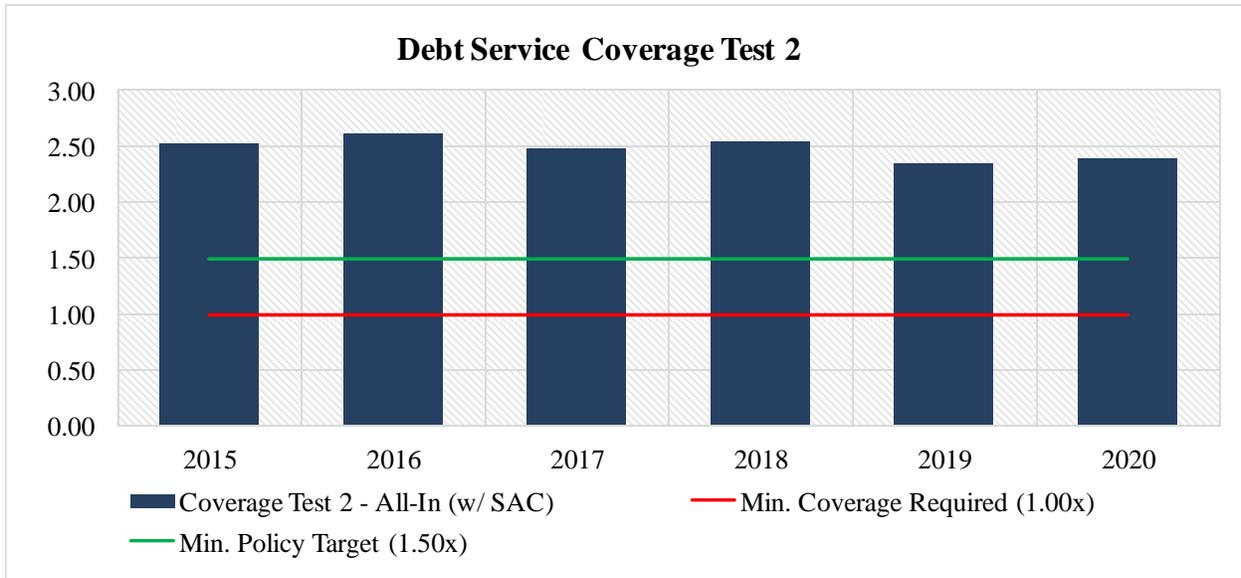
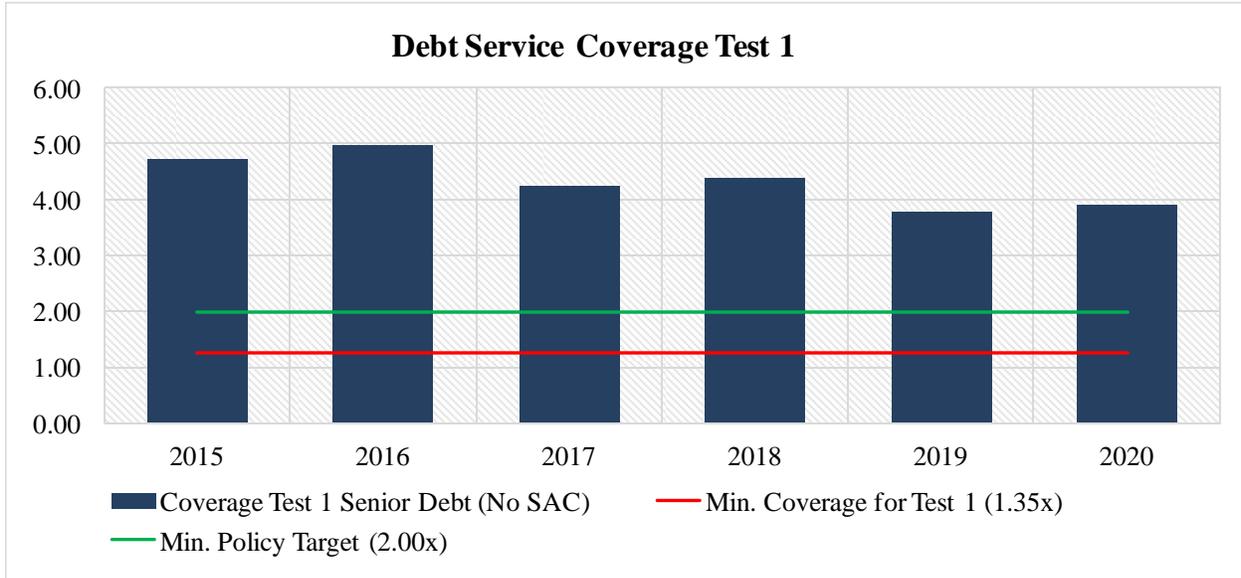
"...each Fiscal Year the Net Revenues Available for Parity Debt Service will equal at least the amount required during the Fiscal Year to pay the principal of and interest on the Local Bond, the Additional Payments, if any, and all other Parity Indebtedness and Subordinate Indebtedness of the Borrower payable from Net Revenues Available for Parity Debt Service."

As can be seen from the following chart and based on the financial forecast presented in this report, the annual debt service payments on the Outstanding and Additional Senior Lien Bonds and Subordinate Obligations, debt is the highest in the most recent years. After Fiscal Year 2028, the County will have future additional bonding capacity to fund capital needs of the System without a potential increase in rates (since the debt payments are currently reflected in the rates for service). This debt structure will provide the County a significant amount of financial flexibility relative to the funding of its future capital improvement program.



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As shown below and summarized on Table 7 at the end of this report, WMP's anticipated revenue, which recognize the recommended rate adjustments as identified in this report for the Fiscal Years 2016 through 2020, are projected to be adequate for the Forecast Period to meet the rate covenant requirements defined in the County's General Bond Resolution.



As can be seen from the prior charts and assuming the implementation of the recommended rates as identified in this report, it is anticipated that: i) WMP's Net Revenues (not including availability charges which are referred to as Excluded Revenues) are projected to meet the minimum 125% debt service coverage requirement on the County Bonds and Additional Parity Bonds assumed to be issued during the Forecast Period (collectively, the "County Bonds") as required by the General Bond Resolution; ii) WMP's Net Revenues are projected to meet the

100% debt service coverage requirement of the sum of the debt service requirements of the Senior Lien Bonds and the Subordinate Obligations; and iii) the Net Revenues after the payment of the County Bonds and additional parity bonds will meet the loan coverage requirement as required by the VRA Financing Agreement executed with the Virginia Water Facilities Fund during the Forecast Period.

PROJECTED FINANCIAL POSITION AND PERFORMANCE MEASURES

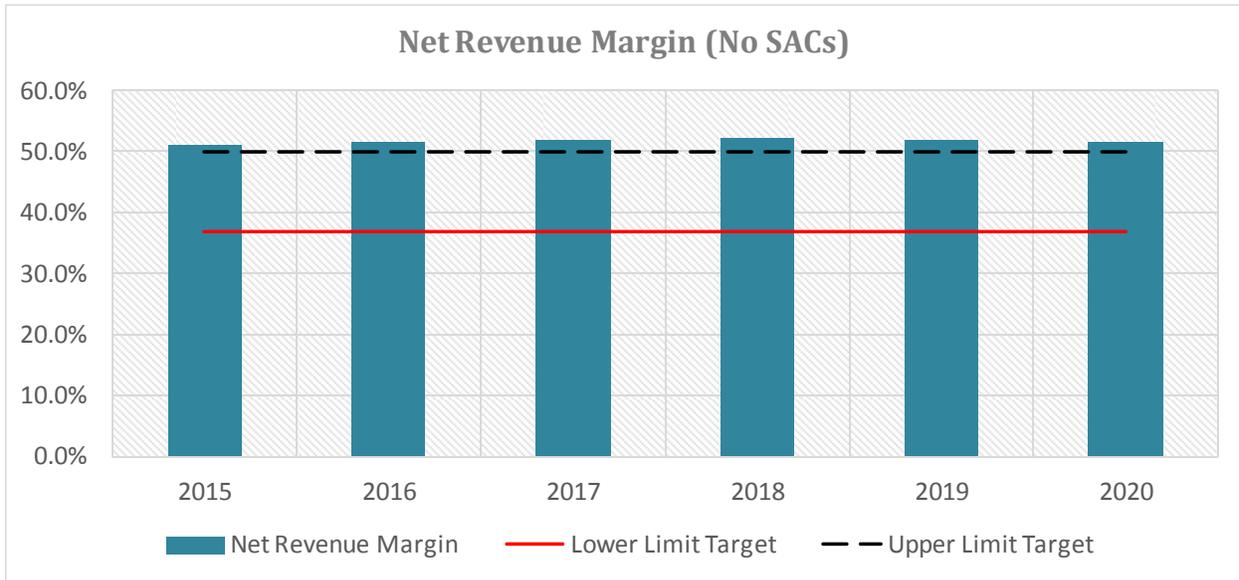
Included as part of the development of the Five-Year Financial Forecast and the review of the overall sufficiency of revenues, is an evaluation of WMP's financial position which recognize the implementation of the recommended rates as identified for the Forecast Period. This evaluation includes the development of ratios and financial performance indicators to evaluate "where WMP is estimated to be financially" during the Forecast Period and to illustrate the projected financial position of the utility based on the assumptions documented in this Report. In the development of the net revenue requirements to be funded from rates, consideration as to the financial performance was recognized. The primary purpose of this additional analysis was to develop a financial plan to maintain a strong credit rating, especially when one recognizes the current financial constraints being placed upon (e.g., low growth and development, need to meet increased regulations due to Chesapeake Bay Program, etc.). The analysis includes a series of charts and figures prepared to provide the WMP with a visual representation of the financial and statistical trends in the selected financial ratios or benchmarks anticipated for WMP over the Forecast Period. A complete copy of the Management Dashboard prepared as a component of the financial modeling process is included in Appendix A at the end of this Report. The following is a brief description of key financial ratios and financial results evaluated for WMP's consideration.

Net Revenue Margin Ratio

The Net Revenue Ratio is a measure of a utility system's ability to meet its operating expenses and indicates the net contribution margin estimated to be earned by WMP. The contribution margin represents the amount of Net Revenues from WMP operations that are available to meet WMP's other expenditure requirements after the payment of the operating expenses (e.g., funds available for debt service payments, deposits to a capital fund, etc.). Since availability charges were recognized as being restricted as to use for new customers (expansion-related expenditures) and are a one-time revenue (not recurring like sales of service revenue), PRMG has not recognized the availability charges in the evaluation of the Net Revenue Margin ratio. A relatively low Net Revenue Margin ratio (e.g., 25 percent) indicates that a large portion of operating revenue is used to pay operating expenses. A high Net Revenue Margin ratio (e.g., 45 percent) indicates a significant portion of operating revenues is available for WMP expenditures other than the payment of operating expenses (e.g., capital reinvestment). As can be seen below and assuming the implementation of the recommended rate adjustments, the Net Revenue Margin ratio is projected to remain stable during the Forecast Period which indicates that WMP's contribution margins will remain constant thereby supporting the programmed need of providing a dedicated deposit to the E&I Fund for ongoing (existing customer) pay-as-you-go ("PAYGO") capital financing.

Net Revenue Margin (No SACs) (Millions)

Description	Fiscal Year Ending June 30,					
	2016	2016	2017	2018	2019	2020
Net Revenues	\$99	\$104	\$109	\$114	\$117	\$120
Gross Revenues	\$194	\$202	\$210	\$218	\$225	\$232
Net Revenue Margin	51.0%	51.6%	51.9%	52.1%	51.9%	51.7%
Targets:						
Lower Limit Target	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%
Upper Limit Target	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

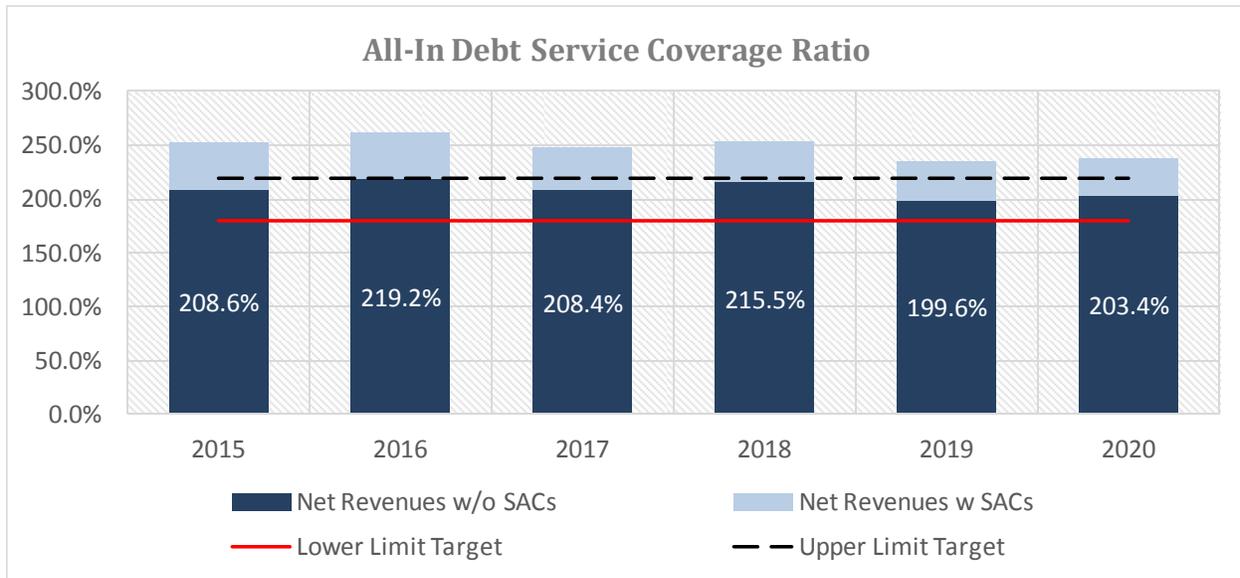


PRMG recommends that WMP should aim to maintain the Net Revenue Margin ratio at a target level ranging from 37% to 50% during the Forecast Period to promote the financial health of the System, which is also within the median range identified by Moody's Investors Services, Inc. and FITCH for municipal water and wastewater utilities. It is projected WMP will maintain a favorable Net Revenue Margin ratio (at or slightly above the upper target) throughout the Forecast Period. This indicates that rates on a stand-alone basis are producing sufficient revenue to fund other utility expenditures and that WMP is not totally reliant on the use of availability charges to fund annual expenditures during the Forecast Period. This ratio is considered to be favorable by PRMG, but WMP will need to monitor its operating expenses closely after the CIP program is completed to maintain a long-term favorable Net Revenue Margin ratio beyond the Forecast Period.

All-In Debt Service Coverage

In addition to the debt service coverage ratio by individual category (priority) of bonds as discussed earlier in this report, an evaluation of the debt service coverage on a combined or "All-in" basis was prepared. This calculation presents the debt service coverage for the aggregate of all WMP debt and loans paid from WMP revenues, which more accurately reflects the ability of the Net Revenues of WMP to fund the annual debt service requirements. The ratio includes a

presentation using only WMP's Net Revenues since availability charges (although considered as a pledged revenue) are one-time fees and not considered as a recurring revenue for debt repayment purposes. Additionally, the rating agencies rely on this ratio in the review of utility credits since it links to the total ability to pay debt from ongoing revenues of the utility over the life of the repayment term of such debt and presents the overall leveraging capability of such utility. PRMG would recommend that the County consider the evaluation of the debt on a Net Revenue-only basis to promote the overall financial health and ability to pay the debt in the future. The All-In Debt Service Coverage ratio for the Forecast Period is presented below:



PRMG recommends that WMP should aim to maintain a minimum debt service coverage ratio determined on a Net Revenue basis (i.e., without availability charges) at a target level ranging from 180% to 225%. This range was based on the financial policies approved by the Board and the median debt service coverage ratio as reported by credit rating agencies that are typical for an "AAA" rated utility. With respect to the County's financial policy, the County Board of Supervisors approved a resolution that adopted financial policies for the financial management of the System. These policies are not legally binding but "...state the current and continuing good faith intentions of this Board of Supervisors as to its intended management of the System and its finances." These policies which are considered by WMP in its financial planning activities and in the preparation of the financial forecast state that the Net Revenues of the System, less any Excluded Revenues, will be sufficient to provide the following:

"...an amount at least equal to the sum of two hundred percent (200%) of the sum of (A) the Principal and Interest Requirements in such Bond Year on account of all the Bonds then outstanding under the General Resolution in such Bond Year and (B) the Debt Service Requirements relating to Parity Indebtedness in such Bond Year (the "Senior Debt Service Coverage Policy")."

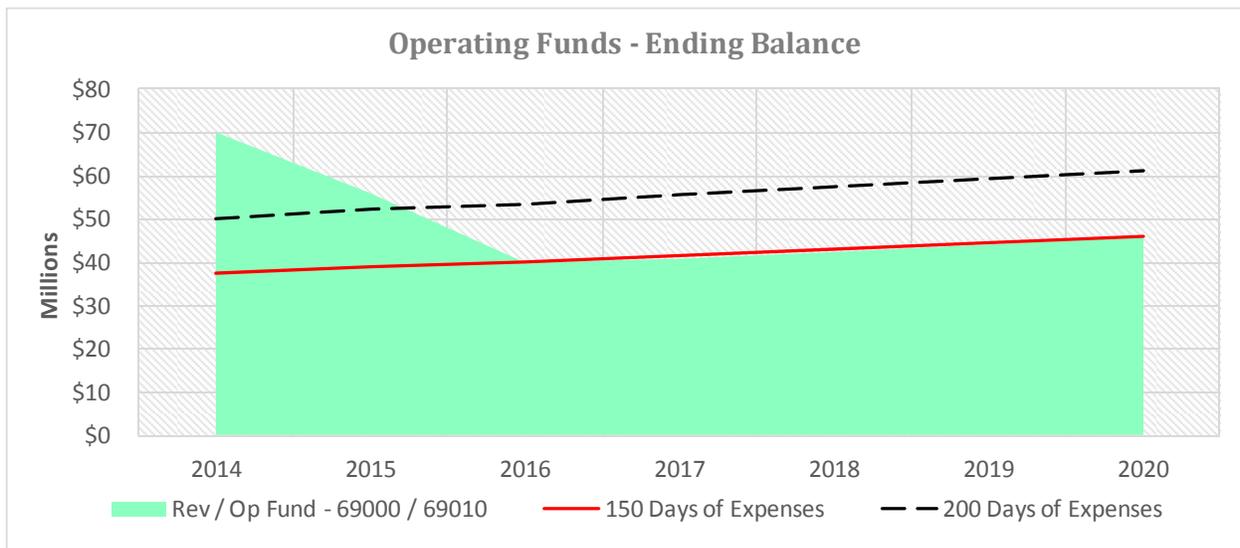
As can be seen from the prior chart, it is projected that the Net Revenues will approximate the target delineated in the County's financial policy and the range reflected in the financial forecast.

The debt coverage improves when consideration of availability charges is recognized. This ratio is considered to be favorable by PRMG and will support the County's ability to issue additional bonds and to limit the financial risk to the utility.

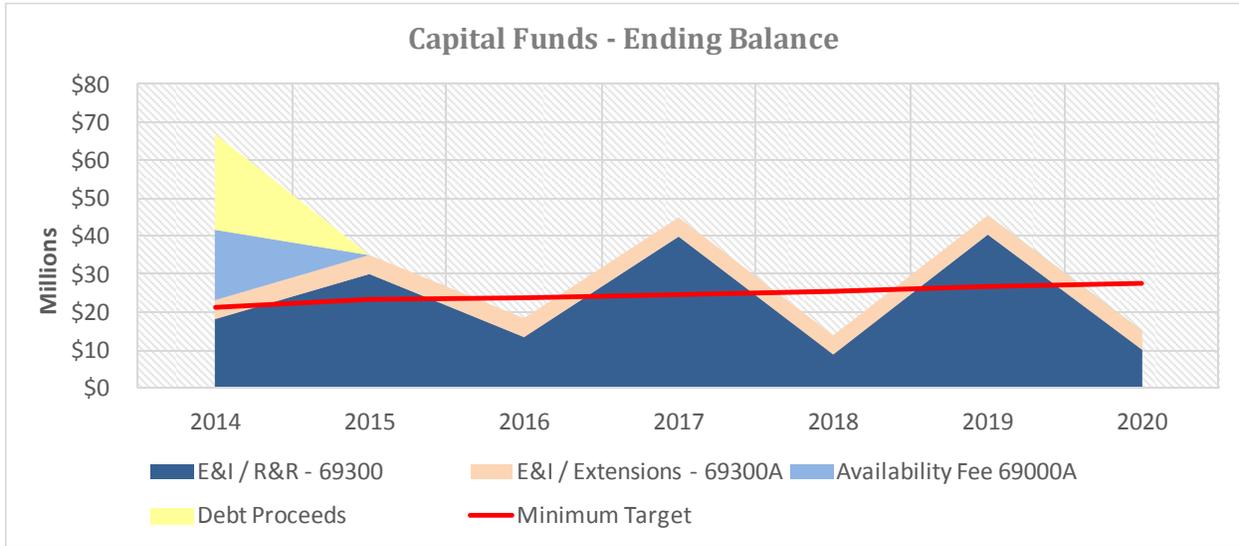
Available Working Capital and Cash Balances

Another important component of the evaluation of WMP's operations is the resulting ending cash balance or cash position of the utility. The estimated cash flows (deposits and withdrawals) and projected ending cash balances for the Forecast Period are shown in detail on Table 9 at the end of this report. In the evaluation of System liquidity, the cash balances were segregated as either i) operating reserves (not restricted to debt payment and capital expenditures); ii) capital reserves for capital improvements, replacements and betterments; or iii) restricted for other purposes (i.e., debt service sinking fund and / or reserves, customer deposits, etc.).

With respect to the operating reserves (Funds 69000 and 69010), PRMG recommends that WMP should aim to maintain a minimum fund balance ranging from 150 to 200 days of operating expenses. This range was based on discussions with the financial community and median liquidity ratios as reported by credit rating agencies that are typical for an "AAA" rated utility. Although the fund balance is at the lower end of the range, this ratio is considered to be favorable by PRMG and will support the County's ability to limit the financial risk to the utility.

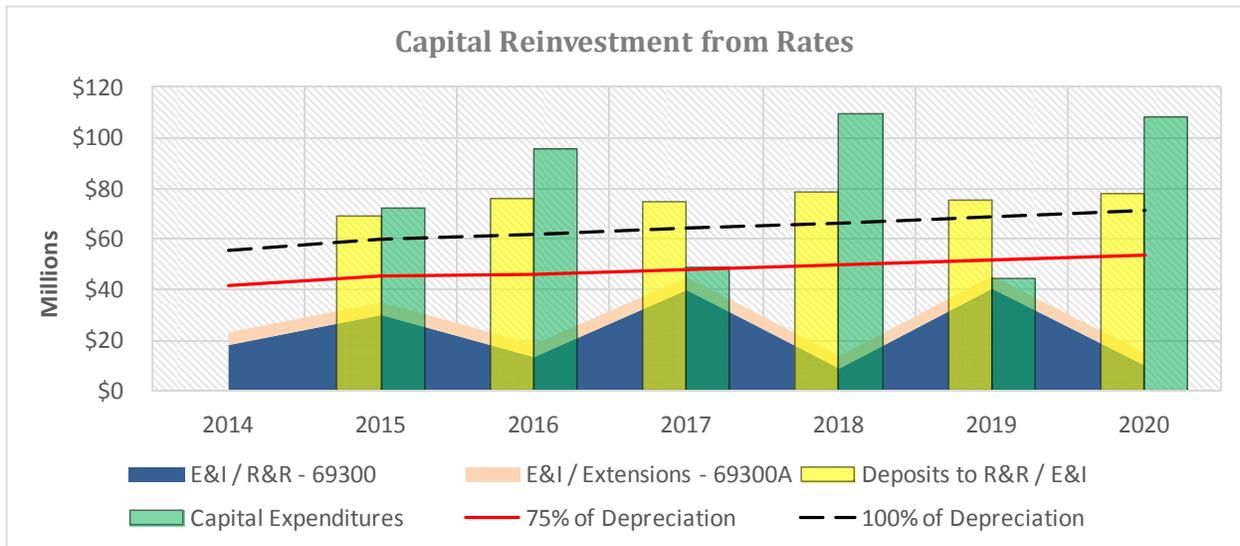


With respect to capital reserves, such cash reserves include funds: i) received from availability charges (used for new customer debt and capital costs); ii) received through the issuance of indebtedness for capital construction; and iii) received from rate revenues and deposited to the E&I Fund for ongoing recurring capital re-investment. This segregation of funds allows the County and PRMG to fully evaluate the liquidity picture based on the intent of the purpose of the funds. The following is a summary of the ending cash balances in the capital funds based on the forecast of operations and the capital funding plan previously presented in this report:



As can be seen above the capital funds generally fluctuate during the Forecast Period and at times fall below the minimum recommended target equal to one percent (1%) of projected depreciable gross fixed assets. Fluctuations in cash balances are due to the timing of capital needs and the timing of the issuance of additional debt assumed during the Fiscal Year 2017 and Fiscal Year 2019. However, it should be noted that subsequent to the final year of the Forecast Period during the Fiscal Year 2022, the currently outstanding VRA loans C-515259-01 and C-515273-01 will have matured and result in the release of approximately \$6 million in restricted funds associated with the debt service reserve requirement for such loans. The additional funds are anticipated to be transferred and deposited to the E&I Fund to aid in maintaining the minimum targeted reserve. Should the cash position continue to deteriorate, the County may be required to issue additional debt or defer capital spending and, therefore, it is recommended that WMP staff continue to closely monitor the cash position for the E&I Fund. With respect to the availability charge funds, the forecast assumes the use of availability charges to fund expansion-related debt service payments, minimal or no availability fee fund balances are assumed to be carried through the Forecast Period. The remainder of capital-related fund balances is associated with debt proceeds and is generally assumed to be spent in the same year of issuance with exception to existing debt proceeds carried forward at the start of the Forecast Period.

As previously discussed, the forecast assumes annual transfers to the E&I Fund for capital reinvestment. Such transfers are necessary recognizing that the primary need for the funding of capital expenditures deals with existing customer requirements (i.e., renewals, replacements, betterments and upgrades to the existing plant in service). This is due to the installed utility plant now beginning to reach its useful service life and the impact of regulations on the cost of treatment (i.e., the Chesapeake Bay Program) which is allocable to and benefits the existing customer (not providing new capacity but maintaining the availability of existing capacity). The following graph summarizes the assumed sources and uses of funds in the E&I Fund as it relates to the ongoing capital funding program allocable to the existing customer

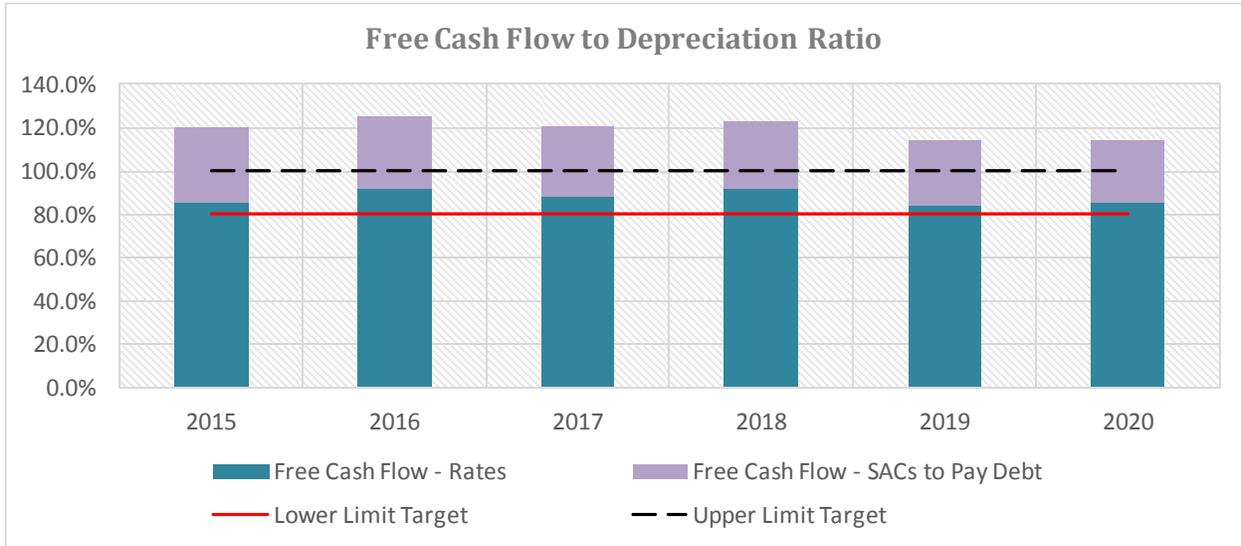


As can be seen above, the deposits to the fund are programmed to be relatively stable yet the expenditures (uses of fund) fluctuate by year and need to be planned in advance such that rate impacts are minimized. Moreover, such transfers to the E&I Fund are comparable to the annual rate of depreciation and are considered a strong level of capital reinvestment (also reference Free Cash to Depreciation). It should be noted that to the extent that System growth is greater than assumed, if there is a delay in the need to fund the CIP in what is reflected in the financial forecast presented in this report, or if the County were to receive grant proceeds for capital financing, then it is expected that the cash balances as presented in the figure below would improve.

Free Cash to Depreciation

This figure illustrates the amount of funds available for equity capital funding or for other System purposes after the payment of Operating Expenses, the annual debt service requirements, and any other required deposits or funding needs. This ratio is a key ratio of the credit rating agencies since it provides a measure of the annual financial capacity to maintain utility plant facilities at current levels of service. As can be seen from the following chart, the System is producing sufficient funds after all required transfers (assumes that the Extension and Improvement Fund deposit is considered as a component of the available funds for capital and not a required deposit since it is to be used solely for capital needs) to maintain a strong capital reinvestment rate for ongoing equity capital funding and the avoidance of long-term debt.

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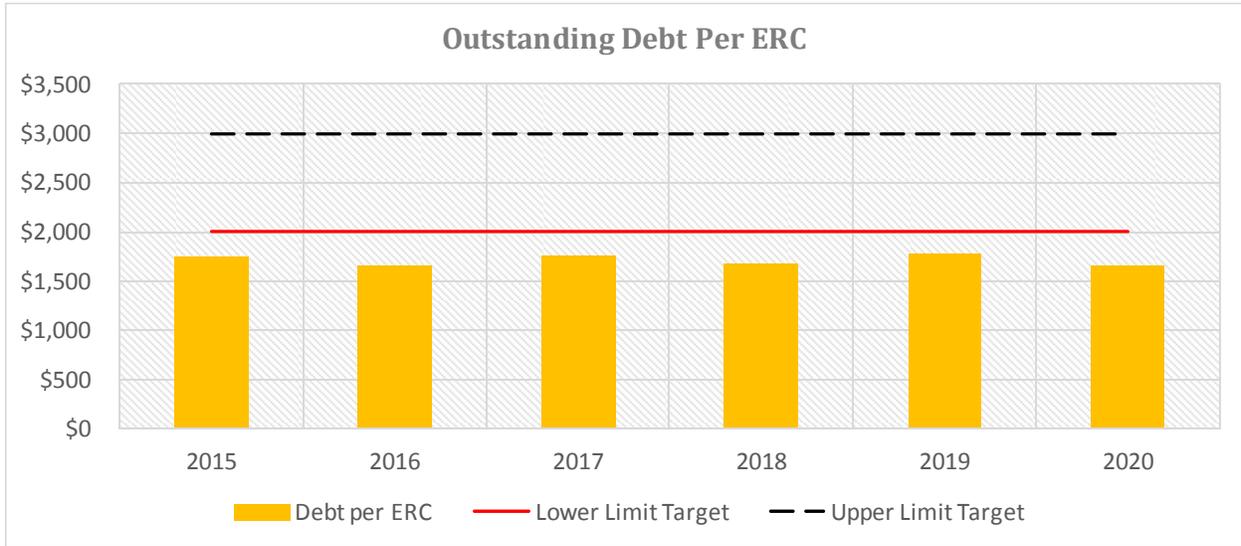


With respect to the annual funding of the capital needs, PRMG recommends that WMP should aim to maintain a minimum cash flow ratio ranging from 80% to 100% of the annual depreciation expense for the County-owned utility assets. This range was based on discussions with the financial community and median cash flow ratios as reported by credit rating agencies that are typical for an "AAA" rated utility. The projected ratio is considered to be favorable by PRMG and will support the County's ability to limit the financial risk to the utility.

Net Outstanding Debt per ERC

The net principal amount of debt outstanding per customer ("ERC") measures the amount of net plant investment that a utility has in service and the financial risk a utility has undertaken relative to the customers served. The higher the net customer debt burden, the greater the financial risk to the System (all fixed costs) and generally the rates for service are higher with a greater reliance on availability charges (growth) or other external sources of funds to meet the expenditure needs. It is also an indication of the amount of potential "leveraging" capability a utility may have relative to funding future capital needs. The following chart illustrates the amount of outstanding principal debt (both senior- and subordinate-related debt) in relation to the amount of projected System customers served.

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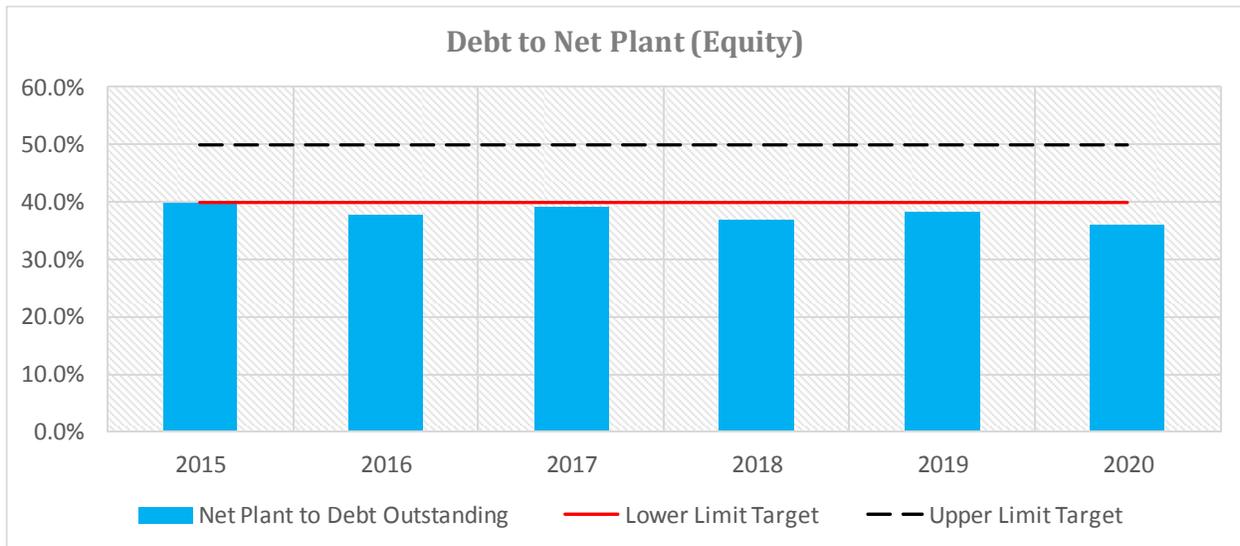


With respect to the amount of outstanding debt relative to the customer base, PRMG recommends that WMP should aim to maintain a maximum customer debt level ranging from \$2,000 to \$3,000 per ERC served. This range approximates 50% to 80% of the plant investment expressed on a per ERC basis and is consistent with the debt per equity ratio in terms of overall net utility plant funding. Overall, the debt per customer appears reasonable recognizing the amount of plant investment that has been funded by the County on behalf of WMP.

Debt Outstanding to Net Plant Investment (Debt) Ratio

This figure illustrates the amount of debt issued to fund the net plant investment in service to meet the wastewater demands of the System service area. This ratio presents the net equity of the utility (in terms of plant investment) and provides an indication of the reliance on debt to fund existing assets as well as the flexibility in terms of funding future capital assets and overall rate stability. Generally, the higher the ratio, the greater the need to have a larger portion of the rate revenues being dedicated to principal retirement. The median Debt Ratio is approximately 30% as reported by Moody's Investor Service, Inc. for wastewater utilities (note that this is an average and PRMG believes that the Debt Ratio for "high growth" systems or systems with increased treatment standards [higher technology] would have a higher debt ratio).

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With respect to the County, we have identified a maximum target for the this ratio ranging from 40% to 50% of the total net plant investment (including TBC capacity entitlements) to maintain a sustainable funding relationship of infrastructure (not relying totally on debt) and recognizing that a significant amount of the capital needs is for the renewal and replacement of existing assets which should be limited as to the amount of debt issued to fund such investment). This range was based on discussions with the financial community and median liquidity ratios as reported by credit rating agencies that are typical for an "AAA" rated utility.

CONCLUSIONS AND RECOMMENDATIONS

Based on our analyses of the financial position and rates for the wastewater system, we are of the opinion that:

1. WMP's financial and rate implementation plan has resulted in the County being in a strong financial position in support of meeting the adopted financial policies and selected performance metrics or targets. The rates for service allows for the continuation of a capital re-investment rate equivalent to or above the annual depreciation expense which will minimize the need for long-term debt which will promote the sustainability of rates. It is recommended that the business-evaluation approach for the development of the annual net revenue requirements be maintained and that the financial forecast be reviewed annually.
2. It is recommended that the Board adopt the recommended rates as contained in this report, which includes the continuation of the adopted rates through Fiscal Year 2018.
3. The proposed rate adjustments by the County are anticipated to be sufficient to provide Net Revenues to meet the Rate Covenant in the General Bond Resolution that authorized the issuance of the County's Outstanding Senior Lien Bonds, meet the terms and conditions of the VRA Financing Agreement between the County and the Virginia Water Facilities Revolving Fund acting by and through the VRA, finance System expenditures, including the debt service on Additional Parity Bonds anticipated to be issued by the County to fund

System capital improvements, and to meet the financial targets or objectives of the System during the Forecast Period.

4. It is recommended that the County continue with the rate structure modification plan to phase in the fixed cost recovery charge to promote increased revenue stability of the System and to promote fairness and reasonableness among its ratepayers.
5. The proposed rates for the Fiscal Year 2016 will remain competitive with the rates charged by other neighboring public wastewater utility systems; this competitive position is anticipated to be maintained during the Forecast Period.

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**FAIRFAX COUNTY
WASTEWATER MANAGEMENT PROGRAM**

WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS

LIST OF TABLES

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1	Summary of Implied Historical Customer Billing Statistics
2	Summary of Projected Customer Billing Statistics
3	Projection of Operating Expenses
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5	Historical and Projected Sales of Service (Bulk Sales) and Other Revenue
6	Development of Wastewater System Revenue Requirements and Revenue Sufficiency
7	Projected Operating Results and Debt Service Coverage Analysis
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10	Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in \$000s)
11	Funding Sources for the Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in \$000s)
12	Forecasted Statements of Flows of Financial Resources and Changes in Fund Balance
13	Comparison of Typical Quarterly Residential Bills for Wastewater Service

Table 1
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Summary of Implied Historical Customer Billing Statistics

Line No.	Description	Historical Fiscal Year Ended June 30,								
		1997	1998	1999	2000	2001	2002	2003	2004	2005
Total System Customer Statistics (FY 1997 - FY 2005)										
1	Average Accounts Growth	2,121	2,976	3,094	871	3,829	(5,079)	6,711	3,884	2,735
2	Average Quarterly Accounts	229,154	232,130	235,224	236,095	239,924	234,845	241,556	245,440	248,175
3	Estimated ERUs [1]	295,382	300,208	305,049	310,028	316,863	329,168	333,848	336,808	341,390
4	Average Billed Wastewater Flows (Kgal) [2]	22,970,533	22,550,811	24,461,205	23,854,053	24,983,284	24,484,367	25,013,186	25,080,085	24,713,152
5	Average Quarterly Flow Per Billed Account	25,060	24,287	25,998	25,259	26,032	26,064	25,888	25,546	24,895
6	Average Monthly Flow Per Billed Account	8,353	8,096	8,666	8,420	8,677	8,688	8,629	8,515	8,298
7	Average Monthly Flow Per Billed ERC	6,480	6,260	6,682	6,412	6,570	6,199	6,244	6,205	6,032
Line No.	Description	Historical Fiscal Year Ended June 30,								
		2006	2007	2008	2009	2010	2011	2012	2013	2014
Total System Customer Statistics (FY 2006 - FY 2014)										
8	Average Accounts Growth	4,382	3,797	2,337	1,168	1,564	7,327	(50)	3,200	3,000
9	Average Quarterly Accounts	252,557	256,354	258,691	259,859	261,423	268,750	268,700	271,900	274,900
10	Estimated ERUs [1]	342,904	350,311	353,478	313,362	315,248	324,084	324,023	327,882	331,500
11	Average Billed Wastewater Flows (Kgal) [2]	24,380,182	25,112,557	24,624,563	24,510,612	24,962,443	23,934,607	23,913,067	24,012,730	24,764,339
12	Average Quarterly Flow Per Billed Account	24,133	24,490	23,797	23,581	23,872	22,265	22,249	22,079	22,521
13	Average Monthly Flow Per Billed Account	8,044	8,163	7,932	7,860	7,957	7,422	7,416	7,360	7,507
14	Average Monthly Flow Per Billed ERC	5,925	5,974	5,805	6,518	6,599	6,154	6,150	6,103	6,225

Footnotes:

- [1] Amounts shown through the Fiscal Year 2008 represent flow based ERU determinations. Beginning with the Fiscal Year 2009 ERUs were estimated assuming a 1.2x factor based on: i) a review of detailed customer billing records for the Fiscal Year 2011; and ii) meter equivalency standards based on instantaneous demand relationships among meter sizes as published by the American Water Works Association.
- [2] Billable Wastewater Flow is based on reported revenue divided by the rate in effect.

Table 2
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Summary of Projected Customer Billing Statistics

Line No.	Description	Historical	Projected Results Ending June 30,					
		2014	2015	2016	2017	2018	2019	2020
Total System Customer Statistics								
1	Average Accounts Growth	3,000	2,200	2,200	2,200	2,200	2,200	2,200
2	Average Quarterly Accounts	274,900	277,100	279,300	281,500	283,700	285,900	288,100
3	Estimated ERUs [1]	331,500	334,153	336,806	339,459	342,112	344,765	347,418
4	Average Billed Wastewater Flows (Kgal)	24,764,339	24,649,708	24,783,965	24,917,254	25,048,440	25,179,785	25,310,161
5	Average Quarterly Flow Per Billed Account	22,521	22,239	22,184	22,129	22,073	22,018	21,963
6	Average Monthly Flow Per Billed Account	7,507	7,413	7,395	7,376	7,358	7,339	7,321
7	Average Monthly Flow Per Billed ERU	6,225	6,147	6,132	6,117	6,101	6,086	6,071

Footnotes:

- [1] Amounts shown were estimated assuming a 1.2x factor based on: i) a review of detailed customer billing records for the Fiscal Year 2011; and ii) meter equivalency standards based on instantaneous demand relationships among meter sizes as published by the American Water Works Association.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	Description	Escalation Reference	Actual 2014	Adopted 2015	Adjustments	Adjusted 2015	Adopted 2016	Adjustments		Adjusted 2016	Projected Fiscal Year Ending June 30,				
								County	PRMG		2017	2018	2019	2020	
104	Park/Retn Area Equi	Inflation	3,274	2,319	-	2,319	2,369	-	-	2,369	2,421	2,479	2,539	2,600	
105	Other Operating Sup	Inflation	129,938	68,578	-	68,578	70,018	-	-	70,018	71,558	73,276	75,034	76,835	
106	Goods Receipt W/O P	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
107	Automotive Equip&Sup	Inflation	1,035	719	-	719	734	-	-	734	750	768	787	805	
108	Fire Protec Equip&Sup	Inflation	87	438	-	438	447	-	-	447	457	468	479	491	
109	Uniform/Wear - Appare	Inf/Emp	4,335	34,350	-	34,350	35,071	-	-	35,071	35,843	36,703	37,584	38,486	
110	Pub Safety Equip M&K	Inflation	12,994	6,867	-	6,867	7,011	-	-	7,011	7,165	7,337	7,513	7,694	
111	Other Maint & Repai	Repair	130,236	42,829	-	42,829	44,542	-	-	44,542	46,324	48,177	50,104	52,108	
112	Safety&Emergency Sv	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
113	Health Related Svcs	Inflation	-	175	-	175	-	-	-	-	-	-	-	-	
114	Misc Services	Inflation	277,928	56,764	-	56,764	58,135	-	-	58,135	59,414	60,840	62,300	63,795	
115	Rent- Operat Equipmn	Inflation	-	74	-	74	76	-	-	76	78	80	81	83	
116	Water County	Water	3,548	12,711	-	12,711	13,347	-	-	13,347	13,747	14,160	14,585	15,022	
117	Technical Train Cnt	Inflation	-	1,473	-	1,473	-	-	-	-	-	-	-	-	
118	Insurance	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	
119	Copying	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
120	Assigned Agency Veh	Inflation	-	310,000	-	310,000	-	-	-	-	-	-	-	-	
121	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
122	Fuel	Fuel	-	309,496	-	309,496	-	-	-	-	-	-	-	-	
123	Service-Other Agenc	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
124	Internal FFX Suppor	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
125	Credit Card Expense	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
126	Refuse Disposal Exp	Inflation	14,304	10,581	-	10,581	12,307	-	-	12,307	12,578	12,880	13,189	13,505	
127	Other Operating Exp	Inflation	50,184	46,261	-	46,261	47,232	-	-	47,232	48,271	49,430	50,616	51,831	
128	Total Operating Expenses		\$ 744,698	\$ 1,088,622	\$ -	\$ 1,088,622	\$ 480,803	\$ -	\$ -	\$ 480,803	\$ 491,515	\$ 538,472	\$ 620,924	\$ 774,062	
Recovered Costs															
129	WPFO-Labor Charges	Labor	\$ (258,132)	\$ (146,379)	\$ -	\$ (146,379)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
130	WPFO-Agency OH Cost	Inflation	(108,310)	-	-	-	(146,379)	-	-	(146,379)	(149,599)	(153,190)	(156,866)	(160,631)	
131	Reimb-Cp/Fringe Be	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	
132	WPFO-Materials	Inflation	(6,987)	-	-	-	-	-	-	-	-	-	-	-	
133	WPFO-Equipment	Inflation	(7,011)	-	-	-	-	-	-	-	-	-	-	-	
134	Total Recovered Costs		\$ (380,440)	\$ (146,379)	\$ -	\$ (146,379)	\$ (146,379)	\$ -	\$ -	\$ (146,379)	\$ (149,599)	\$ (153,190)	\$ (156,866)	\$ (160,631)	
Capital Equipment [1] [1]															
135	Equipment Expense	Bad Cap	\$ 92,796	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
136	Vehicles Expense	Bad Cap	361,481	1,685,220	-	1,685,220	978,756	-	-	978,756	1,008,118	1,038,362	1,069,513	1,101,598	
137	FCG General Capital	Bad Cap	-	-	-	-	-	-	-	-	-	-	-	-	
138	Total Capital Equipment [1] [1]		\$ 454,277	\$ 1,685,220	\$ -	\$ 1,685,220	\$ 978,756	\$ -	\$ -	\$ 978,756	\$ 1,008,118	\$ 1,038,362	\$ 1,069,513	\$ 1,101,598	
139	Total WWC - Gravity Sewer		\$ 5,014,310	\$ 7,581,762	\$ 0	\$ 7,581,762	\$ 6,191,836	\$ 0	\$ 0	\$ 6,191,836	\$ 6,368,830	\$ 6,587,510	\$ 6,847,643	\$ 7,184,659	
WWC - Pumping Stations															
Personnel Services															
140	Regular Salaries	Labor	\$ 1,597,931	\$ 1,894,215	\$ -	\$ 1,894,215	\$ 1,951,041	\$ -	\$ -	\$ 1,951,041	\$ 1,990,062	\$ 2,029,863	\$ 2,070,460	\$ 2,111,870	
141	Annual Comp Inceas	Labor	-	52,306	-	52,306	-	-	-	-	-	-	-	-	
142	POS Turnover-Pay	Labor	-	(130,206)	-	(130,206)	(143,235)	-	-	(143,235)	(146,100)	(149,022)	(152,002)	(155,042)	
143	Reg Sal-Non Mert Em	Labor	13,409	1,180	-	1,180	-	-	-	-	-	-	-	-	
144	Extra pay	Labor	80,726	182,486	-	182,486	80,753	-	-	80,753	82,368	84,015	85,696	87,410	
145	Accrued Leave	Labor	9,036	-	-	-	-	-	-	-	-	-	-	-	
146	Leave Pay-out	Labor	2,312	-	-	-	-	-	-	-	-	-	-	-	
147	Fringe Benefits	Benefits	-	813,504	-	813,504	724,529	-	-	724,529	760,755	798,793	838,733	880,670	
148	FICA	Benefits	99,108	-	-	-	-	-	-	-	-	-	-	-	
149	Medicare	Benefits	23,178	-	-	-	-	-	-	-	-	-	-	-	
150	Retire Contrb-EE Sy	Benefits	260,326	-	-	-	-	-	-	-	-	-	-	-	
151	Health-Cigna High	Benefits	155,857	-	-	-	-	-	-	-	-	-	-	-	
152	Health OAP 90%	Benefits	14,691	-	-	-	-	-	-	-	-	-	-	-	
152	Health-BC/BS	Benefits	18,506	-	-	-	-	-	-	-	-	-	-	-	
153	Health-Kaiser	Benefits	72,999	-	-	-	-	-	-	-	-	-	-	-	
154	Insurance-Group Life	Benefits	3,012	-	-	-	-	-	-	-	-	-	-	-	
155	Delta Dental	Benefits	11,095	-	-	-	-	-	-	-	-	-	-	-	
156	Workers Comp Idnty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	
157	Total Personnel Services		\$ 2,362,186	\$ 2,813,485	\$ -	\$ 2,813,485	\$ 2,613,088	\$ -	\$ -	\$ 2,613,088	\$ 2,687,086	\$ 2,763,650	\$ 2,842,887	\$ 2,924,907	
Operating Expenses															
158	IT Replacement Part	Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
159	Bldg Maint & Repair	Repair	-	133	-	133	-	-	-	-	-	-	-	-	
160	Chemicals	Chem-Flow	75,310	90,424	-	90,424	98,551	-	-	98,551	102,573	106,747	111,079	115,575	
161	Tools County	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
162	Water Treat Equip&Sup	Inflation	35,879	48,014	-	48,014	49,022	-	-	49,022	50,100	51,303	52,534	53,795	
163	Other Operating Sup	Inflation	180,126	73,281	-	73,281	93,785	-	-	93,785	95,848	98,149	100,504	102,916	
164	Automotive Equip&Sup	Inflation	-	18,575	-	18,575	-	-	-	-	-	-	-	-	
165	Uniform/Wear Appare	Inf/Emp	-	17,439	-	17,439	17,805	-	-	17,805	18,197	18,633	19,081	19,539	
166	Bldg Maint & Repair	Repair	30,675	42,782	-	42,782	44,493	-	-	44,493	46,273	48,124	50,049	52,051	
167	Other Maint & Repai	Repair	275,528	240,441	-	240,441	250,059	-	-	250,059	260,061	270,464	281,282	292,534	
168	Other Pro Cntrct Sv	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
169	Safety&Emergency Sv	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
170	Licensing Fees	Inflation	14,075	7,279	-	7,279	7,432	-	-	7,432	7,596	7,778	7,964	8,156	
171	Misc Services	Inflation	149,824	3,060	-	3,060	3,124	-	-	3,124	3,193	3,269	3,348	3,428	
172	Electricity County	Electricity	1,046,529	934,691	-	934,691	981,426	-	-	981,426	1,010,869	1,041,195	1,072,431	1,104,604	
173	Water County	Water	24,202	15,258	-	15,258	18,602	-	-	18,602	19,160	19,735	20,327	20,937	
174	Technical Train Cnt	Inflation	-	2,528	-	2,528	-	-	-	-	-	-	-	-	
175	Operational Travel	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
176	Assigned Agency Veh	Inflation	-	61,974	-	61,974	-	-	-	-	-	-	-	-	
177	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
178	Fuel	Fuel	-	-	-	-	-	-	-	-	-	-	-	-	
179	Internal FFX Suppor	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
180	Other Operating Exp	Inflation	24,164	93,784	-	93,784	95,753	-	-	95,753	97,860	100,208	102,613	105,076	
181	Total Operating Expenses		\$ 1,856,312	\$ 1,649,663	\$ -	\$ 1,649,663	\$ 1,660,052	\$ -	\$ -	\$ 1,660,052	\$ 1,711,729	\$ 1,765,605	\$ 1,821,212	\$ 1,878,609	
Recovered Costs															
182	WPFO-Labor Charges	Labor	\$ (12,859)	\$ (12,355)	\$ -	\$ (12,355)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
183	WPFO-Agency OH Cost	Inflation	(6,404)	(6,134)	-	(6,134)	(18,489)	-	-	(18,489)	(18,896)	(19,349)	(19,814)	(20,289)	
184	WPFO-Materials	Inflation	(18,913)	-	-	-	-	-	-	-	-	-	-	-	
185	WPFO-Equipment	Inflation	(547)	-	-	-	-	-	-	-	-	-	-	-	
186	Total Recovered Costs		\$ (38,723)	\$ (18,489)	\$ -	\$ (18,489)	\$ (18,489)	\$ -	\$ -	\$ (18,489)	\$ (18,896)	\$ (19,349)	\$ (19,814)	\$ (20,289)	
Capital Equipment [1]															
187	Equipment Expense	Bad Cap	\$ 49,455	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
188	Vehicles Expense	Bad Cap	54,565	108,000	-	108,000	-	-	-	-	-	-	-	-	
189	Total Capital Equipment [1]		\$ 104,020	\$ 108,000	\$ -	\$ 108,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
190	Total WWC - Pumping Stations		\$ 4,283,795	\$ 4,552,659	\$ -	\$ 4,552,659	\$ 4,254,651	\$ -	\$ -	\$ 4,2					

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses														
Line No.	Description	Escalation Reference	Actual 2014	Adopted 2015	Adjusted 2015	Adopted 2016	Adjustments		Adjusted 2016	Projected Fiscal Year Ending June 30,				
							County	PRMG		2017	2018	2019	2020	
202	Health-Cigna High	Benefits	177,384	-	-	-	-	-	-	-	-	-	-	-
203	Health OAP 90%	Benefits	3,966	-	-	-	-	-	-	-	-	-	-	-
204	Health-Cigna Low	Benefits	7,889	-	-	-	-	-	-	-	-	-	-	-
204	Health-BC/BS	Benefits	16,262	-	-	-	-	-	-	-	-	-	-	-
205	Health-Kaiser	Benefits	79,061	-	-	-	-	-	-	-	-	-	-	-
206	Insurance-Group Life	Benefits	2,991	-	-	-	-	-	-	-	-	-	-	-
207	Delta Dental	Benefits	11,140	-	-	-	-	-	-	-	-	-	-	-
208	Total Personnel Services		\$ 2,405,148	\$ 2,487,895	\$ 2,487,895	\$ 2,505,867	\$ -	\$ -	\$ 2,505,867	\$ 2,578,747	\$ 2,654,223	\$ 2,732,403	\$ 2,813,402	
Operating Expenses														
209	Other Operating Sup	Inflation	\$ -	\$ 50,000	\$ 50,000	\$ 51,050	\$ -	\$ -	\$ 51,050	\$ 52,173	\$ 53,425	\$ 54,707	\$ 56,020	
210	Other Maint & Repai	Repair	-	100,000	100,000	104,000	-	-	104,000	108,160	112,486	116,986	121,665	
211	Other Pro Cntrct Sv	Inflation	-	110,000	110,000	112,310	-	-	112,310	114,781	117,536	120,356	123,245	
212	Comm & Media Serv	Inflation	-	-	-	-	-	-	-	-	-	-	-	
213	Misc Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	
214	Other Operating Exp	Inflation	-	-	-	-	-	-	-	-	-	-	-	
215	Total Operating Expenses		\$ -	\$ 260,000	\$ 260,000	\$ 267,360	\$ -	\$ -	\$ 267,360	\$ 275,114	\$ 283,447	\$ 292,050	\$ 300,931	
Capital Equipment [1]														
216	Equipment Expense	Bud Cap	\$ -	\$ 127,502	\$ 127,502	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
217	Vehicles Expense	Bud Cap	-	593,208	593,208	246,000	-	-	246,000	253,380	260,981	268,811	276,875	
218	Total Capital Equipment [1]		\$ -	\$ 720,710	\$ 720,710	\$ 246,000	\$ -	\$ -	\$ 246,000	\$ 253,380	\$ 260,981	\$ 268,811	\$ 276,875	
219	Total WWC - Project & Assets		\$ 2,405,148	\$ 3,468,605	\$ 3,468,605	\$ 3,019,227	\$ -	\$ -	\$ 3,019,227	\$ 3,107,241	\$ 3,198,651	\$ 3,293,264	\$ 3,391,208	
220	Total Wastewater Collection Department		\$ 15,638,876	\$ 19,156,613	\$ 19,156,613	\$ 15,671,672	\$ -	\$ 1,800,000	\$ 17,471,672	\$ 17,971,118	\$ 18,529,353	\$ 19,140,656	\$ 19,840,894	
WT- WASTEWATER TREATMENT (Noman M. Cole, Jr., Pollution Control Plant)														
WWT - Administration														
Personnel Services														
221	Regular Salaries	Labor	\$ 440,049	\$ 612,371	\$ 612,371	\$ 630,742	\$ -	\$ -	\$ 630,742	\$ 643,357	\$ 656,224	\$ 669,348	\$ 682,735	
222	Annual Comp Increas	Labor	-	14,024	14,024	-	-	-	-	-	-	-	-	
223	POS Turnover-Pay	Labor	-	(13,155)	(13,155)	-	-	-	-	-	-	-	-	
224	Reg Sal- Non Merit Em	Labor	34,607	-	-	(35,798)	-	(35,798)	(36,514)	(37,244)	(37,989)	(38,749)		
225	Extra pay	Labor	13,797	18,068	18,068	18,193	-	18,193	18,557	18,928	19,307	19,693		
226	Accrued Leave	Labor	(34,916)	-	-	-	-	-	-	-	-	-	-	
227	Leave Pay-out	Labor	15,931	-	-	-	-	-	-	-	-	-	-	
228	Fringe Benefits	Benefits	-	262,271	262,271	273,926	-	273,926	287,622	302,003	317,104	332,959		
229	FICA	Benefits	28,258	-	-	-	-	-	-	-	-	-	-	
230	Medicare	Benefits	6,955	-	-	-	-	-	-	-	-	-	-	
231	Retire Contrib-EE Sy	Benefits	80,544	-	-	-	-	-	-	-	-	-	-	
232	Health-Cigna High	Benefits	24,518	-	-	-	-	-	-	-	-	-	-	
233	Health OAP 90%	Benefits	15,493	-	-	-	-	-	-	-	-	-	-	
233	Health-Cigna Low	Benefits	6,404	-	-	-	-	-	-	-	-	-	-	
234	Health-BC/BS	Benefits	17,860	-	-	-	-	-	-	-	-	-	-	
235	Health-Kaiser	Benefits	4,883	-	-	-	-	-	-	-	-	-	-	
236	Insurance-Group Life	Benefits	825	-	-	-	-	-	-	-	-	-	-	
237	Delta Dental	Benefits	2,964	-	-	-	-	-	-	-	-	-	-	
238	Workers Comp Ins Plc	Benefits	80,000	113,400	113,400	120,204	-	120,204	126,214	132,525	139,151	146,109		
239	Workers Comp Idnty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	
240	Total Personnel Services		\$ 738,172	\$ 1,006,979	\$ 1,006,979	\$ 1,007,267	\$ -	\$ -	\$ 1,007,267	\$ 1,039,236	\$ 1,072,436	\$ 1,106,921	\$ 1,142,747	
Operating Expenses														
241	Office Equip&Furnit	Inflation	\$ -	\$ 2,351	\$ 2,351	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
242	Office Supplies	Inflation	22,941	30,925	30,925	33,974	-	33,974	34,721	35,555	36,408	37,282		
243	Computer Equipment	Inflation	-	-	-	-	-	-	-	-	-	-	-	
244	Computer Access&Supl	Inflation	2,423	6,184	6,184	6,314	-	6,314	6,453	6,608	6,766	6,929		
245	Clean Supplies Cnty	Inflation	-	-	-	-	-	-	-	-	-	-	-	
246	Postage	Inf/Cust	1,721	1,003	1,003	1,031	-	1,031	1,062	1,096	1,131	1,167		
247	Bldg Maint & Repair	Repair	192	203	203	667	-	667	694	721	750	780		
248	Educational Supplie	Inflation	554	-	-	-	-	-	-	-	-	-	-	
249	Tools County	Inflation	-	-	-	-	-	-	-	-	-	-	-	
250	Water Treat Equip&Sup	Inflation	-	447	447	-	-	-	-	-	-	-	-	
251	Other Operating Sup	Inflation	18,824	946	946	966	-	966	987	1,011	1,035	1,060		
252	Automotive Fuel	Fuel	-	-	-	-	-	-	-	-	-	-	-	
253	Diesel Fuel	Fuel	-	-	-	-	-	-	-	-	-	-	-	
254	Heating Fuel	Fuel	9,050	-	-	-	-	-	-	-	-	-	-	
255	Fire Protec Equip&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	
256	Uniform/Wear Appare	Inf/Emp	101,728	99,029	99,029	101,109	-	101,109	103,333	105,813	108,353	110,953		
257	Ofc Equip Maint&Repai	Repair	1,043	338	338	352	-	352	366	381	396	412		
258	Bldg Maint & Repair	Repair	6,408	9,756	9,756	10,146	-	10,146	10,552	10,974	11,413	11,869		
259	Other Maint & Repair	Repair	32,447	464	464	483	-	483	502	522	543	565		
260	Edu Training Servic	Repair	59	-	-	-	-	-	-	-	-	-	-	
261	Computer Services	Inflation	-	9,145	9,145	9,337	-	9,337	9,542	9,771	10,006	10,246		
262	Other Pro Cntrct Sv	Inflation	26,229	104,811	104,811	107,012	-	107,012	109,366	111,991	114,679	117,431		
263	Comm & Media Service	Inflation	57,230	21,913	21,913	36,066	-	36,066	36,859	37,744	38,650	39,578		
264	Safety&Emergency Sv	Inflation	130,473	150,233	150,233	153,388	-	153,388	156,763	160,525	164,377	168,322		
265	Licensing Fees	Inflation	21,516	2,800	2,800	2,859	-	2,859	2,922	2,992	3,064	3,137		
266	Natural Gas Company	Gas	78,290	57,940	57,940	60,547	-	60,547	63,272	66,119	69,425	72,896		
267	Crime Ins Prem	Insurance	-	-	-	-	-	-	-	-	-	-	-	
268	Gen Liab Admin	Insurance	5,000	5,151	5,151	5,409	-	5,409	5,409	5,409	5,409	5,409		
269	Auto Liab Admin	Insurance	20,000	20,605	20,605	21,635	-	21,635	21,635	21,635	21,635	21,635		
270	Local Travel County	Inflation	177	90	90	92	-	92	94	96	99	101		
271	Certification	Inflation	70,301	39,700	39,700	71,930	-	71,930	73,512	75,277	77,083	78,933		
272	Mgmt/Prof Training	Inflation	-	30,750	30,750	-	-	-	-	-	-	-	-	
273	Technical Train Cnt	Inflation	20,923	135,150	135,150	137,988	-	137,988	141,024	144,408	147,874	151,423		
274	Departmental Awards	Inflation	2,103	3,114	3,114	3,179	-	3,179	3,249	3,327	3,407	3,489		
275	Copying	Inflation	-	11,649	11,649	-	-	-	-	-	-	-	-	
276	Phototypesetting	Inflation	-	428	428	-	-	-	-	-	-	-	-	
277	Printing and Bindin	Inflation	461	517	517	12,859	-	12,859	13,142	13,457	13,780	14,111		
278	Assigned Agency Veh	Inflation	165,505	241,275	241,275	161,091	-	161,091	164,635	168,586	172,632	176,775		
279	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	
280	Fuel	Fuel	61,287	-	-	68,710	-	68,710	72,833	77,203	81,835	86,745		
281	Service-Other Agent	Inflation	-	863	863	-	-	-	-	-	-	-	-	
282	Mileage Allow Auto	Inflation	-	-	-	-	-	-	-	-	-	-	-	
283	Prof Memberships	Inflation	18,444	34,600	34,600	35,327	-	35,327	36,104	36,971	37,858	38,767		
284	Prof Subscriptions	Inflation	4,250	1,200	1,200	1,225	-	1,225	1,252	1,282	1,313	1,344		
285	Credit Card Expense	Inflation	-	-	-	-	-	-	-	-	-	-	-	
286	Refuse Disposal Exp	Inflation	-	955	955	-	-	-	-	-	-	-	-	
287	Other Operating Exp	Inflation	31,839	38,774	38,774	41,444	-	41,444	42,356	43,372	44,413	45,479		
288	Total Operating Expenses		\$ 911,418	\$ 1,063,309	\$ 1,063,309	\$ 1,085,140	\$ -	\$ -	\$ 1,085,140	\$ 1,112,640	\$ 1,142,847	\$ 1,174,335	\$ 1,206,839	
Capital Equipment [1]														
289	Equipment Expense	Bud Cap	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
290	Total Capital Equipment [1]		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
291	Total WWT - Administration		\$ 1,649,590	\$ 2,070,288	\$ 2,070,288	\$ 2,092,407	\$ -	\$ -	\$ 2,092,407	\$ 2,151,876	\$ 2,215,283	\$ 2,281,255	\$ 2,349,586	
WWT - Operations														
Personnel Services														
292	Regular Salaries	Labor	\$ 2,676,874	\$ 3,119,544	\$ 3,119,544	\$ 3,213,130	\$ -</							

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	Description	Escalation Reference	Actual 2014	Adopted 2015	Adjustments	Adjusted 2015	Adopted 2016	Adjustments		Adjusted 2016	Projected Fiscal Year Ending June 30,				
								County	PRMG		2017	2018	2019	2020	
299	Leave Pay-out	Labor	39,841	-	-	-	-	-	-	-	-	-	-	-	-
300	Fringe Benefits	Benefits	(1,924)	1,336,618	-	1,336,618	1,250,220	-	-	1,250,220	1,312,731	1,378,368	1,447,286	1,519,650	
301	FICA	Benefits	172,151	-	-	-	-	-	-	-	-	-	-	-	
302	Medicare	Benefits	40,298	-	-	-	-	-	-	-	-	-	-	-	
303	Retire Contrib-EE Sy	Benefits	478,680	-	-	-	-	-	-	-	-	-	-	-	
304	Health-Cigna High	Benefits	304,810	-	-	-	-	-	-	-	-	-	-	-	
305	Health OAP 90%	Benefits	45,368	-	-	-	-	-	-	-	-	-	-	-	
306	Health-Cigna Low	Benefits	11,351	-	-	-	-	-	-	-	-	-	-	-	
307	Health-BC/BS	Benefits	68,025	-	-	-	-	-	-	-	-	-	-	-	
308	Health-Kaiser	Benefits	67,378	-	-	-	-	-	-	-	-	-	-	-	
309	Insurance-Group Life	Benefits	5,009	-	-	-	-	-	-	-	-	-	-	-	
310	Delta Dental	Benefits	21,287	-	-	-	-	-	-	-	-	-	-	-	
311	Total Personnel Services		\$ 4,201,447	\$ 4,778,221	\$ -	\$ 4,778,221	\$ 4,645,001	\$ -	\$ -	\$ 4,645,001	\$ 4,775,408	\$ 4,910,298	\$ 5,049,855	\$ 5,194,270	
Operating Expenses															
312	Office Supplies	Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
313	Bldg Maint & Repair	Repair	764	-	-	-	-	-	-	-	-	-	-	-	
314	Grnds Maint Equip&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
315	Educational Supplie	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
316	Chemicals	Chem-Noman	2,567,439	3,257,085	(1,000,000)	2,257,085	2,725,045	-	(100,000)	2,625,045	2,703,796	2,784,910	2,868,458	2,954,511	
317	Tools County	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
318	Water Treat Equip&Sup	Inflation	4,632	-	-	-	-	-	-	-	-	-	-	-	
319	Hshl Aplnc/Supl/Rep	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
320	Med&Lab Equip and Sup	Inflation	312	-	-	-	-	-	-	-	-	-	-	-	
321	Other Operating Sup	Inflation	9	-	-	-	-	-	-	-	-	-	-	-	
322	Automotive Equip&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
323	Diesel Fuel	Fuel	-	-	-	-	-	-	-	-	-	-	-	-	
324	Heating Fuel	Fuel	596,174	631,830	-	631,830	1,177,245	-	-	1,177,245	1,247,880	1,322,752	1,402,118	1,486,245	
325	Fire Protec Equip&Sup	Inflation	74	-	-	-	-	-	-	-	-	-	-	-	
326	Uniform/Wear Appare	Inf/Emp	-	-	-	-	-	-	-	-	-	-	-	-	
327	Other Pro Cnctct Sv	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
328	Comm & Media Servic	Inflation	630	-	-	-	-	-	-	-	-	-	-	-	
329	Licensing Fees	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
330	Misc Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
331	Electricity County	Elec-Noman	2,660,730	3,743,303	(1,000,000)	2,743,303	3,136,270	-	(100,000)	3,036,270	3,127,358	3,221,179	3,317,814	3,417,349	
332	Natural Gas County	Gas	258,052	-	-	-	260,000	-	-	260,000	271,700	283,927	298,123	313,029	
333	Water County	Water	38,038	31,158	-	31,158	37,149	-	-	37,149	38,263	39,411	40,594	41,812	
334	Emergency Assistance	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
335	Internal FFX Suppor	Inflation	22,198	-	-	-	-	-	-	-	-	-	-	-	
336	Refuse Disposal Exp	Inflation	285,173	261,990	-	261,990	334,580	-	-	334,580	341,941	350,147	358,551	367,156	
337	Other Operating Exp	Inflation	91,001	64,373	-	64,373	101,222	-	-	101,222	103,449	105,932	108,474	111,077	
338	Total Operating Expenses		\$ 6,525,226	\$ 7,989,739	\$ (2,000,000)	\$ 5,989,739	\$ 7,771,511	\$ -	\$ (200,000)	\$ 7,571,511	\$ 7,834,387	\$ 8,108,258	\$ 8,394,131	\$ 8,691,179	
Capital Equipment [1]															
339	Equipment Expense	Bud Cap	\$ 8,432	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
340	Vehicles Expense	Bud Cap	39,776	98,934	-	98,934	-	-	-	-	-	-	-	-	
341	Total Capital Equipment [1]		\$ 48,208	\$ 98,934	\$ -	\$ 98,934	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
342	Total WWT - Operations WWT - Maintenance		\$ 10,774,881	\$ 12,866,894	\$ (2,000,000)	\$ 10,866,894	\$ 12,416,512	\$ -	\$ (200,000)	\$ 12,216,512	\$ 12,609,795	\$ 13,018,556	\$ 13,443,986	\$ 13,885,449	
Personnel Services															
343	Regular Salaries	Labor	\$ 2,722,665	\$ 2,883,824	\$ -	\$ 2,883,824	\$ 2,970,339	\$ -	\$ -	\$ 2,970,339	\$ 3,029,746	\$ 3,090,341	\$ 3,152,148	\$ 3,215,190	
344	Annual Comp Incr	Labor	-	81,925	-	81,925	81,925	-	-	81,925	83,564	85,235	86,939	88,678	
345	Annual Comp Inc-P4P	Labor	-	(138,643)	-	(138,643)	(143,235)	-	-	(143,235)	(146,100)	(149,022)	(152,002)	(155,042)	
346	POS Turnover-Pay	Labor	-	-	-	-	-	-	-	-	-	-	-	-	
347	Reg Sal-Non Merit Em	Labor	49,707	-	-	-	-	-	-	-	-	-	-	-	
348	Shift Differential	Labor	(44)	-	-	-	-	-	-	-	-	-	-	-	
349	Extra pay	Labor	56,917	26,828	-	26,828	27,015	-	-	27,015	27,555	28,106	28,669	29,242	
350	Accrued Leave	Labor	(14,642)	-	-	-	-	-	-	-	-	-	-	-	
351	Leave Pay-out	Labor	15,823	-	-	-	-	-	-	-	-	-	-	-	
352	Fringe Benefits	Benefits	-	1,238,952	-	1,238,952	1,037,265	-	-	1,037,265	1,089,128	1,143,585	1,200,764	1,260,802	
353	FICA	Benefits	165,227	-	-	-	-	-	-	-	-	-	-	-	
354	Medicare	Benefits	38,666	-	-	-	-	-	-	-	-	-	-	-	
355	Retire Contrib-EE Sy	Benefits	407,825	-	-	-	-	-	-	-	-	-	-	-	
356	Health-Cigna High	Benefits	282,558	-	-	-	-	-	-	-	-	-	-	-	
357	Health OAP 90%	Benefits	15,493	-	-	-	-	-	-	-	-	-	-	-	
358	Health-Cigna Low	Benefits	17,865	-	-	-	-	-	-	-	-	-	-	-	
359	Health-BC/BS	Benefits	37,900	-	-	-	-	-	-	-	-	-	-	-	
360	Health-Kaiser	Benefits	151,612	-	-	-	-	-	-	-	-	-	-	-	
361	Insurance-Group Life	Benefits	5,153	-	-	-	-	-	-	-	-	-	-	-	
362	Delta Dental	Benefits	20,585	-	-	-	-	-	-	-	-	-	-	-	
363	Workers Comp Idnty-P	Benefits	(25)	-	-	-	-	-	-	-	-	-	-	-	
364	Total Personnel Services		\$ 3,973,085	\$ 4,092,886	\$ -	\$ 4,092,886	\$ 3,973,309	\$ -	\$ -	\$ 3,973,309	\$ 4,083,893	\$ 4,198,245	\$ 4,316,517	\$ 4,438,871	
Operating Expenses															
365	Inv-DPWES Wastewate	Inflation	\$ -	\$ 1,185	\$ -	\$ 1,185	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
366	Office Equip&Furnit	Inflation	28	-	-	-	-	-	-	-	-	-	-	-	
367	Copier	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
368	Office Supplies	Inflation	2,575	-	-	-	-	-	-	-	-	-	-	-	
369	Computer Equipment	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
370	IT Replacement Part	Inflation	526	-	-	-	-	-	-	-	-	-	-	-	
371	Clean Supplies Cnty	Inflation	-	3,135	-	3,135	-	-	-	-	-	-	-	-	
372	Bldg Maint & Repair	Repair	45,712	-	-	-	-	-	-	-	-	-	-	-	
373	Grnds Maint Equip&Sup	Inflation	5,035	-	-	-	-	-	-	-	-	-	-	-	
374	Educational Supplie	Inflation	2,360	-	-	-	-	-	-	-	-	-	-	-	
375	Chemicals	Chem-Noman	54	-	-	-	-	-	-	-	-	-	-	-	
376	Tools County	Inflation	42,584	40,380	-	40,380	41,228	-	-	41,228	42,135	43,146	44,182	45,242	
377	Eng Drft&Sur Equip&Su	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
378	Water Treat Equip&Sup	Inflation	556,203	701,060	-	701,060	718,983	-	-	718,983	734,801	752,436	770,494	788,986	
379	Food Sev Equip&Supl	Inflation	737	-	-	-	-	-	-	-	-	-	-	-	
380	Hshl Aplnc/Supl/Rep	Inflation	1,251	-	-	-	-	-	-	-	-	-	-	-	
381	Med&Lab Equip and Sup	Inflation	12,161	-	-	-	-	-	-	-	-	-	-	-	
382	Park/Rctn Area Equip	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
383	Other Operating Sup	Inflation	14,706	-	-	-	-	-	-	-	-	-	-	-	
384	Goods Receipt W/O P	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
385	Automotive Equip&Sup	Inflation	6,002	-	-	-	-	-	-	-	-	-	-	-	
386	Heating Fuel	Inflation	59,437	-	-	-	-	-	-	-	-	-	-	-	
387	Fire Protec Equip&Sup	Inflation	322	-	-	-	-	-	-	-	-	-	-	-	
388	Uniform/Wear Appare	Inf/Emp	-	-	-	-	-	-	-	-	-	-	-	-	
389	Bldg Maint & Repair	Repair	634,483	553,915	-	553,915	576,072	-	-	576,072	599,115	623,079	648,003	673,923	
390	Other Maint & Repai	Repair	4,905	186,255	-	186,255	193,705	-	-	193,705	201,453	209,511	217,892	226,607	
391	Gain/loss - Inv adj	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
392	Grnds/Rec/Parks Svc	Inflation	25,115	-	-	-	-	-	-	-	-	-	-	-	
393	Licensing Fees	Inflation	-	-	-	-									

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	Description	Escalation Reference	Actual 2014	Adopted 2015	Adjustments	Adjusted 2015	Adopted 2016	Adjustments		Adjusted 2016	Projected Fiscal Year Ending June 30,					
								County	PRMG		2017	2018	2019	2020		
401	Capital Equipment [1]		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
402	Equipment Expense	Bud Cap	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
403	Total Capital Equipment [1]		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
403	Total WWT - Maintenance		\$ 5,608,440	\$ 5,823,436	\$ -	\$ 5,823,436	\$ 5,753,054	\$ -	\$ -	\$ 5,753,054	\$ 5,916,649	\$ 6,087,795	\$ 6,264,739	\$ 6,447,703	\$ -	\$ -
WWT - IT Services																
Personnel Services																
404	Regular Salaries	Labor	\$ 703,800	\$ 692,636	\$ -	\$ 692,636	\$ 713,415	\$ -	\$ -	\$ 713,415	\$ 727,683	\$ 742,237	\$ 757,082	\$ 772,223	\$ -	\$ -
405	Annual Comp Increases	Labor	-	15,861	-	15,861	-	-	-	-	-	-	-	-	-	-
406	Extra pay	Labor	660	-	-	-	-	-	-	-	-	-	-	-	-	-
407	Accrued Leave	Labor	(11,774)	-	-	-	-	-	-	-	-	-	-	-	-	-
408	Fringe Benefits	Benefits	-	296,707	-	296,707	309,830	-	-	309,830	325,322	341,588	358,667	376,600	-	-
409	FICA	Benefits	41,514	-	-	-	-	-	-	-	-	-	-	-	-	-
410	Medicare	Benefits	9,709	-	-	-	-	-	-	-	-	-	-	-	-	-
411	Retire Contrb-EE Sy	Benefits	105,195	-	-	-	-	-	-	-	-	-	-	-	-	-
412	Health-Cigna High	Benefits	49,000	-	-	-	-	-	-	-	-	-	-	-	-	-
413	Health OAP 90%	Benefits	7,746	-	-	-	-	-	-	-	-	-	-	-	-	-
413	Health-BC/BS	Benefits	5,081	-	-	-	-	-	-	-	-	-	-	-	-	-
414	Health-Kaiser	Benefits	28,195	-	-	-	-	-	-	-	-	-	-	-	-	-
415	Insurance-Group Life	Benefits	1,323	-	-	-	-	-	-	-	-	-	-	-	-	-
416	Delta Dental	Benefits	3,619	-	-	-	-	-	-	-	-	-	-	-	-	-
417	Total Personnel Services		\$ 944,068	\$ 1,005,204	\$ -	\$ 1,005,204	\$ 1,023,245	\$ -	\$ -	\$ 1,023,245	\$ 1,053,005	\$ 1,083,825	\$ 1,115,749	\$ 1,148,824	\$ -	\$ -
Operating Expenses																
418	Computer Equipment	Inflation	\$ 163,113	\$ 161,500	\$ -	\$ 161,500	\$ 451,000	\$ -	\$ -	\$ 451,000	\$ 460,922	\$ 471,984	\$ 483,312	\$ 494,911	\$ -	\$ -
419	Computer Acces&Supl	Inflation	73,618	885,500	-	885,500	60,000	-	-	60,000	61,320	62,792	64,299	65,842	-	-
420	Water Treat Eq&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
421	Ofc Eqp Maint&Repai	Repair	700	-	-	-	229,000	-	-	229,000	238,160	247,686	257,594	267,898	-	-
422	Parks Cr Facil M&R	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
423	Scient/Tech Eqp M&E	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
424	Translation Service	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
425	Computer Services	Inflation	171,714	125,517	-	125,517	120,000	-	-	120,000	122,640	125,583	128,597	131,684	-	-
426	PC Replacement	Inflation	-	116,000	-	116,000	-	-	-	-	-	-	-	-	-	-
427	Tech Infra Chargeback	Inflation	-	17,753	-	17,753	-	-	-	-	-	-	-	-	-	-
428	Other Pro Cntrct Sv	Inflation	-	120,000	-	120,000	-	-	-	-	-	-	-	-	-	-
429	Misc Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
430	Mgmt/Prof Training	Inflation	8,996	54,600	-	54,600	-	-	-	-	-	-	-	-	-	-
431	Technical Train Cnt	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
431	Credit Card Expense	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
432	Prof Subscriptions	Inflation	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-
433	Other Operating Exp	Inflation	258	-	-	-	-	-	-	-	-	-	-	-	-	-
434	Total Operating Expenses		\$ 419,499	\$ 1,480,870	\$ -	\$ 1,480,870	\$ 860,000	\$ -	\$ -	\$ 860,000	\$ 883,042	\$ 908,046	\$ 933,802	\$ 960,334	\$ -	\$ -
435	Capital Equipment [1]		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
436	Equipment Expense	Bud Cap	\$ 121,177	\$ 184,000	\$ -	\$ 184,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
437	Total Capital Equipment [1]		\$ 121,177	\$ 184,000	\$ -	\$ 184,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
437	Total WWT - IT Services		\$ 1,484,744	\$ 2,670,074	\$ -	\$ 2,670,074	\$ 1,883,245	\$ -	\$ -	\$ 1,883,245	\$ 1,936,047	\$ 1,991,870	\$ 2,049,550	\$ 2,109,158	\$ -	\$ -
WWT - Engineering																
Personnel Services																
438	Regular Salaries	Labor	\$ 373,948	\$ 397,876	\$ -	\$ 397,876	\$ 409,812	\$ -	\$ -	\$ 409,812	\$ 418,008	\$ 426,368	\$ 434,896	\$ 443,594	\$ -	\$ -
439	Annual Comp Increases	Labor	-	9,112	-	9,112	-	-	-	-	-	-	-	-	-	-
440	Reg Sal- Non Merit Em	Labor	42,305	-	-	-	-	-	-	-	-	-	-	-	-	-
441	Extra pay	Labor	800	-	-	-	-	-	-	-	-	-	-	-	-	-
442	Accrued Leave	Labor	(435)	-	-	-	-	-	-	-	-	-	-	-	-	-
443	Fringe Benefits	Benefits	-	170,440	-	170,440	177,977	-	-	177,977	186,876	196,220	206,031	216,332	-	-
444	FICA	Benefits	23,785	-	-	-	-	-	-	-	-	-	-	-	-	-
445	Medicare	Benefits	5,563	-	-	-	-	-	-	-	-	-	-	-	-	-
446	Retire Contrb-EE Sy	Benefits	71,326	-	-	-	-	-	-	-	-	-	-	-	-	-
447	Health Cigna High	Benefits	6,049	-	-	-	-	-	-	-	-	-	-	-	-	-
448	Health OAP 90%	Benefits	7,746	-	-	-	-	-	-	-	-	-	-	-	-	-
447	Health-Cigna Low	Benefits	11,429	-	-	-	-	-	-	-	-	-	-	-	-	-
449	Health-BC/BS	Benefits	12,553	-	-	-	-	-	-	-	-	-	-	-	-	-
450	Health-Kaiser	Benefits	28,195	-	-	-	-	-	-	-	-	-	-	-	-	-
451	Insurance-Group Life	Benefits	701	-	-	-	-	-	-	-	-	-	-	-	-	-
452	Delta Dental	Benefits	3,228	-	-	-	-	-	-	-	-	-	-	-	-	-
453	Total Personnel Services		\$ 587,193	\$ 577,428	\$ -	\$ 577,428	\$ 587,789	\$ -	\$ -	\$ 587,789	\$ 604,884	\$ 622,588	\$ 640,926	\$ 659,926	\$ -	\$ -
Operating Expenses																
454	Other Operating Exp	Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
455	Total Operating Expenses		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
456	Total WWT - Engineering		\$ 587,193	\$ 577,428	\$ -	\$ 577,428	\$ 587,789	\$ -	\$ -	\$ 587,789	\$ 604,884	\$ 622,588	\$ 640,926	\$ 659,926	\$ -	\$ -
457	Total Wastewater Treatment Department		\$ 20,104,848	\$ 24,008,120	\$ (2,000,000)	\$ 22,008,120	\$ 22,733,007	\$ -	\$ (200,000)	\$ 22,533,007	\$ 23,219,250	\$ 23,936,093	\$ 24,680,456	\$ 25,451,822	\$ -	\$ -
9.47%																
WPM - WASTEWATER PLANNING & MONITORING																
WP&M - Fiscal																
Personnel Services																
458	Regular Salaries	Labor	\$ 1,524,027	\$ 1,769,080	\$ -	\$ 1,769,080	\$ 1,822,152	\$ -	\$ -	\$ 1,822,152	\$ 1,858,595	\$ 1,895,767	\$ 1,933,682	\$ 1,972,356	\$ -	\$ -
459	Annual Comp Increases	Labor	-	40,512	-	40,512	-	-	-	-	-	-	-	-	-	-
460	POS Turnover-Pay	Labor	-	(38,363)	-	(38,363)	(20,840)	-	-	(20,840)	(21,257)	(21,682)	(22,116)	(22,558)	-	-
461	Reg Sal- Non Merit Em	Labor	10,614	-	-	-	10,614	-	-	10,614	10,826	11,042	11,263	11,489	-	-
462	Extra pay	Labor	4,108	-	-	-	4,108	-	-	4,108	4,190	4,274	4,360	4,447	-	-
463	Accrued Leave	Labor	130,200	-	-	-	130,200	-	-	130,200	132,804	135,460	138,169	140,932	-	-
464	Leave Pay out	Labor	580	-	-	-	-	-	-	-	-	-	-	-	-	-
465	Fringe Benefits	Benefits	-	757,587	-	757,587	791,345	-	-	791,345	830,912	872,458	916,081	961,885	-	-
466	FICA	Benefits	86,896	-	-	-	-	-	-	-	-	-	-	-	-	-
467	Medicare	Benefits	21,434	-	-	-	-	-	-	-	-	-	-	-	-	-
468	Retire Contrb-EE Sy	Benefits	228,858	-	-	-	-	-	-	-	-	-	-	-	-	-
469	OPEB Contributions	Benefits	984,538	764,652	-	764,652	764,652	-	-	764,652	802,885	843,029	885,180	929,439	-	-
470	Health-Cigna High	Benefits	87,994	-	-	-	-	-	-	-	-	-	-	-	-	-
471	Health OAP 90%	Benefits	6,403	-	-	-	-	-	-	-	-	-	-	-	-	-
471	Health-Cigna Low	Benefits	19,089	-	-	-	-	-	-	-	-	-	-	-	-	-
472	Health-BC/BS	Benefits	26,373	-	-	-	-	-	-	-	-	-	-	-	-	-
473	Health-Kaiser	Benefits	35,553	-	-	-	-	-	-	-	-	-	-	-	-	-
474	Insurance-Group Life	Benefits	2,998	-	-	-	-	-	-	-	-	-	-	-	-	-
475	Delta Dental	Benefits	7,218	-	-	-	-	-	-	-	-	-	-	-	-	-
476	Worker Comp Ins Plc	Benefits	102,000	-	-	-	-	-	-	-	-	-	-	-	-	-
477	Total Personnel Services		\$ 3,278,883	\$ 3,293,468	\$ -	\$ 3,293,468	\$ 3,502,231	\$ -	\$ -	\$ 3,502,231	\$ 3,618,955	\$ 3,740,348	\$ 3,866,62			

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	Description	Escalation Reference	Actual 2014	Adopted 2015	Adjustments	Adjusted 2015	Adopted 2016	Adjustments		Adjusted 2016	Projected Fiscal Year Ending June 30,				
								County	PRMG		2017	2018	2019	2020	
493	Other Maint & Repair	Repair	780	9,045	-	9,045	9,407	-	-	9,407	9,783	10,175	10,582	11,005	
494	Audit/Acct Services	Inflation	36,000	36,779	-	36,779	37,551	-	-	37,551	38,377	39,298	40,241	41,207	
495	Computer Services	Inflation	-	51,697	-	51,697	-	-	-	-	-	-	-	-	
496	Other Pro Cntrct Sv	Inflation	113,255	255,724	-	255,724	313,880	-	-	313,880	320,785	328,484	336,368	344,441	
497	Comm & Media Service	Inflation	9,131	-	-	-	26,422	-	-	26,422	27,003	27,651	28,315	28,995	
498	Misc Services	Inflation	-	1,637	-	1,637	-	-	-	-	-	-	-	-	
499	Electricity County	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
500	OPEB	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
501	Gen Liab Admin	Inflation	1,000	1,030	-	1,030	1,052	-	-	1,052	1,075	1,101	1,127	1,154	
502	Certification	Inflation	700	1,615	-	1,615	1,649	-	-	1,649	1,685	1,726	1,767	1,810	
503	Mgmt/Prof Training	Inflation	884	7,395	-	7,395	7,550	-	-	7,550	7,716	7,901	8,091	8,285	
504	Technical Train Cnt	Inflation	530	-	-	-	-	-	-	-	-	-	-	-	
505	Departmental Awards	Inflation	457	589	-	589	601	-	-	601	614	629	644	660	
506	Copying	Inflation	-	2,997	-	2,997	-	-	-	-	-	-	-	-	
507	Phototypesetting	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
508	Printing and Bindin	Inflation	767	1,374	-	1,374	16,733	-	-	16,733	17,101	17,512	17,932	18,362	
509	Assigned Agency Veh	Inflation	3,955	2,954	-	2,954	7,424	-	-	7,424	7,587	7,769	7,956	8,147	
510	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
511	Fuel	Fuel	2,889	-	-	-	3,341	-	-	3,341	3,541	3,754	3,979	4,218	
512	Service-Other Agenc	Inflation	2,028.105	534,962	-	534,962	455,960	-	-	455,960	465,991	477,175	488,627	500,354	
513	Mileage Allow Auto	Inflation	1,264	618	-	618	631	-	-	631	645	660	676	692	
514	Prof Memberships	Inflation	56,897	61,386	-	61,386	62,675	-	-	62,675	64,054	65,591	67,165	68,777	
515	Credit Card Expense	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
516	Other Operating Exp	Inflation	9,785	19,034	-	19,034	20,934	-	-	20,934	21,395	21,908	22,434	22,972	
517	Total Operating Expenses Recovered Costs		\$ 2,272,649	\$ 1,004,012	\$ -	\$ 1,004,012	\$ 999,540	\$ -	\$ -	\$ 999,540	\$ 1,021,838	\$ 1,046,657	\$ 1,072,086	\$ 1,098,140	
518	WPFO-Labor Charges	Labor	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
519	WPFO-Agency OH Cost	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
520	Misc Exp Reimb	Constant	(145,600)	(145,600)	145,600	-	(145,600)	-	-	(145,600)	(145,600)	(145,600)	(145,600)	(145,600)	
521	Total Recovered Costs		\$ (145,600)	\$ (145,600)	\$ 145,600	\$ -	\$ (145,600)	\$ -	\$ -	\$ (145,600)	\$ (145,600)	\$ (145,600)	\$ (145,600)	\$ (145,600)	
Capital Equipment [1]															
522	Equipment Expense	Bud Cap	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
523	Vehicles Expense	Bud Cap	22,775	-	-	-	-	-	-	-	-	-	-	-	
524	Total Capital Equipment [1]		\$ 22,775	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
525	Total WP&M - Fiscal		\$ 5,428,707	\$ 4,151,880	\$ 145,600	\$ 4,297,480	\$ 4,356,171	\$ -	\$ -	\$ 4,356,171	\$ 4,495,193	\$ 4,641,405	\$ 4,793,106	\$ 4,950,530	
WP&M - Engineer Planning															
Personnel Services															
526	Regular Salaries	Labor	\$ 775,736	\$ 781,242	\$ -	\$ 781,242	\$ 804,679	\$ -	\$ -	\$ 804,679	\$ 820,773	\$ 837,188	\$ 853,932	\$ 871,010	
527	Annual Comp Increases	Labor	-	17,890	-	17,890	-	-	-	-	-	-	-	-	
528	POS Turnover-Pay	Labor	-	(28,929)	-	(28,929)	(35,798)	-	-	(35,798)	(36,514)	(37,244)	(37,989)	(38,749)	
529	Extra pay	Labor	-	-	-	-	-	-	-	-	-	-	-	-	
530	Accrued Leave	Labor	104,475	-	-	-	-	-	-	-	-	-	-	-	
531	Leave Pay out	Labor	654	-	-	-	-	-	-	-	-	-	-	-	
532	Fringe Benefits	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	
533	FICA	Benefits	45,439	334,482	-	334,482	349,465	-	-	349,465	366,938	385,285	404,549	424,777	
534	Medicare	Benefits	10,646	-	-	-	-	-	-	-	-	-	-	-	
535	Retire Contrb-EE Sy	Benefits	114,289	-	-	-	-	-	-	-	-	-	-	-	
536	Health-Cigna High	Benefits	74,689	-	-	-	-	-	-	-	-	-	-	-	
537	Health OAP 90%	Benefits	3,906	-	-	-	-	-	-	-	-	-	-	-	
538	Health-Cigna Low	Benefits	5,676	-	-	-	-	-	-	-	-	-	-	-	
539	Health-BC/BS	Benefits	10,402	-	-	-	-	-	-	-	-	-	-	-	
540	Health-Kaiser	Benefits	19,609	-	-	-	-	-	-	-	-	-	-	-	
541	Insurance-Group Life	Benefits	1,462	-	-	-	-	-	-	-	-	-	-	-	
542	Delta Dental	Benefits	4,711	-	-	-	-	-	-	-	-	-	-	-	
543	Total Personnel Services		\$ 1,171,694	\$ 1,104,685	\$ -	\$ 1,104,685	\$ 1,118,346	\$ -	\$ -	\$ 1,118,346	\$ 1,151,197	\$ 1,185,229	\$ 1,220,492	\$ 1,257,038	
Operating Expenses															
544	Other Maint & Repair	Repair	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
545	Other Operating Exp	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
546	Total Operating Expenses		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
547	Total WP&M - Engineer Planning		\$ 1,171,694	\$ 1,104,685	\$ -	\$ 1,104,685	\$ 1,118,346	\$ -	\$ -	\$ 1,118,346	\$ 1,151,197	\$ 1,185,229	\$ 1,220,492	\$ 1,257,038	
WP&M - Lab															
Personnel Services															
548	Regular Salaries	Labor	\$ 1,114,986	\$ 1,277,684	\$ -	\$ 1,277,684	\$ 1,316,015	\$ -	\$ -	\$ 1,316,015	\$ 1,342,335	\$ 1,369,182	\$ 1,396,566	\$ 1,424,497	
549	Annual Comp Increases	Labor	-	29,259	-	29,259	-	-	-	-	-	-	-	-	
550	POS Turnover-Pay	Labor	-	(49,926)	-	(49,926)	(53,691)	-	-	(53,691)	(54,765)	(55,860)	(56,977)	(58,117)	
551	Reg Sal Non Merr Em	Labor	9,357	-	-	-	-	-	-	-	-	-	-	-	
552	Extra pay	Labor	34,653	29,858	-	29,858	30,065	-	-	30,065	30,666	31,280	31,905	32,543	
553	Accrued Leave	Labor	(164,931)	-	-	-	-	-	-	-	-	-	-	-	
554	Leave Pay out	Labor	76,027	-	-	-	-	-	-	-	-	-	-	-	
555	Fringe Benefits	Benefits	-	547,067	-	547,067	476,841	-	-	476,841	500,683	525,717	552,003	579,603	
556	FICA	Benefits	70,907	-	-	-	-	-	-	-	-	-	-	-	
557	Medicare	Benefits	16,852	-	-	-	-	-	-	-	-	-	-	-	
558	Retire Contrb-EE Sy	Benefits	196,830	-	-	-	-	-	-	-	-	-	-	-	
559	Health-Cigna High	Benefits	121,605	-	-	-	-	-	-	-	-	-	-	-	
560	Health OAP 90%	Benefits	10,963	-	-	-	-	-	-	-	-	-	-	-	
561	Health-BC/BS	Benefits	18,986	-	-	-	-	-	-	-	-	-	-	-	
562	Health-Kaiser	Benefits	43,182	-	-	-	-	-	-	-	-	-	-	-	
563	Insurance-Group Life	Benefits	2,126	-	-	-	-	-	-	-	-	-	-	-	
564	Delta Dental	Benefits	7,717	-	-	-	-	-	-	-	-	-	-	-	
565	Workers Comp Idnty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	
566	Total Personnel Services		\$ 1,559,260	\$ 1,833,942	\$ -	\$ 1,833,942	\$ 1,769,230	\$ -	\$ -	\$ 1,769,230	\$ 1,818,920	\$ 1,870,319	\$ 1,923,497	\$ 1,978,527	
Operating Expenses															
567	Office Equip&Sup	Inflation	\$ -	7,548	\$ -	7,548	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
568	Office Supplies	Inflation	1,364	3,593	-	3,593	1,500	-	-	1,500	1,533	1,570	1,607	1,646	
569	Computer Equipment	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
570	Computer Acces&Supl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
571	Printing Access & Suppl	Inflation	51	-	-	-	-	-	-	-	-	-	-	-	
572	Bldg Maint & Repair	Repair	23	-	-	-	-	-	-	-	-	-	-	-	
573	Chemicals	Chemicals	-	-	-	-	-	-	-	-	-	-	-	-	
574	Water Treat Equip&Sup	Inflation	-	5,409	-	5,409	5,523	-	-	5,523	5,645	5,780	5,919	6,061	
575	Lab Equip and Supl	Inflation	180,666	151,605	-	151,605	171,139	-	-	171,139	174,904	179,102	183,400	187,802	
576	Other Operating Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	
577	Uniform/Wear Appare	Inf/Emp	1,376	926	-	926	1,600	-	-	1,600	1,635	1,674	1,715	1,756	
578	Ofc Exp Maint&Repai	Repair	-	-	-	-	-	-	-	-	-	-	-	-	
579	Scient/Tech Exp M&	Repair	7,084	11,914	-	11,914	12,391	-	-	12,391	12,887	13,402	13,938	14,496	
580	Other Maint & Repair	Repair	-	-	-	-	-	-	-	-	-	-	-	-	
581	Edu/Training Servie	Inflation	4,964	-	-	-	49,135	-	-	49,135	50,216	51,421	52,655	53,919	
582	Other Pro Cntrct Sv	Inflation	48,229	60,000											

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Line No.	Description	Escalation Reference	Projection of Operating Expenses												
			Actual 2014	Adopted 2015	Adjustments	Adjusted 2015	Adopted 2016	Adjustments		Adjusted 2016	Projected Fiscal Year Ending June 30,				
								County	PRMG		2017	2018	2019	2020	
592	Total Operating Expenses Recovered Costs		\$ 329,857	\$ 374,793	\$ -	\$ 374,793	\$ 483,581	\$ -	\$ -	\$ 483,581	\$ 494,443	\$ 506,516	\$ 518,886	\$ 531,563	
593	WFFO-Labor Charges	Labor	\$ (32,815)	\$ (35,000)	\$ -	\$ (35,000)	\$ (35,000)	\$ -	\$ -	\$ (35,000)	\$ (35,700)	\$ (36,414)	\$ (37,142)	\$ (37,885)	
594	Reimb-CptlFringe Be	Benefits	-	-	-	-	-	-	-	-	-	-	-		
595	Total Recovered Costs		\$ (32,815)	\$ (35,000)	\$ -	\$ (35,000)	\$ (35,000)	\$ -	\$ -	\$ (35,000)	\$ (35,700)	\$ (36,414)	\$ (37,142)	\$ (37,885)	
Capital Equipment [1]															
596	Equipment Exp SC Onl	Bud Cap	\$ 24,692	\$ 62,492	\$ -	\$ 62,492	\$ 49,894	\$ -	\$ -	\$ 49,894	\$ 51,391	\$ 52,933	\$ 54,521	\$ 56,157	
597	Vehicle Expense	Bud Cap	-	-	-	-	-	-	-	-	-	-	-		
598	Total Capital Equipment [1]		\$ 24,692	\$ 62,492	\$ -	\$ 62,492	\$ 49,894	\$ -	\$ -	\$ 49,894	\$ 51,391	\$ 52,933	\$ 54,521	\$ 56,157	
599	Total WP&M - Lab		\$ 1,880,994	\$ 2,236,227	\$ -	\$ 2,236,227	\$ 2,267,705	\$ -	\$ -	\$ 2,267,705	\$ 2,329,054	\$ 2,393,353	\$ 2,459,762	\$ 2,528,361	
600	Total WP&M Department		\$ 8,481,395	\$ 7,492,792	\$ -	\$ 7,638,392	\$ 7,742,222	\$ -	\$ -	\$ 7,742,222	\$ 7,975,444	\$ 8,219,988	\$ 8,473,360	\$ 8,735,930	
TBC - Treatment by Contract															
601	ASA- Alexandria Sanitation A	Input	\$ 13,133,545	\$ 13,334,737	\$ 461,226	\$ 13,795,963	\$ 13,658,887	\$ -	\$ 1,178,898	\$ 14,837,785	\$ 15,656,343	\$ 16,262,075	\$ 16,842,847	\$ 17,468,269	
602	Arlington County	Input	2,225,036	2,270,946	132,875	2,403,821	2,314,037	-	158,047	2,472,085	2,544,620	2,624,251	2,706,213	2,790,570	
603	Loudoun Water	AgentFee	640	668	(668)	-	-	-	-	-	-	-	-		
604	DCWASA - Blue Plains	Input	11,815,951	13,408,886	(643,761)	12,765,126	12,288,589	-	537,878	12,826,467	13,212,357	13,620,167	14,027,807	14,453,968	
605	UOSA	Input	12,276,384	13,631,329	(463,754)	13,167,575	12,767,439	-	957,676	13,725,115	14,304,965	14,921,783	15,552,643	16,197,996	
606	Total TBC - Treatment by Contract		\$ 39,451,556	\$ 42,646,566	\$ (514,082)	\$ 42,132,484	\$ 41,028,953	\$ -	\$ 2,832,499	\$ 43,861,451	\$ 45,718,285	\$ 47,428,275	\$ 49,129,509	\$ 50,910,802	
Contracted Billing Services															
607	FCWA	AgentFee	7,596,076	6,056,719	500,000	6,556,719	7,596,076	-	(768,988)	6,827,087	7,032,242	7,257,294	7,489,097	7,727,847	
608	Falls Church	AgentFee	-	78,013	-	78,013	80,186	-	(80,186)	-	-	-	-	-	
609	Colchester - Harbor View	AgentFee	496,373	455,629	-	455,629	465,197	-	-	465,197	479,176	494,511	510,307	526,575	
610	Inter-Jurisdict	AgentFee	114,617	-	-	-	-	-	-	-	-	-	-	-	
611	Vienna	AgentFee	-	-	-	114,617	-	-	-	114,617	118,061	121,840	125,731	129,739	
612	Total Contracted Billing Service		\$ 8,207,066	\$ 6,590,361	\$ 500,000	\$ 7,090,361	\$ 8,256,075	\$ -	\$ (849,174)	\$ 7,406,901	\$ 7,629,480	\$ 7,873,645	\$ 8,125,135	\$ 8,384,162	
613	Total O&M Expenses & Capital Outlay		\$ 91,883,741	\$ 99,894,452	\$ (2,014,082)	\$ 98,025,970	\$ 95,431,929	\$ -	\$ 3,583,325	\$ 99,015,254	\$ 102,513,577	\$ 105,987,353	\$ 109,549,116	\$ 113,323,611	
614	Capital Outlay		\$ 775,149	\$ 2,859,356	\$ -	\$ 2,859,356	\$ 1,274,650	\$ -	\$ -	\$ 1,274,650	\$ 1,312,890	\$ 1,352,276	\$ 1,392,845	\$ 1,434,630	
615	Total O&M Expenses Net of Capital Outlay		\$ 91,108,592	\$ 97,035,096	\$ (2,014,082)	\$ 95,166,614	\$ 94,157,279	\$ -	\$ 3,583,325	\$ 97,740,604	\$ 101,200,687	\$ 104,635,077	\$ 108,156,271	\$ 111,888,981	

Footnotes:

- [1] WMP capitalizes budgeted equipment and capital outlays and therefore was reclassified to the forecasted Capital Improvement Program (reference Table 10).
[2] Forecasted amounts are based on the apportionment of costs from budgetary estimates and forecasts provided by the respective Treatment by Contract (TBC) provider and based on discussions with WMP staff.

Table 4
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses for Treatment By Contract (TBC)

Line No.	Description	Escalation Reference [1]	Projected Fiscal Year Ending June 30,							
			Proposed Budget	Adjustments	Adjusted 2015	2016	2017	2018	2019	2020
ARE - Alexandria Renew Enterprises										
<u>ARE - O&M Costs Allocated to Fairfax Co.[2]</u>										
1	Total Operating Expenses	O&M ARE	\$ 24,500,000	\$ 0	\$ 24,500,000	\$ 26,500,000	\$ 27,500,000	\$ 28,600,000	\$ 29,600,000	\$ 30,800,000
2	Less: Alexandria Only Expenses	Input	(3,800,000)	0	(3,800,000)	(3,900,000)	(4,000,000)	(4,200,000)	(4,300,000)	(4,500,000)
3	Joint Operating Expenses		\$ 20,700,000	\$ 0	\$ 20,700,000	\$ 22,600,000	\$ 23,500,000	\$ 24,400,000	\$ 25,300,000	\$ 26,300,000
4	Percentage Allocation to Fairfax Co.		54.04%	0.00%	54.04%	54.04%	54.04%	54.04%	54.04%	54.04%
5	Operating Expenses Allocated to Fairfax Co.		\$ 11,186,862	\$ 0	\$ 11,186,862	\$ 12,213,675	\$ 12,700,061	\$ 13,186,446	\$ 13,672,831	\$ 14,213,260
6	Less: Charges for Alexandria City Flow		(20,000)	0	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
7	Adjustments		0	0	0	0	0	0	0	0
8	Operating Expenses Allocated to Fairfax Co.		\$ 11,166,862	\$ 0	\$ 11,166,862	\$ 12,193,675	\$ 12,680,061	\$ 13,166,446	\$ 13,652,831	\$ 14,193,260
9	Gross Joint Assets	IR&R ARE	\$ 635,133,454	\$ 0	\$ 635,133,454	\$ 709,181,680	\$ 747,059,646	\$ 772,321,356	\$ 793,864,994	\$ 817,954,983
10	Funding Percentage per Agreement		0.70%	0.00%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
11	Fairfax Co. Share (60%) [3]		2,667,561	0	2,667,561	2,978,563	3,137,651	3,243,750	3,334,233	3,435,411
12	Adjustments		0	0	0	0	0	0	0	0
13	IR&R Expenditures Allocated to Fairfax County [3]		\$ 2,667,561	\$ 0	\$ 2,667,561	\$ 2,978,563	\$ 3,137,651	\$ 3,243,750	\$ 3,334,233	\$ 3,435,411
14	Subtotal ARE - O&M Costs Allocated to Fairfax Co.		\$ 13,834,423	\$ 0	\$ 13,834,423	\$ 15,172,239	\$ 15,817,711	\$ 16,410,196	\$ 16,987,064	\$ 17,628,670
15	Accruals/Fiscal Year End Adjustments [4]		(38,459)	0	(38,459)	(334,454)	(161,368)	(148,121)	(144,217)	(160,402)
16	Total ARE - O&M Costs Allocated to Fairfax Co.		\$ 13,795,963	\$ 0	\$ 13,795,963	\$ 14,837,785	\$ 15,656,343	\$ 16,262,075	\$ 16,842,847	\$ 17,468,269
Arlington County - WPCP										
<u>Arlington WPCP - O&M Costs Allocated to Fairfax Co.[5]</u>										
17	Arlington Total Operating Expenses	Composite	\$ 27,720,690	\$ 0	\$ 27,720,690	\$ 28,302,824	\$ 28,925,486	\$ 29,619,698	\$ 30,330,571	\$ 31,058,505
18	Annual Sewage Flow - Fairfax Co. to Arlington	Input	0	0	720,757	726,480	732,202	737,924	743,647	749,369
19	Annual Sewage Flow at Arlington (WPCP)	Input	0	0	8,311,722	8,317,445	8,323,167	8,328,889	8,334,612	8,340,334
20	Allocation Factor (Line 18/Line 19)		8.7%	8.7%	8.7%	8.7%	8.8%	8.9%	8.9%	9.0%
21	Fairfax County Allocable O&M Payment		\$ 2,403,821	\$ 0	\$ 2,403,821	\$ 2,472,085	\$ 2,544,620	\$ 2,624,251	\$ 2,706,213	\$ 2,790,570
22	Accruals/Fiscal Year End Adjustments [6]		0	0	0	0	0	0	0	0
23	Total Arlington WPCP - O&M Costs Allocated to Fairfax Co.[5]		\$ 2,403,821	\$ 0	\$ 2,403,821	\$ 2,472,085	\$ 2,544,620	\$ 2,624,251	\$ 2,706,213	\$ 2,790,570
Blue Plains - DCWater										
<u>DCWater - O&M Costs Allocated to Fairfax Co.[7]</u>										
24	Interceptors	Inflation	\$ 462,868	\$ 0	\$ 462,868	\$ 479,309	\$ 481,584	\$ 496,072	\$ 511,383	\$ 526,689
25	Pumping Stations	Inflation	298,051	0	298,051	308,638	310,103	319,432	329,291	339,147
26	Screen Chambers	Inflation	80	0	80	82	83	85	88	90
27	Wastewater Treatment Plant	Inflation	7,816,367	0	7,816,367	8,094,017	8,132,421	8,377,077	8,635,641	8,894,118
28	D.C. Sludge Costs	DC Sludge	1,460,016	0	1,460,016	1,511,878	1,519,052	1,564,751	1,613,048	1,661,329
29	Indirect Costs	Inflation	1,990,832	0	1,990,832	2,061,549	2,071,330	2,133,644	2,199,501	2,265,335
30	Rental and User Fees	Inflation	342,283	0	342,283	354,442	356,123	366,837	378,160	389,479
31	WSSC Biosolids	Inflation	578,424	0	578,424	598,971	601,813	619,918	639,052	658,180
32	Excess Flow and Other Payments	Inflation	0	0	0	0	0	0	0	0
33	Additional Costs	Inflation	0	0	0	0	0	0	0	0
34	Accruals/Fiscal Year End Adjustments [8]	Inflation	(183,796)	0	(183,796)	(114,991)	(15,906)	(101,327)	(107,087)	(107,051)
35	Total DCWater - O&M Costs Allocated to Fairfax Co.[7]		\$ 12,765,126	\$ 0	\$ 12,765,126	\$ 13,293,895	\$ 13,456,603	\$ 13,776,489	\$ 14,199,077	\$ 14,627,316

Footnotes on Page 2 of 2.

Table 4
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses for Treatment By Contract (TBC)

Line No.	Description	Escalation Reference [1]	Projected Fiscal Year Ending June 30,							
			Proposed Budget	Adjustments	Adjusted 2015	2016	2017	2018	2019	2020
Upper Occoquan Sewage Authority - UOSA										
<u>UOSA - O&M Costs Allocated to Fairfax Co.[9]</u>										
36	UOSA Total Operating Expenses	Composite	\$ 29,614,100	\$ 0	\$ 29,614,100	\$ 30,235,996	\$ 30,901,188	\$ 31,642,817	\$ 32,402,244	\$ 33,179,898
37	Annual Sewage Flow - Fairfax Co. to UOSA (MG)	Input	0	0	4,741,767	4,919,939	5,098,111	5,276,284	5,454,456	5,632,628
38	Annual Sewage Flow at UOSA (MG)	Input	0	0	12,253,313	12,431,485	12,609,657	12,787,829	12,966,001	13,144,173
39	Allocation Factor		38.7%	0	38.7%	39.6%	40.4%	41.3%	42.1%	42.9%
40	Fairfax County Allocable O&M Payment		11,460,017	0	11,460,017	11,966,331	12,493,417	13,055,889	13,630,772	14,218,469
41	Accruals/Fiscal Year End Adjustments [10]		0	0	0	0	0	0	0	0
42	Reserve and Maintenance Fund Deposits	Composite	\$ 4,080,000	\$ 0	\$ 4,080,000	\$ 4,202,400	\$ 4,328,472	\$ 4,458,326	\$ 4,592,076	\$ 4,729,838
43	Fairfax Co. Reserved Capac. from UOSA	Input	0.00	0.00	22.60	22.60	22.60	22.60	22.60	22.60
44	Total Capacity of UOSA WWTP	Input	0.00	0.00	54.00	54.00	54.00	54.00	54.00	54.00
45	Allocation Factor		41.85%	41.85%	41.85%	41.85%	41.85%	41.85%	41.85%	41.85%
46	Fairfax County Allocable R&M Deposits		\$ 1,707,558	\$ 0	\$ 1,707,558	\$ 1,758,784	\$ 1,811,548	\$ 1,865,894	\$ 1,921,871	\$ 1,979,527
47	Accruals/Fiscal Year End Adjustments [10]		0	0	0	0	0	0	0	0
48	Total UOSA Allocated Cost		<u>\$ 13,167,575</u>	<u>\$ 0</u>	<u>\$ 13,167,575</u>	<u>\$ 13,725,115</u>	<u>\$ 14,304,965</u>	<u>\$ 14,921,783</u>	<u>\$ 15,552,643</u>	<u>\$ 16,197,996</u>
Loudoun County Sanitation Authority										
49	Fairfax Flow to BRWRF		-	-	-	-	-	-	-	-
50	Total Wastewater Treated at BRWRF		1,600,000	-	1,600,000	1,600,000	1,600,000	1,600,000	1,600,000	1,600,000
51	Fairfax Proportion		0.00%	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
52	LCSA Total Operating Costs		21,500,000	-	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000
53	Fairfax County Allocable O&M Payment		-	-	-	-	-	-	-	-

Footnotes:

- [1] Escalation reference apply to costs beginning with the Fiscal Year 2016 and beyond.
- [2] Forecasted amounts are based on: i) apportionment of costs from budgetary estimates by ARenew; and ii) escalation of costs based on information provided by ARenew and discussions with WMP Staff.
- [3] Projected IR&R contribution based on the master indenture of trust agreement that entitles ARE to collect IR&R Funds not to exceed 0.70% of the prior year's gross utility plant in service multiplied by the Fairfax Allocation of such plant in service (currently at 60.0%).
- [4] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by ARenew at the end of the Fiscal Year; ii) adjustments to account for the difference in the Fiscal Year period between ARenew and Fairfax County.
- [5] Forecasted amounts are based on: i) apportionment of costs from budgetary estimates by Arlington County; and ii) escalation of costs based on information provided by Arlington County and discussions with WMP Staff.
- [6] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by Arlington County at the end of the Fiscal Year.
- [7] Forecasted amounts are based on: i) apportionment of costs from budgetary estimates by DCWater; and ii) escalation of costs based on information provided by DCWater and discussions with WMP Staff.
- [8] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by DCWater at the end of the Fiscal Year; ii) adjustments to account for the difference in the Fiscal Year period between DCWater and Fairfax County.
- [9] Forecasted amounts are based on: i) apportionment of costs from budgetary estimates by UOSA; and ii) escalation of costs based on information provided by UOSA and discussions with WMP Staff.
- [10] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by UOSA at the end of the Fiscal Year; ii) Interest earnings and additional charges/credits that occurred during the Fiscal Year.

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Line No.	Description	Escalation Factors	Actual [1] 2014	Projected Fiscal Year Ending June 30,					
				2015	2016	2017	2018	2019	2020
Sales of Service (Bulk Sales)									
1	City of Fairfax [2]	Calculated	\$ 2,158,338	\$ 1,902,482	\$ 2,037,131	\$ 2,085,880	\$ 2,136,541	\$ 2,189,013	\$ 2,240,053
2	Town of Herndon [3]	Calculated	3,758,078	3,458,000	3,458,000	3,458,000	3,458,000	3,458,000	3,458,000
3	Arlington County [4]	Calculated	540,121	644,641	699,682	732,188	754,462	775,534	799,692
4	Fort Belvoir [5]	Calculated	2,431,455	2,152,000	2,152,000	2,152,000	2,152,000	2,152,000	2,152,000
5	City of Falls Church [6]	Calculated	1,022,967	1,078,603	1,126,808	1,164,610	1,190,598	1,214,899	1,241,181
6	Town of Vienna [7]	Calculated	455,670	584,963	618,719	630,967	643,694	656,874	669,697
7	FCWA [8]	Calculated	115,132	99,038	99,638	100,088	100,988	101,250	101,250
8	I-95 ERRF (Covanta) [9]	Calculated	320,161	264,100	265,700	266,900	269,300	270,000	270,000
9	LCSA [10]	Calculated	128,573	174,664	182,549	190,951	200,028	209,602	219,705
10	Sales of Service (Bulk Revenue)		<u>\$ 10,930,495</u>	<u>\$ 10,358,491</u>	<u>\$ 10,640,226</u>	<u>\$ 10,781,583</u>	<u>\$ 10,905,610</u>	<u>\$ 11,027,173</u>	<u>\$ 11,151,577</u>
11	Percentage Change			(5.23%)	2.72%	1.33%	1.15%	1.11%	1.13%
Other Revenues									
12	Miscellaneous Revenue	Constant	\$ 299,800	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
13	Industrial Pretreatment Charges	Constant	0	0	0	0	0	0	0
14	Engineering Fees	Constant	0	0	0	0	0	0	0
15	Sale of Capital Equipment	Constant	91,906	0	0	0	0	0	0
16	Sales of Salvage	Constant	34,653	0	0	0	0	0	0
17	Subtotal Other Revenues		<u>\$ 426,359</u>	<u>\$ 150,000</u>	<u>\$ 150,000</u>	<u>\$ 150,000</u>	<u>\$ 150,000</u>	<u>\$ 150,000</u>	<u>\$ 150,000</u>
18	Percentage Change			(64.82%)	0.00%	0.00%	0.00%	0.00%	0.00%
Non-Recurring Revenues (to E&I Fund)									
19	Lateral Spur Fees [11]	Connections	\$ 30,000	\$ 10,000	\$ 10,079	\$ 10,159	\$ 10,238	\$ 10,318	\$ 10,397
20	Connection Charges [11]	Connections	436,870	50,000	50,397	50,794	51,191	51,588	51,985
21	Frontage Fees [11]	Constant	0	0	0	0	0	0	0
22	Subtotal Non-Recurring Revenues		<u>\$ 466,870</u>	<u>\$ 60,000</u>	<u>\$ 60,476</u>	<u>\$ 60,953</u>	<u>\$ 61,429</u>	<u>\$ 61,905</u>	<u>\$ 62,382</u>
23	Percentage Change			(87.15%)	0.79%	0.79%	0.78%	0.78%	0.77%

Footnotes:

- [1] Historical amounts obtained from information as provided by the County.
- [2] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:

City of Fairfax:	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
[a] Based on O&M costs as follows:						
G252302002 NMColeJr PCP	\$ 5,823,436	\$ 5,753,054	\$ 5,916,649	\$ 6,087,795	\$ 6,264,739	\$ 6,447,703
G252302003 NMColeJr PCP	10,866,894	12,216,512	12,609,795	13,018,556	13,443,986	13,885,449
Other Direct Cost Allocation	5,563,443	5,989,855	6,175,481	6,368,784	6,569,575	6,777,717
Total Noman Cole WWTP O&M Costs [a]	<u>\$ 22,253,773</u>	<u>\$ 23,959,421</u>	<u>\$ 24,701,925</u>	<u>\$ 25,475,135</u>	<u>\$ 26,278,299</u>	<u>\$ 27,110,870</u>
Other Direct Cost Allocation - % of Total O&M	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Sewage Flows, MG/Year						
City of Fairfax Allocated	1,100,000	1,100,000	1,100,000	1,100,000	1,100,000	1,100,000
Total Noman Cole WWTP Sewage Flow	14,089,314	14,166,550	14,264,226	14,361,902	14,459,579	14,577,802
City of Fairfax Share of Sewage Flows, MG/Year	7.81%	7.76%	7.71%	7.66%	7.61%	7.55%
Allocated O&M Cost to City of	\$ 1,737,427	\$ 1,860,394	\$ 1,904,913	\$ 1,951,179	\$ 1,999,099	\$ 2,045,710
Plus: Overhead Calculated at 9.5% of	165,056	176,737	180,967	185,362	189,914	194,342
Subtotal Allocated O&M Cost to City of Fairfax	<u>\$ 1,902,482</u>	<u>\$ 2,037,131</u>	<u>\$ 2,085,880</u>	<u>\$ 2,136,541</u>	<u>\$ 2,189,013</u>	<u>\$ 2,240,053</u>
City of Fairfax Share of Pender SPS O&M Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
City of Fairfax Share of Noman Cole	0	0	0	0	0	0
Subtotal Allocated Pender O&M Cost	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

Footnotes Continued on Next Page.

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Total Sales of Services Allocated to	\$ 1,902,482	\$ 2,037,131	\$ 2,085,880	\$ 2,136,541	\$ 2,189,013	\$ 2,240,053
Adjustments for Accruals/True-Up	0	0	0	0	0	0
Revenue for the City of Fairfax	<u>\$ 1,902,482</u>	<u>\$ 2,037,131</u>	<u>\$ 2,085,880</u>	<u>\$ 2,136,541</u>	<u>\$ 2,189,013</u>	<u>\$ 2,240,053</u>

- [3] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:

	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
Town of Herndon:						
Sewage Flows, Kg/Year	910,000	910,000	910,000	910,000	910,000	910,000
Rate Charged per Kg of Flow	\$ 3.80	\$ 3.80	\$ 3.80	\$ 3.80	\$ 3.80	\$ 3.80
Total Sales of Services Receivables	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>
Adjustments:						
Current Period Accrual	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Previous Period Accrual	0	0	0	0	0	0
Revenue for the Town of Herndon	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>	<u>\$ 3,458,000</u>

- [4] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:

Arlington County:						
Sewage Flows, MG/Year						
Arlington County Allocated	510,000	510,000	510,000	510,000	510,000	510,000
Total Blue Plains WWTP Sewage Flow	10,957,533	11,033,136	11,108,739	11,184,342	11,259,945	11,315,000
County of Arlington Share of Sewage Flows, MG/Year	4.65%	4.62%	4.59%	4.56%	4.53%	4.51%
1. Blue Plains O&M Payments (IMA)						
Fairfax Co. Payments of O&M to Blue Plains (Accrued)	\$ 13,500,000	\$ 14,519,471	\$ 15,320,469	\$ 15,913,206	\$ 16,481,519	\$ 17,093,524
Arlington County Share of Payments [a]	4.65%	4.62%	4.59%	4.56%	4.53%	4.51%
Blue Plains O&M Payments (IMA)	<u>\$ 621,000</u>	<u>\$ 671,154</u>	<u>\$ 703,360</u>	<u>\$ 725,634</u>	<u>\$ 746,502</u>	<u>\$ 770,455</u>
2. Blue Plains User Fee Payments (IMA)						
Fairfax County Payments (Accrued)	\$ 348,809	\$ 344,928	\$ 350,102	\$ 350,102	\$ 353,603	\$ 357,139
Arlington County Share of Payments [a]	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%
Blue Plains User Fee Payments (IMA)	<u>\$ 20,253</u>	<u>\$ 20,028</u>	<u>\$ 20,329</u>	<u>\$ 20,329</u>	<u>\$ 20,532</u>	<u>\$ 20,737</u>
3. Pimmit Run Trunk and Meter O&M Costs						
Fairfax County Payments (Accrued)	\$ 20,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
Arlington County Share of Payments [a]	16.94%	17.00%	17.00%	17.00%	17.00%	17.00%
Blue Plains O&M Payments (IMA)	<u>\$ 3,388</u>	<u>\$ 8,500</u>				
Total Sales of Services Receivables	<u>\$ 644,641</u>	<u>\$ 699,682</u>	<u>\$ 732,188</u>	<u>\$ 754,462</u>	<u>\$ 775,534</u>	<u>\$ 799,692</u>
Adjustments:						
Current Period Accrual	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Previous Period Accrual	0	0	0	0	0	0
Revenue for Arlington County	<u>\$ 644,641</u>	<u>\$ 699,682</u>	<u>\$ 732,188</u>	<u>\$ 754,462</u>	<u>\$ 775,534</u>	<u>\$ 799,692</u>

[a] Based on sewage flows and/or capacity allocations.

- [5] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:

	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
Fort Belvoir:						
Sewage Flows, Kg/Year	400,000	400,000	400,000	400,000	400,000	400,000
Rate Charged per Kg of Flow	\$ 5.38	\$ 5.38	\$ 5.38	\$ 5.38	\$ 5.38	\$ 5.38
Total Sales of Services Receivables	<u>\$ 2,152,000</u>	<u>\$ 2,152,000</u>	<u>\$ 2,152,000</u>	<u>\$ 2,152,000</u>	<u>\$ 2,152,000</u>	<u>\$ 2,152,000</u>
Adjustments:						
Current Period Accrual	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Previous Period Accrual	0	0	0	0	0	0

Footnotes Continued on Next Page.

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Revenue for Fort Belvoir	\$ 2,152,000	\$ 2,152,000	\$ 2,152,000	\$ 2,152,000	\$ 2,152,000	\$ 2,152,000
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[6] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:

	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
City of Falls Church:						
ARenew WWTP O&M Costs	\$ 13,795,963	\$ 14,837,785	\$ 15,656,343	\$ 16,262,075	\$ 16,842,847	\$ 17,468,269
Sewage Flows, MG/Day						
City of Falls Church Flows	369,745	369,745	369,745	369,745	369,745	369,745
Total Flows Sent to ARenew	6,813,180	6,884,432	6,935,244	6,986,056	7,036,868	7,087,680
City of Falls Church Allocation	5.43%	5.37%	5.33%	5.29%	5.25%	5.22%
Allocated O&M Cost to City of Falls	\$ 748,694	\$ 796,899	\$ 834,701	\$ 860,689	\$ 884,990	\$ 911,272
Plus: Sisters	134	134	134	134	134	134
Plus: Tinnners Hill	1,464	1,464	1,464	1,464	1,464	1,464
Plus: Capital Payments	0	0	0	0	0	0
Plus: Falls Church Share of ASA Upgrade Costs	328,311	328,311	328,311	328,311	328,311	328,311
Plus: Westgate	0	0	0	0	0	0
Total Sales of Services Allocated to	\$ 1,078,603	\$ 1,126,808	\$ 1,164,610	\$ 1,190,598	\$ 1,214,899	\$ 1,241,181
Adjustments for Accruals/True-Up	0	0	0	0	0	0
Revenue for the City of Falls Church	\$ 1,078,603	\$ 1,126,808	\$ 1,164,610	\$ 1,190,598	\$ 1,214,899	\$ 1,241,181

Footnotes Continued on Next Page.

[7] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:

	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
Town of Vienna						
Payment Number 1	\$ 104,511	\$ 104,511	\$ 104,511	\$ 104,511	\$ 104,511	\$ 104,511
Payment Number 2						
A. Noman Cole O&M Costs	\$ 22,253,773	\$ 23,959,421	\$ 24,701,925	\$ 25,475,135	\$ 26,278,299	\$ 27,110,870
Sewage Flows, MG/Year						
Town of Vienna Sewage Flow	290,000	290,000	290,000	290,000	290,000	290,000
Total Noman Cole Sewage Flow	14,089,314	14,166,550	14,264,226	14,361,902	14,459,579	14,577,802
Town of Vienna Allocation	2.06%	2.05%	2.03%	2.02%	2.01%	1.99%
Allocated O&M Cost to Town of	\$ 458,049	\$ 490,467	\$ 502,204	\$ 514,402	\$ 527,035	\$ 539,324
Plus: Overhead Calculated at 4.0% of	18,322	19,619	20,088	20,576	21,081	21,573
Subtotal Allocated Noman Cole O&M Costs	\$ 476,371	\$ 510,086	\$ 522,293	\$ 534,978	\$ 548,117	\$ 560,897
B. O&M Allocated Expenses: i) Great Falls and ii) Nutley Street & Vienna Woods (Lower Potomac) Flow Meters						
1. Great Falls Meter	\$ 3,000	\$ 3,030	\$ 3,060	\$ 3,091	\$ 3,122	\$ 3,153
Town of Vienna Flow Thru Meters, MG/Year	284	284	284	284	284	284
Total Flow Thru Meters, MG/Year	3,808	3,808	3,808	3,808	3,808	3,808
Town of Vienna Share	7.47%	7.47%	7.47%	7.47%	7.47%	7.47%
Allocated Great Falls Meter Cost to City of Fairfax (Costs * City Share of Low)	\$ -	\$ 226	\$ 229	\$ 231	\$ 233	\$ 235
2. Nutley St. & Vienna Woods	\$ 3,700	\$ 3,737	\$ 3,774	\$ 3,812	\$ 3,850	\$ 3,889
Town of Vienna Flow Thru Meters, MG/Year	316	316	316	316	316	316
Total Flow Thru Meters, MG/Year	316	316	316	316	316	316
Town of Vienna Share	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Allocated Nutley St. & Vienna Woods Cost to City of Fairfax	\$ 3,700	\$ 3,737	\$ 3,774	\$ 3,812	\$ 3,850	\$ 3,889
Subtotal Cost Allocated to Town of Vienna (Sum of 1 and 2)	\$ 3,700	\$ 3,963	\$ 4,003	\$ 4,043	\$ 4,083	\$ 4,124
3. Overhead Calculated at 4.0% of Allocated Cost	\$ 148	\$ 159	\$ 160	\$ 162	\$ 163	\$ 165
Subtotal Cost Allocated to Town of Vienna (Including Overhead)	\$ 3,848	\$ 4,122	\$ 4,163	\$ 4,205	\$ 4,247	\$ 4,289

Footnotes Continued on Next Page.

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
C. O&M Allocated Expenses, Trunk Sewers "B" and "C"						
Section "B"	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Section "C"	0	0	0	0	0	0
Subtotal Payment Number 2	\$ 480,219	\$ 514,208	\$ 526,456	\$ 539,183	\$ 552,363	\$ 565,186
Total Sales of Services Alloc. to the Town of Vienna	\$ 584,730	\$ 618,719	\$ 630,967	\$ 643,694	\$ 656,874	\$ 669,697
Adjustments for Accruals/True-Up Revenue for the Town of Vienna	0	0	0	0	0	0
	\$ 584,730	\$ 618,719	\$ 630,967	\$ 643,694	\$ 656,874	\$ 669,697
[8] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:						
	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
FCWA:						
Sewage Flows, Kgal/Year	15,000	15,000	15,000	15,000	15,000	15,000
Rate Charged per Kgal of Flow	\$ 6.60	\$ 6.64	\$ 6.67	\$ 6.73	\$ 6.75	\$ 6.75
Total Sales of Services Receivables	\$ 99,038	\$ 99,638	\$ 100,088	\$ 100,988	\$ 101,250	\$ 101,250
Adjustments:						
Current Period Accrual	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Previous Period Accrual	0	0	0	0	0	0
Revenue for Fairfax Water	\$ 99,038	\$ 99,638	\$ 100,088	\$ 100,988	\$ 101,250	\$ 101,250
[9] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:						
	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
I-95 ERRF (Covanta):						
Sewage Flows, Kg/Year	40,000	40,000	40,000	40,000	40,000	40,000
Rate Charged per Kg of Flow	\$ 6.60	\$ 6.64	\$ 6.67	\$ 6.73	\$ 6.75	\$ 6.75
Total Sales of Services Receivables	\$ 264,100	\$ 265,700	\$ 266,900	\$ 269,300	\$ 270,000	\$ 270,000
WCD Expenses	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Adjustments:						
Current Period Accrual	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Previous Period Accrual	0	0	0	0	0	0
Revenue for Covanta	\$ 264,100	\$ 265,700	\$ 266,900	\$ 269,300	\$ 270,000	\$ 270,000
[10] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts derived from the following table:						
	Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020
Loudoun County Sanitation Authority:						
1. UOSA O&M Payments Billed to Fairfax Co.						
Fairfax Co. Paym. of O&M to UOSA (Accrued)	\$ 11,460,017	\$ 11,966,331	\$ 12,493,417	\$ 13,055,889	\$ 13,630,772	\$ 14,218,469
LCSA Share of Payments [a]	0.86%	0.88%	0.89%	0.90%	0.91%	0.93%
UOSA O&M Payments Allocated to LCSA	\$ 99,109	\$ 104,726	\$ 110,794	\$ 117,466	\$ 124,564	\$ 132,116
2. UOSA Reserve Maintenance Billed to Fairfax Co.						
Fairfax County Payments (Accrued)	\$ 1,707,558	\$ 1,758,784	\$ 1,811,548	\$ 1,865,894	\$ 1,921,871	\$ 1,979,527
LCSA Share of Payments [a]	4.42%	4.42%	4.42%	4.42%	4.42%	4.42%
UOSA R&M Payments Allocated to LCSA	\$ 75,556	\$ 77,822	\$ 80,157	\$ 82,562	\$ 85,039	\$ 87,590
Total Sales of Services Allocated to LCSA	\$ 174,664	\$ 182,549	\$ 190,951	\$ 200,028	\$ 209,602	\$ 219,705

Footnotes Continued on Next Page.

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Adjustments:

Current Period Accrual	\$	0	\$	0	\$	0	\$	0	\$	0	\$	0
Previous Period Accrual		0		0		0		0		0		0
<hr/>												
Adjusted Total Sales of Service Revenue for LCSA		\$ 174,664		\$ 182,549		\$ 190,951		\$ 200,028		\$ 209,602		\$ 219,705
<hr/>												

[a] Based on sewage flows and/or capacity allocations.

[11] Amounts shown considered as a Non-recurring Revenue pursuant to the General Bond Resolution.

Table 6
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Development of Wastewater System Revenue Requirements and Revenue Sufficiency

Line No.	Description	Projected Fiscal Year Ending June 30,					
		2015	2016	2017	2018	2019	2020
1	Total Operating Expenses (Including TBC) [1]	\$ 95,166,614	\$ 97,740,604	\$ 101,200,687	\$ 104,635,077	\$ 108,156,271	\$ 111,888,981
	Debt Service [2]						
	Senior Debt Service						
2	Existing Debt	\$ 21,059,258	\$ 21,069,509	\$ 21,118,562	\$ 21,143,843	\$ 21,185,939	\$ 21,207,197
3	Proposed Debt [3]	0	0	4,745,508	4,745,507	9,680,918	9,680,919
4	Subtotal - Senior Debt Service	\$ 21,059,258	\$ 21,069,509	\$ 25,864,070	\$ 25,889,350	\$ 30,866,857	\$ 30,888,116
	Subordinate Debt Service						
5	Existing Debt [4]	\$ 26,359,914	\$ 26,491,089	\$ 26,509,658	\$ 26,516,959	\$ 26,528,590	\$ 26,193,811
6	Proposed Debt [5]	0	0	0	328,894	986,680	1,869,937
7	Subtotal - Subordinate Debt Service	\$ 26,359,914	\$ 26,491,089	\$ 26,509,658	\$ 26,845,853	\$ 27,515,270	\$ 28,063,748
8	Total Debt Service	\$ 47,419,172	\$ 47,560,598	\$ 52,373,728	\$ 52,735,203	\$ 58,382,127	\$ 58,951,864
	Other Revenue Requirements						
9	Transfer to Capital - Subfund C69300 (Programmed)	\$ 38,491,451	\$ 39,737,121	\$ 41,776,852	\$ 44,371,734	\$ 46,900,742	\$ 49,784,076
10	Transfer to Capital - Subfund C69300 (Additional)	27,828,885	33,296,358	30,379,455	31,248,024	25,790,015	25,539,382
11	Transfer to Extension - Subfund 69300A	2,940,000	2,939,524	2,939,047	2,938,571	2,938,095	2,937,618
12	Transfer to Reserves - Fund 69000	0	0	913,421	1,543,551	1,709,470	1,808,489
13	Capital Improvements Funded from Rates	2,859,356	1,274,650	1,312,890	1,352,276	1,392,845	1,434,630
14	Total Other Revenue Requirements	\$ 72,119,692	\$ 77,247,653	\$ 77,321,665	\$ 81,454,156	\$ 78,731,167	\$ 81,504,195
15	Gross Revenue Requirements	\$ 214,705,478	\$ 222,548,854	\$ 230,896,080	\$ 238,824,436	\$ 245,269,565	\$ 252,345,039
	Less Income and Funds from Other Sources:						
16	Sales of Service (Bulk Revenue) [6]	\$ 10,358,491	\$ 10,640,226	\$ 10,781,583	\$ 10,905,610	\$ 11,027,173	\$ 11,151,577
17	Other Operating Revenues [7]	150,000	150,000	150,000	150,000	150,000	150,000
18	Unrestricted Interest Income [8]	668,000	869,000	1,170,000	1,779,000	1,871,000	2,594,000
19	Transfers from Reserves - Fund 69000	0	0	0	0	0	0
20	Availability Fees Used to Pay Debt	20,606,477	20,560,477	20,560,477	20,560,477	20,560,477	20,560,477
21	Subtotal Other Operating Revenues	\$ 31,782,968	\$ 32,219,703	\$ 32,662,060	\$ 33,395,087	\$ 33,608,650	\$ 34,456,054
22	Net Revenue Requirements	\$ 182,922,511	\$ 190,329,152	\$ 198,234,020	\$ 205,429,349	\$ 211,660,915	\$ 217,888,985
	Revenues from Proposed Sewer Service Charges:						
23	Proposed Rate Adjustments	N/A	3.5%	3.6%	3.0%	2.5%	2.4%
24	Rate Revenues Under Proposed Rates	\$ 182,922,511	\$ 190,329,152	\$ 198,234,021	\$ 205,429,349	\$ 211,660,915	\$ 217,888,986
25	Rate Revenue Surplus/(Deficiency)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Footnotes:

- [1] Amounts shown derived from information as contained on Table 3.
- [2] The total Outstanding Senior Lien Debt Service represents the debt service only for the Senior Lien Bonds currently Outstanding (the Sewer Revenue Bonds, Series 2004 (the "Series 2004 Bonds"), Sewer Revenue Bonds, Series 2009 (the "Series 2009 Bonds"), the Sewer Revenue Bonds, Series 2012 (the "Series 2012 Bonds") and the Sewer Revenue Refunding Bonds, Series 2014 (the "Series 2014 Bonds")).
- [3] The following table summarizes the assumptions utilized for additional Senior Lien Debt:
- | | Series 2017 Bonds | Series 2019 Bonds |
|-------------------------------------|-------------------|-------------------|
| Term-Years | 30 | 30 |
| Interest Rate | 5.50% | 5.50% |
| Issue Month - Principal Pmt (Jan=1) | 7/1/2016 | 7/1/2018 |
| Total Projects Funded (Millions) | \$ 62.5 | \$ 65.0 |
| Total Principal Issued (Millions) | \$ 69.0 | \$ 71.7 |
| Annual Debt Service (Millions) | \$ 4.7 | \$ 4.9 |
- [4] Amount shown includes debt service associated with outstanding VRA Loan 2001 C-515259-01, VRA Loan 2002 C-515273-01 and various outstanding UOSA debt issues.
- [5] UOSA plans several debt issues during the forecast period to finance capital improvements including: i) Series 2017 Bonds in principal amount of \$24.4M; and ii) Series 2019 Bonds in principal amount of \$28.4M. It should be noted that the debt service is anticipated to increase beyond the forecast period with the maximum annual debt service of the additional debt in the Fiscal Year 2023 due to assumed interest only during construction.
- [6] Amounts shown derived from information as contained on Table 5.
- [7] Other Revenues includes revenues derived from: miscellaneous revenue, pretreatment changes and the sale of property. Amount shown include Non-Recurring Revenues from grow related miscellaneous charges.
- [8] Amounts shown derived from information as contained on Table 9.

Table 7
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Operating Results and Debt Service Coverage Analysis

Line No.	Description	Projected Fiscal Year Ending June 30,					
		2015	2016	2017	2018	2019	2020
Operating Revenues: [1]							
1	Sewer Service Charges (Retail Customers)	\$ 182,922,511	\$ 190,329,152	\$ 198,234,021	\$ 205,429,349	\$ 211,660,915	\$ 217,888,986
2	Sales of Service (Bulk revenue)	10,358,491	10,640,226	10,781,583	10,905,610	11,027,173	11,151,577
3	Other Revenues [2]	150,000	150,000	150,000	150,000	150,000	150,000
4	Interest Income	668,000	869,000	1,170,000	1,779,000	1,871,000	2,594,000
5	Other	0	0	0	0	0	0
6	Total Operating Revenues Before Availability Charges	\$ 194,099,002	\$ 201,988,378	\$ 210,335,604	\$ 218,263,960	\$ 224,709,088	\$ 231,784,563
Operating Expenses: [3]							
7	Total Operating Expenses	\$ 95,166,614	\$ 97,740,604	\$ 101,200,687	\$ 104,635,077	\$ 108,156,271	\$ 111,888,981
8	Net Operating Revenues	\$ 98,932,388	\$ 104,247,775	\$ 109,134,917	\$ 113,628,883	\$ 116,552,817	\$ 119,895,582
Non-Recurring Revenues and Revenue Subfund Credit: [4]							
9	Availability Charge Revenues [5]	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477
10	Availability Charge Interest Income [5]	46,000	0	0	0	0	0
11	Other Non-recurring Revenues [6]	60,000	60,476	60,953	61,429	61,905	62,382
12	Moneys Held to Credit of Revenue Subfund [7]	0	0	0	0	0	0
13	Net Revenues [8]	\$ 119,598,864	\$ 124,868,727	\$ 129,756,346	\$ 134,250,789	\$ 137,175,199	\$ 140,518,441
<u>Rate Covenant Test [9]</u>							
TEST 1 - Net Revenue Less Excluded Revenues							
14	Net Revenues [8]	\$ 119,598,864	\$ 124,868,727	\$ 129,756,346	\$ 134,250,789	\$ 137,175,199	\$ 140,518,441
Less: Excluded Revenues [4]:							
15	Availability Charge Revenues	\$ (20,560,477)	\$ (20,560,477)	\$ (20,560,477)	\$ (20,560,477)	\$ (20,560,477)	\$ (20,560,477)
16	Availability Charge Interest Earned	(46,000)	0	0	0	0	0
17	Other Non-recurring Revenues [6]	150,000	150,000	150,000	150,000	150,000	150,000
18	Net Revenues Available Less Excluded Revenues	\$ 99,142,388	\$ 104,458,251	\$ 109,345,870	\$ 113,840,312	\$ 116,764,722	\$ 120,107,964
Debt Service Requirements:							
Principal and Interest Requirements [10]							
19	Sewer Revenue Bonds Series 2004	\$ 353,979	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
20	Sewer Revenue Bonds Series 2009	9,718,661	9,725,629	9,725,702	9,731,775	9,735,213	9,739,493
21	Sewer Revenue Bonds Series 2012	5,584,811	5,593,067	5,593,016	5,598,350	5,600,038	5,601,808
22	Sewer Revenue Refunding Bonds, Series 2014	5,401,807	5,750,813	5,799,844	5,813,718	5,850,688	5,865,896
23	Series 2017 Bonds [11]	0	0	4,745,508	4,745,507	4,745,507	4,745,508
24	Series 2019 Bonds [11]	0	0	0	0	4,935,411	4,935,411
25	Total Debt Service Requirements	\$ 21,059,258	\$ 21,069,509	\$ 25,864,070	\$ 25,889,350	\$ 30,866,857	\$ 30,888,116
26	Calculated Coverage	4.71	4.96	4.23	4.40	3.78	3.89
27	Required Coverage	1.25	1.25	1.25	1.25	1.25	1.25
28	Policy Target	2.00	2.00	2.00	2.00	2.00	2.00
-AND-							
TEST 2 - Net Revenues With Excluded Revenues							
29	Net Revenues [8]	\$ 119,598,864	\$ 124,868,727	\$ 129,756,346	\$ 134,250,789	\$ 137,175,199	\$ 140,518,441
Debt Service Requirements:							
Subordinate Obligations [12]:							
30	VRA/VRLF 2001 C-515259-01	\$ 2,791,078	\$ 2,791,078	\$ 2,791,078	\$ 2,791,078	\$ 2,791,079	\$ 2,791,079
31	VRA/VRLF 2002 C-515273-01	3,412,199	3,412,198	3,412,199	3,412,199	3,412,198	3,412,199
32	Subtotal VRA Debt Service	\$ 6,203,277	\$ 6,203,276	\$ 6,203,277	\$ 6,203,277	\$ 6,203,277	\$ 6,203,278
UOSA Subordinate Debt							
33	UOSA Existing Subordinate Debt	\$ 20,156,637	\$ 20,287,813	\$ 20,306,381	\$ 20,313,682	\$ 20,325,313	\$ 19,990,533
34	UOSA Series 2015 Bonds [13]	0	0	0	0	0	0
35	UOSA Series 2017 Bonds [13]	0	0	0	328,894	986,680	1,486,372
36	UOSA Series 2019 Bonds [13]	0	0	0	0	0	383,565
37	Subtotal UOSA Debt Service	\$ 20,156,637	\$ 20,287,813	\$ 20,306,381	\$ 20,642,576	\$ 21,311,993	\$ 21,860,470
38	Total Subordinate Obligations	\$ 26,359,914	\$ 26,491,089	\$ 26,509,658	\$ 26,845,853	\$ 27,515,270	\$ 28,063,748

Table 7
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Operating Results and Debt Service Coverage Analysis

Line No.	Description	Projected Fiscal Year Ending June 30,					
		2015	2016	2017	2018	2019	2020
39	Total Parity Indebtedness	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
40	Principal and Interest Requirements [10]	\$ 21,059,258	\$ 21,069,509	\$ 25,864,070	\$ 25,889,350	\$ 30,866,857	\$ 30,888,116
41	Total Debt Service Requirements	\$ 47,419,172	\$ 47,560,598	\$ 52,373,728	\$ 52,735,203	\$ 58,382,127	\$ 58,951,864
42	Calculated Coverage	2.52	2.63	2.48	2.55	2.35	2.38
43	Required Minimum Coverage	1.00	1.00	1.00	1.00	1.00	1.00
44	Min. Recommended Target for Test 2 - 1.50	1.50	1.50	1.50	1.50	1.50	1.50
45	Net Revenues [8]	\$ 119,598,864	\$ 124,868,727	\$ 129,756,346	\$ 134,250,789	\$ 137,175,199	\$ 140,518,441
	Less Transfers to Other Funds [14]:						
46	Debt Service Subfund [15]	\$ 21,059,258	\$ 21,069,509	\$ 25,864,070	\$ 25,889,350	\$ 30,866,857	\$ 30,888,116
47	Subordinate Obligations Subfund [16]	26,359,914	26,491,089	26,509,658	26,845,853	27,515,270	28,063,748
48	Amount Available for Other Purposes	\$ 72,179,692	\$ 77,308,129	\$ 77,382,618	\$ 81,515,586	\$ 78,793,072	\$ 81,566,577

Footnotes:

- [1] Operating Revenues reflect rates recently adopted by the Board of Supervisors pursuant to the Rate Ordinance.

	Projected Fiscal Year Ending June 30,					
	2015 (Existing)	2016 (Adopted)	2017 (Adopted)	2018 (Adopted)	2019 (Identified)	2020 (Identified)
Recommended Rates						
Quarterly Base Charge	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 29.83	\$ 32.22
Flow Charge	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.82	\$ 6.89
Effective Rate Revenue Adjustment (%)		3.5%	3.6%	3.0%	2.5%	2.4%

- [2] Amounts shown include other miscellaneous revenues of the System (customer service fees, sale of property, etc.); amounts do not include Non-Recurring Revenues associated with lateral spur fees and connection charges.
- [3] Amounts include the Operating Component of the Cost of Contracted Services, i.e., treatment by contract (TbCs) costs. Amounts shown do not include depreciation and amortization expenses, which are non-cash expenses and are not considered Operating Expenses as defined in the General Bond Resolution.
- [4] The sum of the amounts shown for Non-recurring Revenue and the Revenue Subfund credit balance is defined in the General Bond Resolution as the "Excluded Revenues".
- [5] Amounts shown represent fees charged to new development and interest income earned on the balance of deposits from such fees for the allocable share of conveyance, treatment and disposal capacity constructed by the County for the benefit of such development.
- [6] Amounts shown include lateral spur fees, connection charges for meter replacement and other similar charges which are considered as a Non-recurring Revenues in the General Bond Resolution (represents a one-time charge generally to new development to initiate or receive service).
- [7] Pursuant to the General Bond Resolution, Net Revenues shall include income previously received and currently held by the County to the credit of the Revenue Subfund and all rights to receive the same (cash and cash equivalents). For the purposes of this report, no recognition for the availability of funds held by the County in the Revenue Subfund has been assumed for purposes of determining Net Revenues as defined in the General Bond Resolution; such amounts were assumed to be available for ongoing System purposes (Operating Expenses and Capital Project Funding) exclusive of compliance with the rate covenant per the General Bond Resolution.
- [8] Net Revenues as defined in the General Bond Resolution includes: i) Non-recurring Revenues (e.g., availability fee revenue and investment earnings on available balances, connection fees, reconnection fees, charges for meter replacements, etc.); and ii) income previously received and currently held by the County to the credit of the Revenue Subfund and all rights to receive the same.
- [9] Rate Covenant requirements as defined in the General Bond Resolution under Article V, Section 501.
- [10] Amounts shown reflect Debt Service Requirement on all Outstanding Bonds and Additional Parity Bonds assumed to be issued during the Forecast Period on parity with the Outstanding Bonds. Amounts shown reflect payments required to the Sinking Fund (accrual basis) and not when such Bonds are paid.
- [11] The financial forecast assumes the issuance of additional parity bonds during the Fiscal Year 2017 and Fiscal Year 2019 to fund certain improvements to the System. The terms of the debt assume: i) level annual debt service payments over a 30 year repayment period; ii) interest rate of 5.5%; iii) debt service reserve funded from the debt proceeds; and iii) issuance costs equal to 2.5% of the principal amount of bonds.
- [12] Subordinate Obligations as defined in the General Bond Resolution includes any Debt Service Component of the Cost of Contracted Services (for the UOSA debt obligation) (other than Parity Debt Service Components) and any other obligations of the County with respect to the System (VRA obligations).
- [13] Amounts shown reflect debt service associated with the County's anticipated proportionate allocation of UOSA subordinate obligations. The County plans to fund allocable capital improvements estimated at \$13 million in-lieu of participating in the issuance of the UOSA Series 2015 subordinate obligations.

Footnotes Continued on Next Page.

Table 7
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Operating Results and Debt Service Coverage Analysis

(Footnotes Continued)

- [14] Amounts shown reflect transfers to other subfunds as delineated in the General Bond Resolution.
- [15] Amounts shown reflect transfers to the Debt Service Subfund associated with the payment of the Principal and Interest Requirements on the Outstanding and Additional Parity Bonds based on the deposit requirements delineated in the General Bond Resolution (on an accrual basis and not when the payments are made). Also included in the recognized deposits would be funds required to pay Parity Indebtedness, if any, which are required to be set aside in a special account in the Debt Service Subfund.
- [16] Amounts shown reflect transfers to the Subordinate Obligations Subfund associated with the payment of debt on any loans considered subordinate to the Senior Lien Bonds and the Parity Indebtedness.

Table 8
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Summary of Debt Service Payments - Outstanding and Additional Debt [1]

Line No.	Description	Projected Fiscal Year Ending June 30,					
		2015	2016	2017	2018	2019	2020
Outstanding Senior Lien Debt Service:							
1	Sewer Revenue Bonds Series 2004	\$ 353,979	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2	Sewer Revenue Bonds Series 2009	9,718,661	9,725,629	9,725,702	9,731,775	9,735,213	9,739,493
3	Sewer Revenue Bonds Series 2012	5,584,811	5,593,067	5,593,016	5,598,350	5,600,038	5,601,808
	Sewer Revenue Bonds Series 2014	5,401,807	5,750,813	5,799,844	5,813,718	5,850,688	5,865,896
4	Subtotal - Current Senior Lien Debt Service	\$ 21,059,258	\$ 21,069,509	\$ 21,118,562	\$ 21,143,843	\$ 21,185,939	\$ 21,207,197
Additional Senior Lien Debt Service:							
5	Series 2017 Bonds [2]	\$ 0	\$ 0	\$ 4,745,508	\$ 4,745,507	\$ 4,745,507	\$ 4,745,508
	Series 2019 Bonds [2]	0	0	0	0	4,935,411	4,935,411
6	Subtotal - Additional Senior Debt Service	\$ 0	\$ 0	\$ 4,745,508	\$ 4,745,507	\$ 9,680,918	\$ 9,680,919
7	Total Senior Debt Service	\$ 21,059,258	\$ 21,069,509	\$ 25,864,070	\$ 25,889,350	\$ 30,866,857	\$ 30,888,116
Outstanding Subordinate Debt Service:							
8	VRA/VRLF 2001 C-515259-01	\$ 2,791,078	\$ 2,791,078	\$ 2,791,078	\$ 2,791,078	\$ 2,791,079	\$ 2,791,079
9	VRA/VRLF 2002 C-515273-01	3,412,199	3,412,198	3,412,199	3,412,199	3,412,198	3,412,199
10	UOSA Existing Subordinate Debt [3]	20,156,637	20,287,813	20,306,381	20,313,682	20,325,313	19,990,533
11	Subtotal - Current Subordinate Debt Service	\$ 26,359,914	\$ 26,491,089	\$ 26,509,658	\$ 26,516,959	\$ 26,528,590	\$ 26,193,811
Additional Subordinate Debt Service:							
12	UOSA Series 2015 Bonds [4]	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
13	UOSA Series 2017 Bonds [4]	0	0	0	328,894	986,680	1,486,372
14	UOSA Series 2019 Bonds [4]	0	0	0	0	0	383,565
15	Subtotal - Subordinate Debt Service	\$ 0	\$ 0	\$ 0	\$ 328,894	\$ 986,680	\$ 1,869,937
16	Total Subordinate Debt Service	\$ 26,359,914	\$ 26,491,089	\$ 26,509,658	\$ 26,845,853	\$ 27,515,270	\$ 28,063,748
17	Total Debt Service (Senior Lien and Subordinate)	\$ 47,419,172	\$ 47,560,598	\$ 52,373,728	\$ 52,735,203	\$ 58,382,127	\$ 58,951,864

Footnotes:

- [1] Amounts are shown reflect deposits to the sinking fund for future debt service payments (i.e., accrued payments) and do not reflect actual debt service payments (i.e., cash basis)
- [2] The financial forecast assumes the issuance of additional parity bonds during the Fiscal Year 2017 and Fiscal Year 2019 to fund certain improvements to the System. The terms of the debt assume: i) level annual debt service payments over a 30 year repayment period; ii) interest rate of 5.5%; iii) debt service reserve funded from the debt proceeds; and iii) issuance costs equal to 2.5% of the principal amount of bonds.
- [3] Represents subordinated indebtedness issued by UOSA as a contractual wastewater treatment provider on behalf of the County.
- [4] Amounts shown reflect debt service associated with the County's anticipated proportionate allocation of UOSA subordinate obligations. The County plans to fund allocable capital improvements estimated at \$13 million in-lieu of participating in the issuance of the UOSA Series 2015 subordinate obligations.

Table 9
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Fund Balances and Interest Income Determination

Line No.	Description	Historical FY	Fiscal Year Ending June 30,					
		2014	2015	2016	2017	2018	2019	2020
ENDING FUND BALANCE SUMMARY								
1	Revenue and Operating Fund - 69000 / 69010	\$69,825,914	\$ 55,771,348	\$ 39,771,348	\$ 40,684,769	\$ 42,228,320	\$ 43,937,790	\$ 45,746,279
2	Availability Charge Funds - 69000A [1]	18,461,165	0	0	0	0	0	0
3	VRA Debt Service Reserve - 69000B	6,203,277	6,203,277	6,203,277	6,203,277	6,203,277	6,203,277	6,203,277
4	Extension and Improvement - 69300 [2]	18,230,469	30,048,127	13,548,364	39,874,671	9,036,829	40,392,366	10,208,804
5	Extension and Improvement - 69300A [2]	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
6	Parity Debt Service Reserve - 69030	22,305,024	21,359,590	21,359,590	26,105,098	26,105,098	31,040,508	31,040,508
7	Sewer Bond Construction - 69310 (Exist Proceeds)	25,161,425	0	0	0	0	0	0
8	Sewer Bond Construction - 69310 (Add'l Proceeds)	0	0	0	0	0	0	0
9	Total Projected Ending Balance	\$165,187,274	\$ 118,382,342	\$ 85,882,579	\$ 117,867,815	\$ 88,573,524	\$ 126,573,942	\$ 98,198,868
Allocation of Ending Fund Balances:								
10	Existing Customers	\$137,137,384	\$ 109,088,648	\$ 76,588,350	\$ 105,922,923	\$ 76,630,911	\$ 111,846,349	\$ 83,473,723
11	New Customers (Includes DSR Allocation)	28,049,890	9,293,694	9,294,229	11,944,892	11,942,612	14,727,592	14,725,145
REVENUE AND OPERATING FUND - 69000 / 69010								
12	Beginning Balance		\$ 69,825,914	\$ 55,771,348	\$ 39,771,348	\$ 40,684,769	\$ 42,228,320	\$ 43,937,790
Transfers In:								
13	Operations		\$ 0	\$ 0	\$ 913,421	\$ 1,543,551	\$ 1,709,470	\$ 1,808,489
13	Debt Service Reserve - 69030		945,434	0	0	0	0	0
13	VRA Debt Service Reserve - 69000B		0	0	0	0	0	0
14	Subtotal		\$ 945,434	\$ 0	\$ 913,421	\$ 1,543,551	\$ 1,709,471	\$ 1,808,489
Transfers Out:								
15	Operations		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
15	Debt Service Reserve - 69030		0	0	0	0	0	0
15	E&I Fund 69300		15,000,000	3,000,000	0	0	0	0
16	CIP		0	13,000,000	0	0	0	0
17	Subtotal		\$ 15,000,000	\$ 16,000,000	\$ 0	\$ 0	\$ 0	\$ 0
18	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
19	Interest Income		\$ 314,000	\$ 358,000	\$ 402,000	\$ 622,000	\$ 646,000	\$ 897,000
20	Recognition Of Interest in Revenue Requirements	Yes	314,000	358,000	402,000	622,000	646,000	897,000
21	Ending Balance (Excl. New Customer Share)		\$ 55,771,348	\$ 39,771,348	\$ 40,684,769	\$ 42,228,320	\$ 43,937,790	\$ 45,746,279
AVAILABILITY CHARGE FUNDS - 69000A [1]								
22	Beginning Balance		\$ 18,461,165	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
23	Transfer In - Availability Charges Collections		\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477
24	Transfer In - Sale of Capacity / Other Contributions		0	0	0	0	0	0
Transfers Out:								
25	Debt Service		\$ 20,606,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477
26	CIP		18,461,165	-	-	-	-	-
27	Total Transfers Out		\$ 39,067,641	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477	\$ 20,560,477
28	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
29	Interest Income		\$ 46,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
30	Recognition Of Interest in Revenue Requirements	No	0	0	0	0	0	0
31	Ending Balance (Availability Charges Fund)		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
VRA DEBT SERVICE RESERVE - FUND 69000B								
32	Beginning Balance		\$ 6,203,277	\$ 6,203,277	\$ 6,203,277	\$ 6,203,277	\$ 6,203,277	\$ 6,203,277
Revenues / Transfers In								
33	New Debt		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Expenditures / Transfers Out								
34	Operating Reserves - Fund 69000		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Debt Retirement 2022								
35	Interest Rate	Med. Term	0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
36	Interest Income		\$ 31,000	\$ 47,000	\$ 62,000	\$ 93,000	\$ 93,000	\$ 124,000
37	Recognition of Interest in Revenue Requirements	Yes	31,000	47,000	62,000	93,000	93,000	124,000
38	Ending Balance		\$ 6,203,277	\$ 6,203,277	\$ 6,203,277	\$ 6,203,277	\$ 6,203,277	\$ 6,203,277

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Table 9
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Fund Balances and Interest Income Determination

Line No.	Description	Historical FY 2014	Fiscal Year Ending June 30,					
			2015	2016	2017	2018	2019	2020
EXTENSION AND IMPROVEMENT FUND 69300 [2]								
Renewals and Replacements - Fund 69300								
39	Beginning Balance		\$ 18,230,469	\$ 30,048,127	\$ 13,548,364	\$ 39,874,671	\$ 9,036,829	\$ 40,392,366
Revenues / Transfers In:								
40	Transfers In From Operations		\$ 66,320,336	\$ 73,033,479	\$ 72,156,307	\$ 75,619,758	\$ 72,690,757	\$ 75,323,458
41	Transfers In From Revenue Fund 69000		15,000,000	3,000,000	0	0	0	0
42	Total Transfers In		\$ 81,320,336	\$ 76,033,479	\$ 72,156,307	\$ 75,619,758	\$ 72,690,757	\$ 75,323,458
Expenditures / Transfers Out								
43	Transfers Out Capital Expenditures [3]		\$ 69,502,678	\$ 92,533,242	\$ 45,830,000	\$ 106,457,600	\$ 41,335,220	\$ 105,507,020
44	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
45	Interest Income		\$ 121,000	\$ 163,000	\$ 267,000	\$ 367,000	\$ 371,000	\$ 506,000
46	Recognition Of Interest in Revenue Requirements	Yes	121,000	163,000	267,000	367,000	371,000	506,000
47	Ending Balance Fund 69300		\$ 30,048,127	\$ 13,548,364	\$ 39,874,671	\$ 9,036,829	\$ 40,392,366	\$ 10,208,804
Extensions - Subfund 69300A								
48	Beginning Balance		\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
Revenues / Transfers In								
49	Transfers In From Operations		\$ 2,940,000	\$ 2,939,524	\$ 2,939,047	\$ 2,938,571	\$ 2,938,095	\$ 2,937,618
50	Non-Recurring Revenues [4]		60,000	60,476	60,953	61,429	61,905	62,382
51	Total Transfers In		\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000
Expenditures / Transfers Out								
52	Transfers Out Capital Expenditures [3]		\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000
53	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
54	Interest Income		\$ 25,000	\$ 38,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 100,000
55	Recognition Of Interest in Revenue Requirements	Yes	25,000	38,000	50,000	75,000	75,000	100,000
56	Ending Balance Fund C69300A		\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
SENIOR SINKING FUND - 69020								
57	Annual Senior Debt Service		\$ 21,059,258	\$ 21,069,509	\$ 25,864,070	\$ 25,889,350	\$ 30,866,857	\$ 30,888,116
58	Average Balance		\$ 7,019,753	\$ 7,023,170	\$ 8,621,357	\$ 8,629,783	\$ 10,288,952	\$ 10,296,039
59	Interest Rate	Long Term	0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
60	Interest Income		35,000	53,000	86,000	129,000	154,000	206,000
61	Recognition Of Interest in Revenue Requirements	Yes	35,000	53,000	86,000	129,000	154,000	206,000
DEBT SERVICE RESERVE - FUND 69030								
62	Beginning Balance		\$ 22,305,024	\$ 21,359,590	\$ 21,359,590	\$ 26,105,098	\$ 26,105,098	\$ 31,040,508
Revenues / Transfers In								
63	Transfer In - Deficiency Below Reserve Requirement from Reserves		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
64	Transfer in New Debt Proceeds		0	0	4,745,508	0	4,935,411	0
Expenditures / Transfers Out								
65	Transfer Out - Excess Above Requirement to Reserves		\$ 945,434	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
66	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
67	Interest Income		\$ 109,000	\$ 160,000	\$ 237,000	\$ 392,000	\$ 429,000	\$ 621,000
68	Recognition Of Interest in Revenue Requirements	Yes	109,000	160,000	237,000	392,000	429,000	621,000
69	Ending Balance Fund C69030		\$ 21,359,590	\$ 21,359,590	\$ 26,105,098	\$ 26,105,098	\$ 31,040,508	\$ 31,040,508
SUBORDINATE DEBT SINKING FUND - 69040								
70	Annual Subordinate Debt Service		\$ 26,359,914	\$ 26,491,089	\$ 26,509,658	\$ 26,845,853	\$ 27,515,270	\$ 28,063,748
71	Average Balance		\$ 6,589,979	\$ 6,622,772	\$ 6,627,415	\$ 6,711,463	\$ 6,878,818	\$ 7,015,937
72	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
73	Interest Income		\$ 33,000	\$ 50,000	\$ 66,000	\$ 101,000	\$ 103,000	\$ 140,000
74	Recognition Of Interest in Revenue Requirements	Yes	33,000	50,000	66,000	101,000	103,000	140,000

Table 9
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Fund Balances and Interest Income Determination

Line No.	Description	Historical FY 2014	Fiscal Year Ending June 30,					
			2015	2016	2017	2018	2019	2020
SEWER BOND CONSTRUCTION - FUND 69310 (Existing Proceeds)								
75	Beginning Balance		\$ 25,161,425	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Revenues / Transfers In								
76	Transfers In		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
77	Interest Income from Additional Debt Proceeds		0	0	0	0	0	0
Expenditures / Transfers Out								
78	Transfers Out - CIP		\$ 25,224,425	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
79	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
80	Interest Income		\$ 63,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
81	Recognition Of Interest in Revenue Requirements	No	0	0	0	0	0	0
82	Ending Balance Fund C69310		<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
SEWER BOND CONSTRUCTION - FUND 69310 (Additional Debt Proceeds)								
83	Total Beginning Balance		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Transfers In - Additional Debt Proceeds								
84	Transfers In Series 2017 Bonds		\$ 0	\$ 0	\$ 62,500,000	\$ 0	\$ 0	\$ 0
85	Total Transfers Out CIP Funded From New Bonds		\$ 0	\$ 0	\$ 62,500,000	\$ 0	\$ 65,000,000	\$ 0
Transfers Out - CIP								
86	Series 2017 Bonds		\$ 0	\$ 0	\$ 62,500,000	\$ 0	\$ 0	\$ 0
87	Sweep Interest Income to Fund 69310		0	0	0	0	0	0
88	Total Transfers Out CIP Funded From New Bonds		\$ 0	\$ 0	\$ 62,500,000	\$ 0	\$ 65,000,000	\$ 0
89	Interest Rate		0.50%	0.75%	1.00%	1.50%	1.50%	2.00%
90	Interest Income		\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
91	Recognition Of Interest in Revenue Requirements	No	0	0	0	0	0	0
92	Ending Balance Fund C69310B		<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
93	TOTAL UNRESTRICTED INTEREST INCOME		<u>\$ 668,000</u>	<u>\$ 869,000</u>	<u>\$ 1,170,000</u>	<u>\$ 1,779,000</u>	<u>\$ 1,871,000</u>	<u>\$ 2,594,000</u>

Footnotes

- [1] Fund C69000A will be used only to finance new customer capital projects. Fund C69000A includes new customer monies from Fund C69300.
- [2] Fund C69300 includes only existing customers. New customer portion funds are shown in Fund C69000A.
- [3] Capital Expenditures from Fund C69300 are cash funded projects for existing customers only.
- [4] Reflects the fees collected by the County prior to such users' first connection for the System for miscellaneous charges; includes: i) lateral spur fees, ii) connection charges; and iii) frontage fees. Excludes Service availability charges which are shown as part of Fund C69000A above.
- [5] Fund C69030 transfers out due to retirement of debt outstanding.

Table 10
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in \$000s)

Line No.	Project #	Description	Customer Allocation		Projected Fiscal Year Ending June 30,						Total Cost
			Existing	New	2015	2016	2017	2018	2019	2020	
<u>WASTEWATER TREATMENT DIVISION</u>											
<u>Incinerator Rehabilitation Program</u>											
1	IN1	Ash Conditioning System	58%	42%	\$ 3,226,846	\$ 360,512	\$ -	\$ -	\$ -	\$ -	\$ 3,587,358
2	IN2	Biosolids Program (Solids Stabilization and Disposal)	59%	41%	1,906,400	2,512,000	4,793,000	23,321,700	23,322,720	23,322,720	79,178,540
3		Subtotal Incinerator Rehabilitation Program	59%	41%	\$ 5,133,246	\$ 2,872,512	\$ 4,793,000	\$ 23,321,700	\$ 23,322,720	\$ 23,322,720	\$ 82,765,898
<u>Plant-wide Rehabilitation Program Total</u>											
4	PR3	Primary Process Rehabilitation	100%	0%	\$ -	1,314,000	1,752,000	765,000	1,530,000	1,530,000	6,891,000
5		Subtotal Plant-wide Rehabilitation Program Total	100%	0%	\$ -	1,314,000	1,752,000	765,000	1,530,000	1,530,000	6,891,000
<u>Electrical Reliability Program Total</u>											
6	EP1	MCC and DC Replacement	100%	0%	3,300,000	6,961,000	16,640,000	20,320,000	18,640,000	16,845,000	82,706,000
7	EP2	Backup Power Reliability Improvement	100%	0%	4,500,000	-	-	-	-	-	4,500,000
8	EP3	Master Plan & Program Implementation	100%	0%	1,000,000	-	-	1,000,000	-	-	2,000,000
9	EP4	Scrubber MACT compliance	100%	0%	4,952,640	3,241,980	-	-	-	-	8,194,620
10	EP5	Interim Biosolids Project	100%	0%	1,061,000	3,404,000	9,531,000	1,759,000	-	-	15,755,000
11		Subtotal Electrical Reliability Program Total	100%	0%	\$ 14,813,640	\$ 13,606,980	\$ 26,171,000	\$ 23,079,000	\$ 18,640,000	\$ 16,845,000	\$ 113,155,620
<u>Preliminary/Primary Upgrade/Rehabilitation Program</u>											
12	PP3	Raw Wastewater Pumping (old "B & B2 Pump Station Rehabilitation")	100%	0%	\$ -	932,000	466,000	856,800	856,800	3,960,600	7,072,200
13		Subtotal Preliminary/Primary Upgrade/Rehabilitation Program	100%	0%	\$ -	932,000	466,000	856,800	856,800	3,960,600	7,072,200
<u>Disinfection Process Rehabilitation Program</u>											
14	DP1	Disinfection Rehabilitation	100%	0%	320,000	2,256,000	2,256,000	17,578,000	18,424,000	18,425,000	59,259,000
15	DP4	Non Process Building	100%	0%	-	2,001,000	408,000	816,000	816,000	408,000	4,449,000
16		Subtotal Disinfection Process Rehabilitation Program	100%	0%	\$ 320,000	\$ 4,257,000	\$ 2,664,000	\$ 18,394,000	\$ 19,240,000	\$ 18,833,000	\$ 63,708,000
<u>Phosphorus Removal System Rehabilitation Program</u>											
17	PH1	Tertiary Clarifier Rehabilitation	100%	0%	1,400,000	-	-	-	-	-	1,400,000
18		Subtotal Phosphorus Removal System Rehabilitation Program	100%	0%	\$ 1,400,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,400,000
<u>Other/Miscellaneous Upgrade/Rehabilitation Program</u>											
19	OT1	Miscellaneous Small Projects	100%	0%	2,600,000	1,900,000	1,900,000	2,000,000	2,000,000	2,000,000	12,400,000
20	OT2	Pumps, Gates, Pipes and Valve Replacement	100%	0%	-	-	600,000	600,000	600,000	600,000	2,400,000
21	OT3	Pohick Creek Stream Stabilization Project	100%	0%	600,000	-	-	-	700,000	2,950,000	4,250,000
22		Subtotal Other/Miscellaneous Upgrade/Rehabilitation Program	100%	0%	\$ 3,200,000	\$ 1,900,000	\$ 2,500,000	\$ 2,600,000	\$ 3,300,000	\$ 5,550,000	\$ 19,050,000
<u>Solids Processing Rehabilitation Program</u>											
23	SP1	Major Grit Removal Improvements	58%	42%	1,795,200	-	-	-	-	-	1,795,200
24		Subtotal Solids Processing Rehabilitation Program	58%	42%	\$ 1,795,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,795,200

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Table 10
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in \$000s)

Line No.	Project #	Description	Customer Allocation		Projected Fiscal Year Ending June 30,						Total Cost
			Existing	New	2015	2016	2017	2018	2019	2020	
<u>LOT Compliance Program</u>											
25	LU3	ENR Package 1- MBBR, Methanol, ASE Modifications	58%	42%	\$ 228,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 228,000
26	LU8	Phase 1 & 2 Filter Rehabilitation	59%	41%	864,000	864,000	1,102,000	4,531,000	6,953,000	6,250,000	20,564,000
27	LU9	Phase 3 Filter Rehabilitation - New Filter Building	59%	41%	-	-	1,700,000	851,000	1,744,200	1,744,200	6,039,400
28	LU10	ENR Package 6 - QQ Pond Rehabilitation	58%	42%	1,550,000	10,003,000	5,896,000	-	-	-	17,449,000
29		Subtotal LOT Compliance Program	59%	41%	\$ 2,642,000	\$ 10,867,000	\$ 8,698,000	\$ 5,382,000	\$ 8,697,200	\$ 7,994,200	\$ 44,280,400
30		Total Wastewater Treatment Division	84%	16%	\$ 29,304,086	\$ 35,749,492	\$ 47,044,000	\$ 74,398,500	\$ 75,586,720	\$ 78,035,520	\$ 340,118,318
<u>TREATMENT BY CONTRACT</u>											
<u>ASA Program</u>											
31	TbC3	ASA Construction- Joint Projects	58%	42%	\$ 41,901,108	\$ 19,282,750	\$ 12,501,000	\$ 10,212,600	\$ 11,181,500	\$ 9,750,000	\$ 104,828,958
32		Subtotal ASA Program	58%	42%	\$ 41,901,108	\$ 19,282,750	\$ 12,501,000	\$ 10,212,600	\$ 11,181,500	\$ 9,750,000	\$ 104,828,958
<u>Blue Plains Program Total</u>											
33	TbC5	Blue Plains Liquid Processing	100%	0%	\$ 1,380,250	\$ 1,508,250	\$ 1,172,000	\$ 1,126,500	\$ 996,500	\$ 806,000	\$ 6,989,500
34	TbC6	Blue Plains Plantwide Projects	100%	0%	1,192,000	879,500	516,250	492,500	948,500	540,000	4,568,750
35	TbC7	Blue Plains Solids Processing	100%	0%	10,735,750	3,703,750	1,031,500	870,000	294,500	7,000	16,642,500
36	TbC8	Blue Plains Nitrogen Removal	100%	0%	9,028,000	9,024,000	6,776,000	5,872,000	2,570,000	157,000	33,427,000
37	TbC9	Blue Plains CSO	100%	0%	1,948,250	1,867,750	1,107,500	678,500	392,500	539,000	6,533,500
38	TbC10	Blue Plains Sanitary Sewers	100%	0%	1,987,750	471,500	111,750	50,000	21,000	1,316,500	3,958,500
39		Subtotal Blue Plains Program Total	100%	0%	\$ 26,272,000	\$ 17,454,750	\$ 10,715,000	\$ 9,089,500	\$ 5,223,000	\$ 3,365,500	\$ 72,119,750
<u>Arlington Program</u>											
40	TbC12	Arlington Process Upgrades	67%	33%	\$ 1,474,000	\$ 576,000	\$ 1,358,000	\$ 1,030,000	\$ 548,000	\$ 306,000	\$ 5,292,000
41		Subtotal Arlington Program	67%	33%	\$ 1,474,000	\$ 576,000	\$ 1,358,000	\$ 1,030,000	\$ 548,000	\$ 306,000	\$ 5,292,000
<u>UOSA Projects Place Holder [*]</u>											
42	TbC14	Series 2015 UOSA Bond Projects	57%	43%	\$ 13,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,000,000
43	TbC15	Series 2017 UOSA Bond Projects	62%	38%	-	-	24,000,000	-	-	-	24,000,000
44	TbC16	Series 2019 UOSA Bond Projects	66%	34%	-	-	-	-	28,000,000	-	28,000,000
45		Subtotal UOSA Projects Place Holder	63%	37%	\$ 13,000,000	\$ -	\$ 24,000,000	\$ -	\$ 28,000,000	\$ -	\$ 65,000,000
46		Total Treatment By Contract	72%	28%	\$ 82,647,108	\$ 37,313,500	\$ 48,574,000	\$ 20,332,100	\$ 44,952,500	\$ 13,421,500	\$ 247,240,708
<u>WASTEWATER COLLECTION DIVISION (WCD)</u>											
<u>Sewer Rehabilitation/Replacement</u>											
47	CS2	General CIPP Rehabilitation	100%	0%	\$ 6,300,000	\$ 6,300,000	\$ 6,300,000	\$ 6,300,000	\$ 6,300,000	\$ 6,300,000	\$ 37,800,000
48	CS4	Colonial Avenue Sewer Rehabilitation	100%	0%	1,000,000	2,149,500	1,500,000	-	-	-	4,649,500
49	CS7	Sewer Capacity Slip Lining Replacement	100%	0%	300,000	500,000	1,000,000	1,000,000	1,000,000	1,000,000	4,800,000
50	CS8	Sewer Sag Repair Program	100%	0%	300,000	500,000	1,256,000	1,254,000	1,254,000	1,254,000	5,818,000
51	CS9	Sanitary Sewer Stream Crossings	100%	0%	255,000	500,000	500,000	551,000	1,000,000	1,000,000	3,806,000
52	CS10	Tyson Corner Redevelopment Sewer Line Enlargements	68%	32%	-	-	-	-	3,150,000	3,675,000	6,825,000
53	CS12	Large Diameter Pipe R&R	100%	0%	-	3,000,000	6,000,000	8,726,000	10,352,000	9,451,000	37,529,000
54		Subtotal Sewer Rehabilitation/Replacement	98%	2%	\$ 8,155,000	\$ 12,949,500	\$ 16,556,000	\$ 17,831,000	\$ 23,056,000	\$ 22,680,000	\$ 101,227,500

Footnotes on Page 3 of 3.

Table 10
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in \$000s)

Line No.	Project #	Description	Customer Allocation		Projected Fiscal Year Ending June 30,						Total Cost
			Existing	New	2015	2016	2017	2018	2019	2020	
<u>Forcemain Replacement Program</u>											
55	FM4	Force Main CIPP Rehab	100%	0%	\$ 1,800,000	\$ 2,200,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 8,000,000
56	FM5	Dead Run Forcemain Rehabilitation	100%	0%	500,000	2,300,000	-	-	-	-	2,800,000
57	FM7	Accotink/LHC Force Main Repair	100%	0%	600,000	60,000	20,000	-	-	-	680,000
58	FM10	Force Main Testing/Analysis	100%	0%	200,000	-	-	-	-	-	200,000
59	FM11	Difficult Run Force Main Rehabilitation	0%	100%	-	-	-	6,200,000	-	-	6,200,000
60		Subtotal Forcemain Replacement Program	65%	35%	\$ 3,100,000	\$ 4,560,000	\$ 1,020,000	\$ 7,200,000	\$ 1,000,000	\$ 1,000,000	\$ 17,880,000
<u>Pumping Station Rehabilitation</u>											
61	PS1	Pumping Station Rehabilitation - Misc. Repairs	100%	0%	\$ 1,004,000	\$ 698,000	\$ 96,000	\$ 3,094,000	\$ 4,500,000	\$ 4,400,000	\$ 13,792,000
62	PS3	Route 50/I-66 Pump Station Upgrade	100%	0%	798,000	-	-	-	-	-	798,000
63	PS4	F Street Pump Station Upgrade	100%	0%	1,227,074	-	-	-	-	-	1,227,074
64	PS5	Belle View Pump Station Rehabilitation	100%	0%	1,700,000	1,500,000	-	-	-	-	3,200,000
65	PS6	Difficult Run Pump Station & Force Main Rehabilitation	0%	100%	6,900,000	900,000	7,165,000	-	-	-	14,965,000
66	PS7	Dogue/Accotink Creek Switch Gear Rehabilitation	100%	0%	348,000	2,426,750	2,000,000	-	-	-	4,774,750
67	PS8	Smith-Loveless Pump Station Upgrade (4)	100%	0%	200,000	308,000	1,600,000	800,000	-	-	2,908,000
68	PS9	Barcroft I & II Pump Station Upgrade	100%	0%	100,000	498,000	2,000,000	-	-	-	2,598,000
69	PS10	Giles Run Pump Station Upgrade	100%	0%	300,000	1,170,000	600,000	-	-	-	2,070,000
70	PS11	Little Hunting Creek Pump Station Upgrade	100%	0%	300,000	610,000	1,575,000	2,100,000	2,100,000	1,575,000	8,260,000
71	PS12	Penderbrook Pump Station Upgrade	100%	0%	-	-	-	102,000	735,000	1,470,000	2,307,000
72	PS13	Washington Woods/Wesley House PS Upgrade	100%	0%	-	-	-	-	-	102,000	102,000
73	PS14	Accotink Pump Station Upgrade	100%	0%	-	-	-	-	-	273,000	273,000
74		Subtotal Pumping Station Rehabilitation	74%	26%	\$ 12,877,074	\$ 8,110,750	\$ 15,036,000	\$ 6,096,000	\$ 7,335,000	\$ 7,820,000	\$ 57,274,824
<u>Other Projects</u>											
75	WC-OT1	Miscellaneous Small Projects	100%	0%	\$ 2,600,000	\$ 1,900,000	\$ 1,900,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 12,400,000
76	WC-OT2	Pumps, Gates, Pipes and Valve Replacement	100%	0%	-	-	600,000	600,000	600,000	600,000	2,400,000
77	WC-OT3	Pohick Creek Stream Stabilization Project	100%	0%	600,000	-	-	-	700,000	2,950,000	4,250,000
78	WC-OT4	LLV PS Odor Control	100%	0%	100,000	300,000	1,000,000	-	-	-	1,400,000
79	WC-OT5	Pump Station Security Improvements	100%	0%	55,000	-	-	-	105,000	-	160,000
80	WC-OT6	Pump Station Fall Protection Improvements	100%	0%	500,000	500,000	500,000	-	-	-	1,500,000
81	WC-OT7	Flow Meter Upgrade Project	100%	0%	100,000	100,000	-	-	-	-	200,000
82	WC-OT8	Pump Station Confined Space Improvements	100%	0%	150,000	150,000	-	-	-	-	300,000
83	WC-OT9	Pump Station Generator Rehabilitation	100%	0%	1,000,000	500,000	-	-	-	-	1,500,000
84	WC-OT10	Pump Station SCADA Backup System	100%	0%	50,000	-	-	-	-	-	50,000
85	WC-OT11	Fuel Monitoring System	100%	0%	150,000	300,000	-	-	-	-	450,000
86	WC-OT13	Accotink Creek Lining at Noman Cole	0%	0%	-	3,000,000	-	-	-	-	3,000,000
87	WC-OT14	SCADA Communication System	100%	0%	100,000	100,000	100,000	-	-	-	300,000
88		Subtotal Other Projects	100%	0%	\$ 5,405,000	\$ 6,850,000	\$ 4,100,000	\$ 2,600,000	\$ 3,405,000	\$ 5,550,000	\$ 27,910,000
<u>Extension & Improvement Projects</u>											
89	WC-E&I1	Extension & Improvement Projects	100%	0%	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 18,000,000
90		Subtotal Extension & Improvement Projects	100%	0%	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 18,000,000
91		Total Wastewater Collection Division	90%	10%	\$ 32,537,074	\$ 35,470,250	\$ 39,712,000	\$ 36,727,000	\$ 37,796,000	\$ 40,050,000	\$ 222,292,324
92		Capital Outlay (From Operations)	100%	0%	\$ 2,859,356	\$ 1,274,650	\$ 1,312,890	\$ 1,352,276	\$ 1,392,845	\$ 1,434,630	\$ 9,626,647
93		Total System Capital Projects	82%	18%	\$ 147,347,624	\$ 109,807,892	\$ 136,642,890	\$ 132,809,876	\$ 159,728,065	\$ 132,941,650	\$ 819,277,997

Footnotes:

[1] Amounts shown reflect estimated proportionate share of County allocable capital costs pursuant to the service agreement with UOSA to maintain the County's capacity rights with UOSA.

Table 11
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Funding Sources for the Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in \$000s) [1]

Line No.	Description	Projected Fiscal Year Ending June 30,						Total Cost
		2015	2016	2017	2018	2019	2020	
Funding Requirements								
1	New Customer / Expansion	\$ 34,748,692	\$ 14,931,612	\$ 27,574,084	\$ 22,562,145	\$ 28,286,347	\$ 17,803,167	\$ 145,906,046
2	Existing Customer / Non-Expansion	112,598,932	94,876,280	109,068,806	110,247,732	131,441,718	115,138,483	\$ 673,371,951
3	Total	\$ 147,347,624	\$ 109,807,892	\$ 136,642,890	\$ 132,809,876	\$ 159,728,065	\$ 132,941,650	\$ 819,277,997
4	Deferred Funding [2]	(24,000,000)	-	-	(22,000,000)	(21,000,000)	(23,000,000)	(90,000,000)
5	Net Funding Requirements - Existing	\$ 123,347,624	\$ 109,807,892	\$ 136,642,890	\$ 110,809,876	\$ 138,728,065	\$ 109,941,650	\$ 729,277,997
Funding Sources:								
6	Rate Revenues	\$ 2,859,356	\$ 1,274,650	\$ 1,312,890	\$ 1,352,276	\$ 1,392,845	\$ 1,434,630	\$ 9,626,647
7	Rev & Op Fund - 69000 / 69010	-	13,000,000	-	-	-	-	13,000,000
8	Availability Fee Fund - 69000A	18,461,165	-	-	-	-	-	18,461,165
9	Construction (E&I) Fund - 69300	69,502,678	92,533,242	45,830,000	106,457,600	41,335,220	105,507,020	461,165,760
10	Construction (E&I) Fund - 69300A (Extensions)	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	18,000,000
11	Bond Construction Fund - 69310	25,224,425	-	-	-	-	-	25,224,425
12	Grants / Contributions	4,300,000	-	-	-	-	-	4,300,000
13	Proposed Series 2017 Bonds - Exist Cust.	-	-	34,925,916	-	-	-	34,925,916
14	Proposed Series 2017 Bonds - New Cust.	-	-	27,574,084	-	-	-	27,574,084
15	Proposed Series 2019 Bonds - Exist Cust.	-	-	-	-	36,713,653	-	36,713,653
16	Proposed Series 2019 Bonds - New Cust.	-	-	-	-	28,286,347	-	28,286,347
17	Proposed Subordinate Debt - UOSA	-	-	24,000,000	-	28,000,000	-	52,000,000
18	Total	\$ 123,347,624	\$ 109,807,892	\$ 136,642,890	\$ 110,809,876	\$ 138,728,065	\$ 109,941,650	\$ 729,277,997

Footnotes:

- [1] UOSA is a Treatment by Contract provider (TBC) to the County and funds all jointly shared improvements through the issuance of additional indebtedness. In Fiscal Year 2015 the County will cash fund \$13 million in UOSA project to avoid the Series 2015 UOSA Bond issuance.
- [2] Based on discussions with WMP staff, certain capital improvements were deferred to reduce existing customer impacts and to recognize timing adjustments for the actual need of funds.

Table 12
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Forecasted Statements of Flows of Financial Resources and Changes in Fund Balance

Line No.		Projected Fiscal Year Ending June 30,					
		2015	2016	2017	2018	2019	2020
1	Beginning Balance [1]	\$ 165,187,274	\$ 118,382,342	\$ 85,882,579	\$ 117,867,815	\$ 88,573,524	\$ 126,573,942
	<u>Operating Revenues:</u>						
2	Sewer Service Charges [2]	\$ 182,922,511	\$ 190,329,152	\$ 198,234,021	\$ 205,429,349	\$ 211,660,915	\$ 217,888,986
3	Sales of Service (Bulk Revenue)	10,358,491	10,640,226	10,781,583	10,905,610	11,027,173	11,151,577
4	Other Operating Revenues [3]	210,000	210,476	210,953	211,429	211,905	212,382
5	Subtotal Operating Revenues	\$193,491,002	\$201,179,855	\$209,226,557	\$216,546,389	\$222,899,994	\$229,252,945
	<u>Non -Operating Revenues:</u>						
6	Proposed (New) Debt Proceeds [4]	\$ -	\$ -	\$ 62,500,000	\$ -	\$ 65,000,000	\$ -
7	Additions to Debt Reserve Fund [4]	-	-	4,745,508	-	4,935,411	-
8	Availability Fees	20,606,477	20,560,477	20,560,477	20,560,477	20,560,477	20,560,477
9	Unrestricted Interest Earned	668,000	869,000	1,170,000	1,779,000	1,871,000	2,594,000
10	Restricted Interest Income [5]	63,000	-	-	-	-	-
11	Grants [6]	4,300,000	-	-	-	-	-
12	Subtotal	\$ 25,637,477	\$ 21,429,477	\$ 88,975,984	\$ 22,339,477	\$ 92,366,887	\$ 23,154,477
13	<u>TOTAL FUNDS AVAILABLE</u>	\$ 384,315,753	\$ 340,991,673	\$ 384,085,120	\$ 356,753,680	\$ 403,840,404	\$ 378,981,363
	<u>Operating Expenses</u>						
14	Personnel Services	\$ 28,680,120	\$ 28,354,071	\$ 29,178,733	\$ 30,032,767	\$ 30,917,405	\$ 31,833,934
15	Operating Expenses	24,553,878	25,870,549	26,653,464	27,528,587	28,468,780	29,508,649
16	Recovered Costs	(199,868)	(345,468)	(349,795)	(354,553)	(359,422)	(364,405)
17	TBC and Billing Agent Costs	42,132,484	43,861,451	45,718,285	47,428,275	49,129,509	50,910,802
18	Subtotal	\$ 95,166,614	\$ 97,740,604	\$ 101,200,687	\$ 104,635,077	\$ 108,156,271	\$ 111,888,981
	<u>Capital Expenses by Funding Source</u>						
19	Cash Reserves / Rate Revenues [7]	\$ 75,362,034	\$ 96,807,892	\$ 50,142,890	\$ 110,809,876	\$ 45,728,065	\$ 109,941,650
20	Availability Charge Fund	18,461,165	-	-	-	-	-
21	Existing Debt Proceeds	25,224,425	-	-	-	-	-
22	New Debt Proceeds [8]	-	-	62,500,000	-	65,000,000	-
23	Grant Funding	4,300,000	-	-	-	-	-
	Use of Operating Reserves to Fund UOSA	-	13,000,000	-	-	-	-
24	Subtotal	\$ 123,347,624	\$ 109,807,892	\$ 112,642,890	\$ 110,809,876	\$ 110,728,065	\$ 109,941,650
	<u>Debt Service:</u>						
25	Existing Senior Debt Service	\$ 21,059,258	\$ 21,069,509	\$ 21,118,562	\$ 21,143,843	\$ 21,185,939	\$ 21,207,197
26	Proposed Senior Debt Service [4]	-	-	4,745,508	4,745,507	9,680,918	9,680,919
27	Existing Subordinate Debt Service	26,359,914	26,491,089	26,509,658	26,516,959	26,528,590	26,193,811
28	Proposed Subordinate Debt Service [8]	-	-	-	328,894	986,680	1,869,937
29	Subtotal	\$ 47,419,172	\$ 47,560,598	\$ 52,373,728	\$ 52,735,203	\$ 58,382,127	\$ 58,951,864
30	<u>TOTAL USE OF FUNDS</u>	\$ 265,933,410	\$ 255,109,094	\$ 266,217,305	\$ 268,180,156	\$ 277,266,463	\$ 280,782,495
31	<u>ENDING BALANCE BEFORE RESERVES</u>	\$ 118,382,342	\$ 85,882,579	\$ 117,867,815	\$ 88,573,524	\$ 126,573,941	\$ 98,198,868
	<u>RESERVES / RESTRICTIONS:</u>						
32	Operating Reserve Target (150 Days)	\$ 39,109,568	\$ 40,167,371	\$ 41,589,323	\$ 43,000,716	\$ 44,447,783	\$ 45,981,773
33	Debt Reserve Balance	27,562,867	27,562,867	32,308,375	32,308,375	37,243,785	37,243,785
34	Debt Proceeds	-	-	-	-	-	-
35	Availability Charge Balance	-	-	-	-	-	-
36	Extension and Improvement - 69300A [9]	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
37	Subtotal	\$ 71,672,435	\$ 72,730,239	\$ 78,897,699	\$ 80,309,092	\$ 86,691,568	\$ 88,225,558
38	<u>UNRESTRICTED ENDING BALANCE</u>	\$ 46,709,907	\$ 13,152,341	\$ 38,970,117	\$ 8,264,432	\$ 39,882,373	\$ 9,973,310

Footnotes on Page 2 of 2.

Table 12
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Forecasted Statements of Flows of Financial Resources and Changes in Fund Balance

Footnotes:

- [1] Reflects starting fund balance, but is exclusive of funds held in the debt service sinking fund.
 [2] Includes recommended rate adjustments as follows:

	Projected Fiscal Year Ending June 30,					
	2015 (Existing)	2016 (Adopted)	2017 (Adopted)	2018 (Adopted)	2019 (Identified)	2020 (Identified)
Quarterly Base Charge	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 29.83	\$ 32.22
Flow Charge	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.82	\$ 6.89
Effective Rate Revenue Increase	n/a	3.5%	3.6%	3.0%	2.5%	2.4%

- [3] Represents other operating revenues from lateral spur fees, connection charges, miscellaneous revenues, sale of property, etc.
 [4] Represents the proposed issuance of the Series 2017 Bonds on or about July 1, 2016 and the Series 2019 Bonds on or about July 1, 2018. Terms terms assume 30 year level debt with proceeds to fund deposits to the debt service reserve fund.
 [5] Includes Interest Income on debt proceeds and availability charge fund balances.
 [6] Reflects actual grants received during the Fiscal Year 2015 as of November 2014.
 [7] Includes capital funding from rate revenues, E&I fund balances and operating reserves.
 [8] Represents additional debt service from UOSA issued bonds on behalf of the County.
 [9] Represents restricted funds held on balance within the E&I Fund for line extensions.

Table 13
Utility Rate Study
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Comparison of Typical Monthly Residential Bills for Wastewater Service [1][2]

Line No.	Description	Billing Cycle	Residential Service for a 5/8" or 3/4" Meter											
			0 Gallons	2,000 Gallons	4,000 Gallons	6,000 Gallons	8,000 Gallons	10,000 Gallons	12,000 Gallons	15,000 Gallons	18,000 Gallons	20,000 Gallons	40,000 Gallons	50,000 Gallons
Fairfax County														
1	Existing Rates - FY15	Quarterly	\$5.29	\$18.53	\$31.77	\$45.01	\$58.25	\$71.49	\$84.73	\$104.59	\$124.45	\$137.69	\$270.09	\$336.29
2	Proposed Rates - FY16	Quarterly	6.72	20.02	33.32	46.62	59.92	73.22	86.52	106.47	126.42	139.72	272.72	339.22
Other Neighboring Utilities:														
3	City of Alexandria [3][4]	Monthly	8.38	24.16	39.94	55.72	71.50	87.28	103.06	126.73	150.40	166.18	323.98	402.88
4	Arlington County	Quarterly	0.00	17.88	35.76	53.64	71.52	89.40	107.28	134.10	160.92	178.80	357.60	447.00
5	DCWASA [3][5]	Monthly	18.68	32.18	45.68	59.18	72.68	86.18	99.68	119.93	140.18	153.68	288.68	356.18
6	Loudoun Water [3][6]	Quarterly	9.90	18.42	26.94	35.46	43.98	52.50	61.02	73.80	86.58	95.10	180.30	222.90
7	Prince William County Service Authority [3]	Monthly	7.50	20.60	33.70	46.80	59.90	73.00	86.10	105.75	125.40	138.50	269.50	335.00
8	Washington Suburban Sanitary Commission [3][7]	Quarterly	1.83	11.69	24.83	45.21	64.47	85.33	109.35	143.28	171.57	190.43	403.83	504.33
9	Other Neighboring Virginia Utilities' Average		\$7.72	\$20.82	\$34.48	\$49.34	\$64.01	\$78.95	\$94.42	\$117.27	\$139.18	\$153.78	\$303.98	\$378.05

Footnotes:

- [1] Unless otherwise noted, amounts shown reflect residential rates in effect October, 2014 and are exclusive of taxes or franchise fees, if any, and do not include any surcharges for service rendered outside the corporate limits of the local jurisdiction, for specific capital improvements or for any other purpose. All rates are as reported by the respective utility. This comparison is intended to show comparable charges for similar service for comparison purposes only and is not intended to be a complete listing of all rates and charges offered by each listed utility.
- [2] It should be noted that utilities may differ as to the term of billing period and units of measurement used in order to determine the respective utility customer's wastewater bill. For purposes of this comparison, all bills shown have been adjusted to match bills rendered on a monthly basis and recognized in units of gallons.
- [3] Utilities shown bill a fixed cost or base charge per billing period per respective account or meter.
- [4] The bill shown for Alexandria Renew Enterprises includes the collection charge billed by the City of Alexandria to provide consistency to the rates charged for the other surveyed utilities.
- [5] Amounts shown assumes: i) the Clean Rivers Impervious Area Charge of \$16.75 per month associated with runoff entering the sewer system; ii) a 50% allocation of the \$3.86 metering fee; iii) a 50% allocation of the a Right-of-Way fee to the District of Columbia of \$0.22 per 1,000 gallons; iv) 60% allocation of the PILOT fee charged to water and wastewater customers of \$0.62 per 1,000 gallons; and v) the residential wastewater flow charge of \$6.33 per 1,000 gallons.
- [6] Loudoun Water has adopted an approximate 3% rate increase for wastewater service to become effective April 1, 2015. Amounts shown reflect the current rates in effect (without the anticipated rate adjustment).
- [7] The Washington Suburban Sanitary Commission (WSSC) bills customers of the utility by calculating the respective customer's average daily flow of use, which is in turn used to determine the variable rate charged to the customer. The calculated bill assumes 6,000 gallons per month or approximately 200 gallons per day. Amounts shown assume a 50% allocation of the quarterly Account Maintenance fee of \$11.00.

APPENDIX A

WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS MODEL OUTPUT – MANAGEMENT DASHBOARD

Chart No.	Description
1	<p>Operating Cash Reserves / Liquidity</p> <ul style="list-style-type: none">Identifies the forecast of projected and targeted operating cash reserves, which are used by the utility to maintain working capital for cash flow and to provide a reserve for contingencies such as unexpected increases in expenses or reductions in revenues all to ensure the utility can fund the near-term requirements of the system.
2	<p>Revenue Sufficiency</p> <ul style="list-style-type: none">Provides an indication of the annual expenditures funded from revenues by category or type of expenditure and whether existing or recommended rates are sufficient to fund such requirements to essentially determine the sufficiency of the forecast revenues.
3	<p>Capital Reinvestment from Rates</p> <ul style="list-style-type: none">Primarily identifies the transfers in and out of capital-related funds for capital investment. Provides an indication of the level or amount of capital reinvestment as a percent of depreciation.
4	<p>Net Revenue Margin (No SACs)</p> <ul style="list-style-type: none">Is a ratio calculated as: i) the Gross revenues (excluding SACs) less operating expenses = net revenues (excluding SACs); divided by ii) gross revenues (excluding SACs). Indicates how much net revenue as a percent (%) is available to fund other expenditures above the cost of operation. Higher ratios (above 35%) generally indicate more funds available for capital reinvestment.
5	<p>Capital Cash Reserves / Liquidity</p> <ul style="list-style-type: none">In addition to operating reserves the utility builds funds up within capital-related funds to finance future capital projects. The forecast of such cash by fund provides an indication of the amount of funds available for unexpected capital improvements or cost increases. This also aids in identifying trends, such as declining reserve balances, which may not be sustainable.
6	<p>Projected Capital Funding Program</p> <ul style="list-style-type: none">Identifies the annual capital funding (excluding UOSA capital projects) by source (e.g., internal sources such as rate revenues, availability charges, existing reserves or debt proceeds)
7	<p>Free Cash Flow to Depreciation Ratio</p> <ul style="list-style-type: none">Is a ratio to determine the annual cash flow available for capital reinvestment expressed as a percent of depreciation? Free cash is determined as the Gross Revenues less operating expenses and annual debt service payments. Amounts shown are expressed with and without availability charges.

APPENDIX A (cont'd.)

WASTEWATER REVENUE SUFFICIENCY AND RATE ANALYSIS
MODEL OUTPUT – MANAGEMENT DASHBOARD

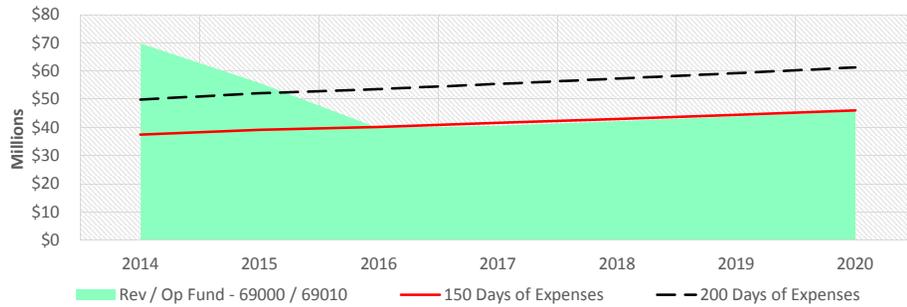
Chart No.	Description
8	Debt to Net Plant Investment (Equity) <ul style="list-style-type: none">Is a ratio which identifies the amount of debt outstanding relative to the capital / plant investment less accumulated depreciation? Helps indicate the ratio or percent of equity invested in capital assets. A higher ratio (above 50%) may indicate a need to evaluate the level of capital reinvestment from rates or minimize future debt issuance where possible.
9	Annual Debt Service Payments <ul style="list-style-type: none">Indicates the existing and proposed annual debt service payments. Helps to identify trends and timing for projected increases or declines in annual debt service.
10	All-In Debt Service Coverage Ratio (Net Revenue / Annual Debt Service) <ul style="list-style-type: none">Provides an indication of the amount of net revenues (with and without SACs) available to cover or fund existing and projected debt service. The ratio is expressed as Net Revenues as a percent of Annual Debt Service Payments.
11	Single Family Residential Quarterly Bill <ul style="list-style-type: none">Reflects the quarterly residential wastewater bill for Fairfax County customers under recommended rates for the forecast period. Recognizing the recommended rates are lower than the adopted rates through the Fiscal Year 2017, the chart also indicates the overall reduction to the projected bill.
12	Rate Affordability – Residential Bill as a % of MHI <ul style="list-style-type: none">Tests the annual charges for wastewater service assuming 6,000 gallons of water use relative to varying amounts of annual household income. Based on industry standards affordability may become an issue as the wastewater bill accounts for more than 1% of annual household income.
13	Outstanding Debt per ERC <ul style="list-style-type: none">Debt per customer account is a metric used by rating agencies to compare utilities.
14	Monthly Residential Wastewater Bill Comparison at 6,000 Gallons <ul style="list-style-type: none">Provides a comparison of the monthly residential bill for wastewater service assuming 6,000 gallons relative to neighboring utilities in order to determine the competitiveness of rates for service.



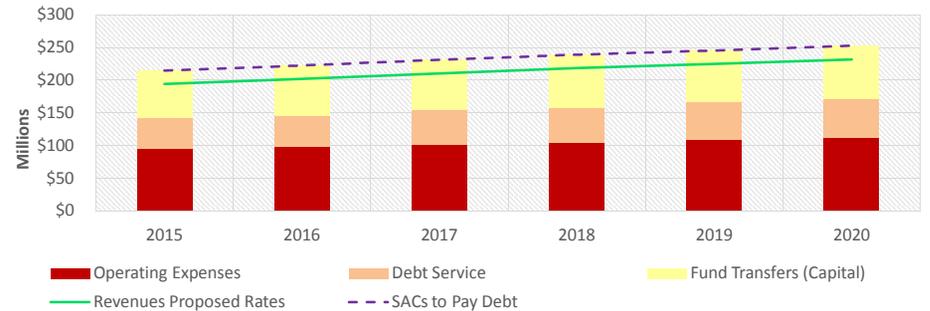
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

	Adopted Fiscal Year Ending June 30,						Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2020
Adopted Rate Adj (%):							Incremental Rate Adj (%):					
Quarterly Base Charge	24.0%	27.0%	22.5%	11.9%	0.0%	0.0%	N/A	27.0%	22.5%	11.9%	8.0%	8.0%
Flow Charge	1.1%	0.5%	0.5%	1.0%	0.0%	0.0%	N/A	0.5%	0.5%	1.0%	1.0%	1.0%
Weighted Rate Increase	4.1%	3.5%	3.6%	3.0%	0.7%	0.0%	N/A	3.5%	3.6%	3.0%	2.5%	2.4%
Adopted Rates:							Proposed Rates:					
Quarterly Base Charge	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 27.62	\$ 27.62	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 29.83	\$ 32.22
Quarterly Billing Charge	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Flow Charge	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.82	\$ 6.89

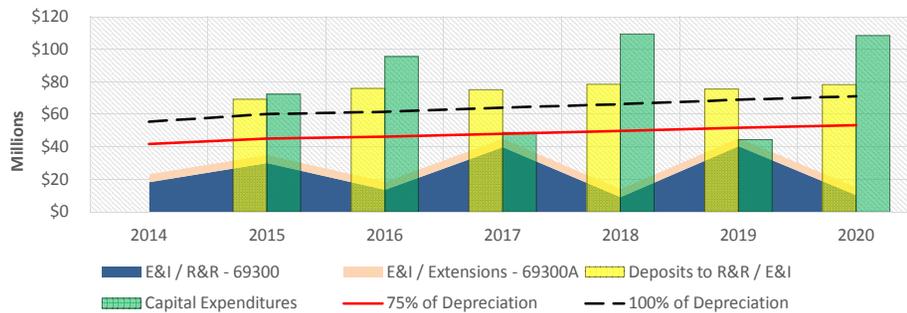
1) Operating Funds - Ending Balance



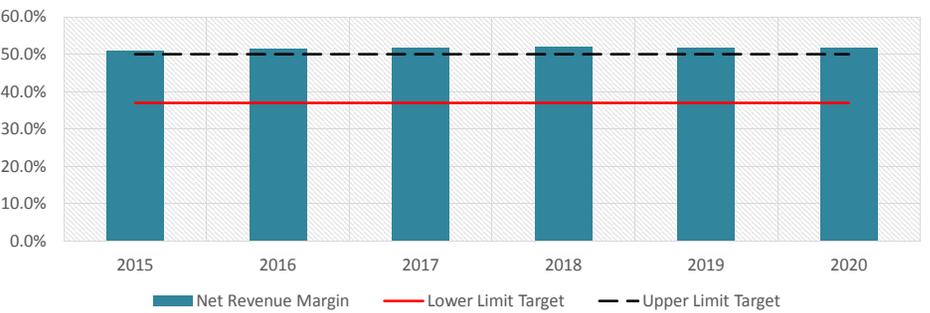
2) Revenue Sufficiency



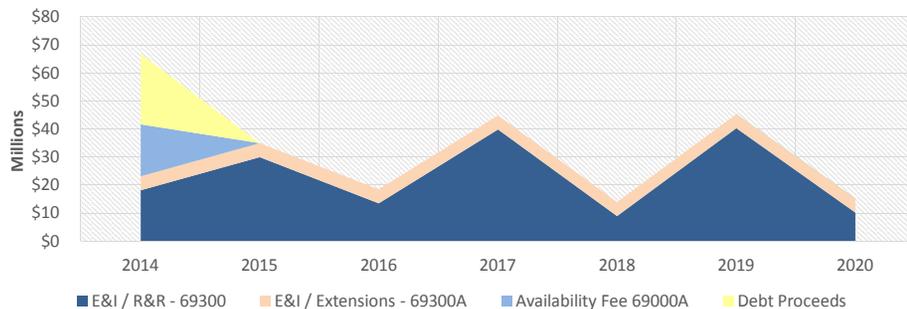
3) Capital Reinvestment from Rates



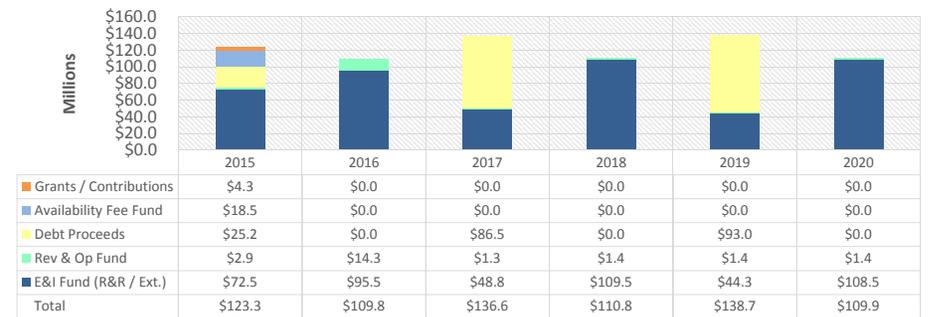
4) Net Revenue Margin (No SACs)



5) Capital Funds - Ending Balance



6) Capital Funding Plan

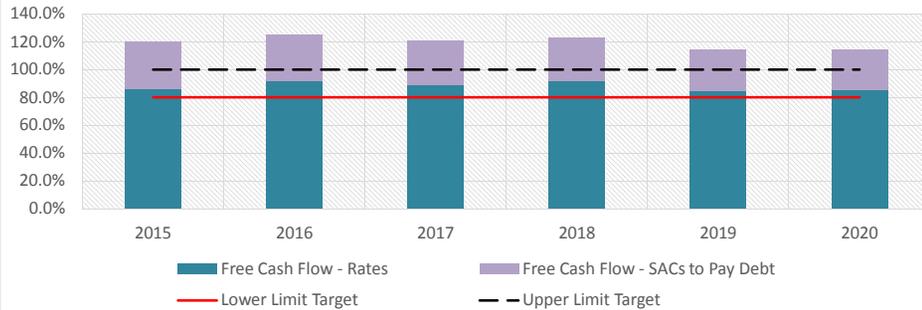




Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

	Adopted Fiscal Year Ending June 30,						Projected Fiscal Year Ending June 30,					
	2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2020
Adopted Rate Adj (%):							Incremental Rate Adj (%):					
Quarterly Base Charge	24.0%	27.0%	22.5%	11.9%	0.0%	0.0%	N/A	27.0%	22.5%	11.9%	8.0%	8.0%
Flow Charge	1.1%	0.5%	0.5%	1.0%	0.0%	0.0%	N/A	0.5%	0.5%	1.0%	1.0%	1.0%
Weighted Rate Increase	4.1%	3.5%	3.6%	3.0%	0.7%	0.0%	N/A	3.5%	3.6%	3.0%	2.5%	2.4%
Adopted Rates:							Proposed Rates:					
Quarterly Base Charge	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 27.62	\$ 27.62	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 29.83	\$ 32.22
Quarterly Billing Charge	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Flow Charge	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.75	\$ 6.75	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.82	\$ 6.89

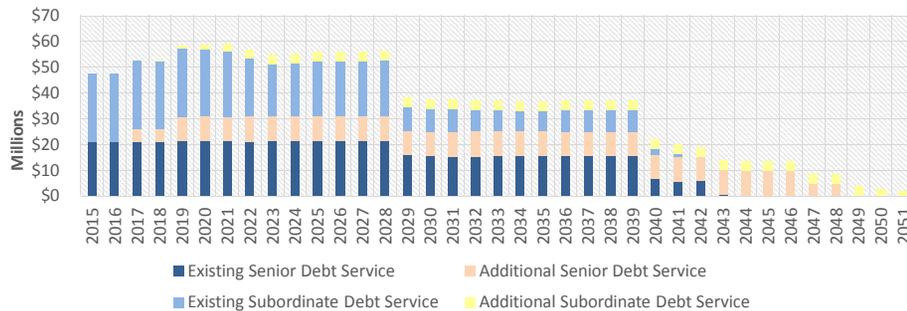
7) Free Cash Flow to Depreciation Ratio



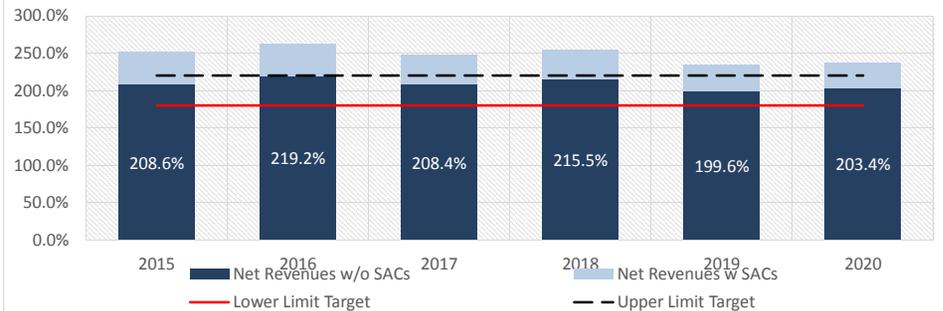
8) Debt to Net Plant (Equity)



9) Annual Debt Service



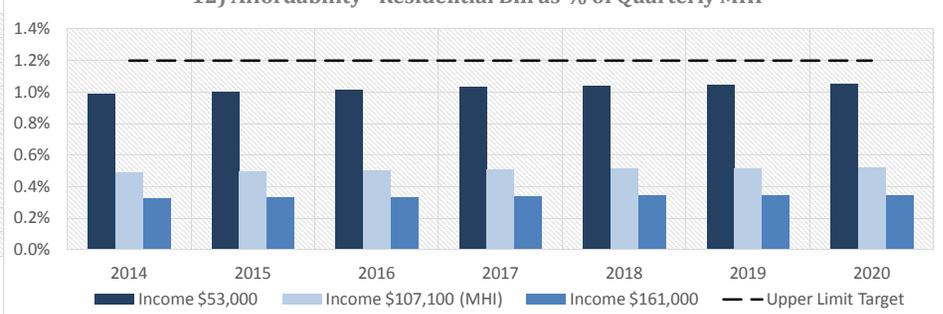
10) All-In Debt Service Coverage Ratio



11) Single-Family Residential Customer Quarterly Bill



12) Affordability - Residential Bill as % of Quarterly MHI

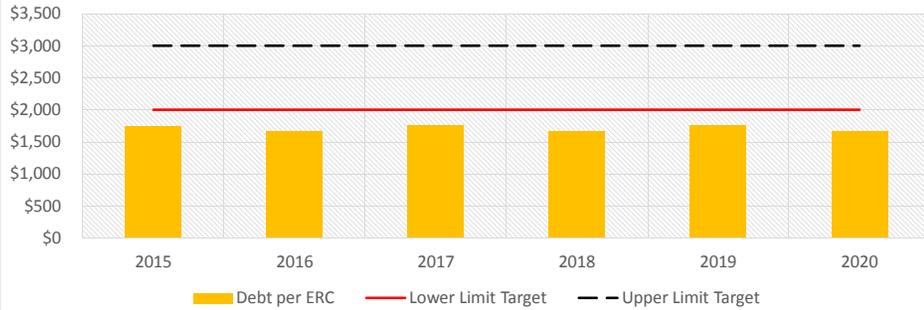




Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

	Adopted Fiscal Year Ending June 30,						Projected Fiscal Year Ending June 30,						
	2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2020	
Adopted Rate Adj (%):							Incremental Rate Adj (%):						
Quarterly Base Charge	24.0%	27.0%	22.5%	11.9%	0.0%	0.0%	Quarterly Base Charge	N/A	27.0%	22.5%	11.9%	8.0%	8.0%
Flow Charge	1.1%	0.5%	0.5%	1.0%	0.0%	0.0%	Flow Charge	N/A	0.5%	0.5%	1.0%	1.0%	1.0%
Weighted Rate Increase	4.1%	3.5%	3.6%	3.0%	0.7%	0.0%	Weighted Rate Increase	N/A	3.5%	3.6%	3.0%	2.5%	2.4%
Adopted Rates:							Proposed Rates:						
Quarterly Base Charge	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 27.62	\$ 27.62	Quarterly Base Charge	\$ 15.86	\$ 20.15	\$ 24.68	\$ 27.62	\$ 29.83	\$ 32.22
Quarterly Billing Charge	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	Quarterly Billing Charge	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Flow Charge	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.75	\$ 6.75	Flow Charge	\$ 6.62	\$ 6.65	\$ 6.68	\$ 6.75	\$ 6.82	\$ 6.89

13) Outstanding Debt Per ERC



14) Comparison of Monthly Sewer Service Charges For Single Family Residential Customers Using 6,000 Monthly Water Gallons

