 **CAPITAL REGION | WATER.**

**Water and Wastewater  
Rate Study Report**

December 1, 2014





A handwritten signature in black ink, appearing to read "John M. Mastracchio".

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## **Water and Sewer Rate Study Report**

Prepared for:  
Capital Region Water  
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**Acronyms and Abbreviations**

CRW	Capital Region Water
FY	Fiscal Year
MGD	Million Gallons per Day
AWTF	Advanced Wastewater Treatment Facility
PENNVEST	Pennsylvania Infrastructure Investment Authority
O&M	Operating and Maintenance
HRG	Herbert, Rowland & Grubic, Inc.
PRAG	Public Resources Advisory Group
GIS	Geographic Information System
I&I	Inflow and Infiltration
EDU	Equivalent Dwelling Unit

## **1. Introduction**

### **1.1 Rate Study Scope and Objectives**

This water and sewer rate study report was prepared for Capital Region Water (“CRW”) for the purpose of reviewing and updating CRW’s water and wastewater rates for fiscal year (“FY”) 2015 and providing planning level estimates of rate increases in FY2016 through FY2019. CRW’s fiscal year begins on January 1 of each year.

The specific objectives of this rate study included the evaluation of:

1. Water system costs to be recovered from all customers and recommended rate revenue increases for FY 2015 through FY 2019 (“the forecast period”).
2. Water rate structure based on specific rate structure alternatives requested by CRW.
3. Wastewater system costs allocable to Suburban communities to determine the resulting unit rates for Suburban customers for FY 2015.
4. Wastewater system costs to be recovered from City customers and recommended retail rate revenue increases for FY 2015 through FY 2019.
5. Water and wastewater rates of similar utilities for the purpose of comparing CRW’s proposed FY 2015 rates to the rates of other utilities located within the region.

### **1.2 Background**

CRW is a municipal authority that owns and manages the greater Harrisburg area’s water and wastewater systems and infrastructure. The water system includes a supply, treatment and distribution system which serves approximately 20,690 accounts across Harrisburg (“the City”), the Borough of Penbrook and parts of various outlying municipalities including the Townships of Susquehanna and Lower Paxton. CRW also provides private fire protection services to customers located within the City as well as in the surrounding communities.

Raw water flows by gravity from the DeHart Reservoir to be treated at CRW’s Robert E. Young Water Services Center. The treatment facility is capable of producing 20

million gallons per day (“MGD”) of drinking water. Treated water is pumped and held in three finished water storage reservoirs in Reservoir Park. The finished water storage reservoirs have a combined capacity of approximately 40 million gallons. Overall, the system provides approximately 8 MGD to its customers.

CRW also owns and operates an Advanced Wastewater Treatment Facility (“AWTF”), a conveyance system, and wastewater and stormwater collection systems located within the City limits. Overall, the wastewater system includes approximately 48 miles of sanitary sewers, 29 miles of stormwater sewers, and 87 miles of combined sanitary and stormwater sewers.

The wastewater collection system provides service to customers located within the City. The conveyance and treatment systems provide wastewater conveyance and treatment services to City and Suburban wholesale customers. Suburban wholesale customers include Susquehanna Township, Susquehanna Township Authority, Lower Paxton Township, Lower Paxton Township Authority, Swatara Township, Swatara Township Authority, Paxtang Borough, Penbrook Borough, Steelton Borough, and the Steelton Borough Authority.

### **1.3 Rate Study Process**

The proposed water rates were calculated by determining the water system’s rate revenue requirements for FY 2015 and the remaining years of the forecast period. Water rate design alternatives were developed based on CRW’s pricing objectives.

The calculated wholesale wastewater rates were developed by completing the following steps:

1. Determination of wastewater system rate revenue requirements.
2. Allocation of revenue requirements to cost factors.
3. Calculation of wholesale rates based on the units of service, costs attributable to Suburban customers, and Inter-Municipal Agreement terms.

The Suburban wholesale rates were multiplied by the units of service billed to Suburban customers in FY 2013 to estimate the amount of revenue CRW will receive from Suburban customers in FY 2015. This amount was then incorporated into the

calculation of the rate revenue requirement for City customers to evaluate the need to increase the City's retail wastewater rate.

Lastly, information on water and wastewater rates was obtained for comparable utilities located within the region. Estimated bills were calculated for the utilities and for CRW based on the water and wastewater rates proposed as part of this report in order to determine how CRW's FY 2015 proposed rates compare to those of similar utilities.

In preparing this rate study report, ARCADIS did not independently assess or test for the accuracy of technical information received, including cost and revenue data, historical or projected. We have relied on these data in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report.



## 2. The Water System

### 2.1 Existing Water Rates

CRW's existing water rate structure includes a fixed charge, which is assessed by meter size, and a uniform volumetric rate. The fixed charge, also known as the Readiness to Serve Charge, is assessed on either a monthly, quarterly, or annual basis depending on the frequency of customer billing. Most residential customers are billed on a monthly basis and as such, pay a monthly Readiness to Serve Charge. The Readiness to Serve Charge and the volumetric rate are the same for both inside and outside-city customers.

The existing water rates are provided in Table 2-1.

**Table 2-1:  
Existing Water Rates**

Readiness to Serve Charge:			
Meter Size	Monthly	Quarterly	Annual
5/8"	\$5.22	\$15.66	\$62.65
3/4"	\$11.32	\$33.95	\$135.80
1"	\$22.69	\$68.05	\$272.22
1-1/2"	\$48.61	\$145.82	\$583.29
2"	\$89.11	\$267.33	\$1,069
3"	\$249.10	\$747.28	\$2,989
4"	\$445.53	\$1,337	\$5,346
6"	\$1,203	\$3,609	\$14,435
8"	\$2,139	\$6,416	\$25,663
10"	\$3,315	\$9,944	\$39,776
12"	\$4,812	\$14,435	\$57,741
Volume Charge:		Cost per 1,000 Gallons	
All Customers	\$6.61		

### 2.2 Customer Growth

The projection of water rate revenues is based on rate revenue requirements in future years as well as assumptions regarding customer growth rates and annual trends in billed consumption. The growth estimates incorporated into the financial forecast are shown in Table 2-2.

**Table 2-2:  
Growth Estimates**

Description:	Year-Over-Year Growth				
	FY2015	FY2016	FY2017	FY2018	FY2019
Customer Account Growth:	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Billed Water Consumption:	-1.0%	-0.9%	-0.8%	-0.8%	-0.7%

As shown in the table, customer accounts were assumed to decrease by 0.1 percent per year, while billed consumption was assumed to decrease by 1.0 to 0.7 percent per year over the forecast period. These growth estimates were developed based on historical trends and discussions with CRW management.

### 2.3 Fiscal Policies

#### 2.3.1 Target Cash Reserve Balance

##### 2.3.1.1 Water Revenue Fund

CRW collects monies and disburses funds from the Water Revenue Fund. In addition, the Trust Indenture<sup>1</sup>, originally dated January 1, 1991 and amended and restated as of April 1, 2014, between CRW and the Bank of New York Mellon Trust Company, established an Operating Reserve Account within the Water Revenue Fund. The purpose of this account is to pay for unanticipated operating expenses or for when current revenues are insufficient to cover expenditures in a given month. The Trust Indenture states that the account shall maintain an amount equal to one sixth of the amount budgeted for operating expenses for the current fiscal year. The amount of funds in the Operating Reserve Account as of October 2014 was \$817,344.

Total operating expenses, as defined under the Trust Indenture, were projected over the forecast period as shown in Table 2-3. The table also shows the required minimum balance of the account and the annual transfers necessary to meet the minimum balance requirement.

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<sup>1</sup> Amended and Restated Trust Indenture, originally dated as of January 1, 1991 and amended and restated as of April 1, 2014 between Capital Region Water and Bank of New York Mellon Trust Company, N.A.

**Table 2-3:  
Projected Year-End Water Operating Reserve Account Requirements**

Description	FY2015	FY2016	FY2017	FY2018	FY2019
Total Operating Expenses	\$ 7,373,282	\$ 7,607,018	\$ 7,856,646	\$ 8,115,316	\$ 8,383,396
Required Operating Reserve Account Balance	\$ 1,228,880	\$ 1,267,836	\$ 1,309,441	\$ 1,352,553	\$ 1,397,233
Projected Balance	<u>1,228,880</u>	<u>1,228,880</u>	<u>1,267,836</u>	<u>1,309,441</u>	<u>1,352,553</u>
Transfer from Revenue Fund	\$ -	\$ 38,956	\$ 41,605	\$ 43,112	\$ 44,680

According to the table, no transfer is needed in FY 2015, while transfers ranging between approximately \$39,000 and \$45,000 are needed in FY 2016 through FY 2019. It has been assumed that CRW will transfer approximately \$412,000 from the Water Revenue Fund into the Operating Reserve Account in the remaining part of FY 2014. It should be noted that the financial projections included as part of this report did not assume the use of monies from the Operating Reserve Account.

The amount of unrestricted and available cash in the Water Revenue Fund as of the beginning of FY 2015 was obtained and used to calculate the rate revenue requirements of the water system. This amount was estimated based on the amount of working capital attributable to the Water Revenue Fund based on CRW's FY 2013 audited financial statements, budgeted cash revenues and expenditures in FY 2014, as provided by CRW, and an inflow of approximately \$4.4 million as a result of the closing of a proposed Pennsylvania Infrastructure Investment Authority ("PENNVEST") loan.

Given that CRW maintains an operating reserve of 60 days of operating expenses, as required by the Trust Indenture, and to address liquidity risks in the Water Revenue Fund, an operating reserve level equal to 120 days of operating and maintenance ("O&M") expenses is recommended for the Water Revenue Fund. This amount, combined with funds held in the Operating Reserve Account, provides CRW with a 6-month working capital reserve, which is customary within the water industry for water utilities with strong credit ratings. CRW's O&M expenses were projected to be approximately \$7.3 million to \$8.4 million over the forecast period, which corresponds to a 120 day reserve target that ranges between approximately \$2.5 million and \$2.8 million over the forecast period, as shown in Table 2-4.

**Table 2-4:  
Projected Year-End Target Reserve Balances for the Water Revenue Fund**

Fund	FY2015	FY2016	FY2017	FY2018	FY2019
Water Revenue Fund	\$ 2,457,761	\$ 2,548,658	\$ 2,632,750	\$ 2,719,476	\$ 2,809,358

The Water Revenue Fund also includes a Contingency Account. Monies remaining in the fund after all expenditures and transfers have been made are “swept” into this account. These funds can be applied to payment of capital additions or any other purpose relating solely to the water system as may be designated by resolution of CRW. As of October 2014, the balance in this account was \$3,723,902. It should be noted that the water rates proposed as part of this report did not assume the use of funds from the Contingency Account.

#### *2.3.1.2 Renewal and Replacement Fund*

CRW also maintains a Renewal and Replacement Fund to pay for extraordinary maintenance and repair of the water system or to pay for the cost of capital additions. As of October 2014, the balance in the Renewal and Replacement Fund was \$943,152. The Trust Indenture states that the minimum balance to be maintained in the fund shall be the greater of \$500,000 or an amount set forth by CRW’s consulting engineer. CRW’s consulting engineer, Herbert, Rowland & Grubic, Inc. (“HRG”), has recommended that the fund’s minimum balance be equal to at least 1.0 percent of net fixed assets.

Based on the net book value of the system’s capital assets, projected additions, and estimated annual depreciation, the minimum required amount of funds to be maintained in the Renewal and Replacement Fund is not expected to exceed \$680,000 over the forecast period, which is considerably less than the fund’s current balance. Therefore, no funds were projected to be transferred from the Revenue Fund to the Renewal and Replacement Fund. Furthermore, the financial projections included as part of this report did not assume the use of monies from this fund.

#### *2.3.2 Debt Service Coverage*

Debt service coverage is the amount of net operating revenue (operating revenue less operating expenditures) available to fund annual principal and interest payments on outstanding debt. Currently, CRW’s outstanding debt related to the water system is comprised of various Revenue Bond issues and a proposed loan with PENNVEST that is expected to be closed towards the end of FY 2014 or the beginning of FY 2015.

Two of the Revenue Bond issues have variable interest rates. The interest rates associated with the Series 2002B Variable Rate Water Revenue Refunding Bonds and the Series 2002C Federally Taxable Variable Rate Water Revenue Refunding Bonds are tied to the Bond Buyer Revenue Index and the 15-year LIBOR swap rate,

respectively. Therefore, future debt service for the 2002B bonds was based on an assumed interest rate of 4.65 percent, while the 2002C bonds were based on an assumed rate of interest of 3.29 percent. The projected debt service payment amounts were provided by CRW's financial advisor, Public Resources Advisory Group ("PRAG").

Interest is accrued on other Revenue Bond issues and the proposed PENNVEST loan according to a fixed rate and debt service on these loans was projected in future years accordingly.

The required level of debt service coverage associated with the CRW's outstanding debt is described in Section 7.01 of the Trust Indenture between CRW and the Bank of New York Mellon Trust Company and is included below.

*"The Authority covenants that it has adopted and will maintain, charge, and collect so long as any of the Bonds shall remain Outstanding, reasonable rates, rentals, and other charges for the use of the facilities of the Water System which (after making due and reasonable allowances for contingencies and a margin of error in the estimates), together with other Receipts and Revenues, shall be at all times at least sufficient to:*

- (a) Pay annually all of the Operating Expenses of the Authority;*
- (b) Provide annually an amount equal to 110% of the Debt Service Requirements with respect to the Bonds during the then current Fiscal Year of the Authority;*
- (c) Pay any mandatory payments, required in connection with (1) a withdrawal from any Debt Service Reserve Fund Account pursuant to Section 6.01(a)(3)(A) and (2) the Renewal and Replacement Fund pursuant to Section 6.01(a)(4); and*
- (d) Pay any net amounts or other obligations required to be paid on any Subordinated Debt."*

Therefore, based on the rate covenant provision contained in the Trust Indenture, a debt service coverage target was established at a level of 1.15 times or greater with respect to debt service related to current and future outstanding Revenue Bonds of the system. In addition, the terms of the proposed PENNVEST loan require net revenues

of the system to be at least 1.10 times total debt service and require the loan to convert to senior lien water system debt in December 2017. According to the Trust Indenture, the issuance of new senior lien debt requires CRW to maintain an additional level of debt service coverage, as defined by an additional bonds test. The additional bonds test requires CRW to generate net revenues of at least 1.10 times the maximum annual debt service of all outstanding water system debt. This is described in Section 3.02 of the Trust Indenture and is included below.

*“(2) a Consultant's Certificate setting forth (A) the estimated average annual net revenues which will be derived by the Authority, including said Capital Additions, which estimate shall be based upon a period of 36 months following the date of completion of the program relating to the acquisition or construction of such Capital Additions, and (B) the percentage derived by dividing the sum of the amounts shown pursuant to subdivision (2)(A) of this paragraph by the sum of Maximum Annual Debt Service Requirements on all Bonds which shall be Outstanding immediately after the issuance of such Additional Bonds and the Policy Costs, if any, which percentage shall not be less than 110%.”*

Therefore, based on the Trust Indenture's provision related to the issuance of additional senior lien debt, an additional target for debt service coverage was established at a level of 1.10 times or greater with respect to the maximum annual debt service of all outstanding debt related to the water system, beginning in FY 2018. In addition, based on the terms of the proposed PENNVEST loan, coverage on all outstanding water system debt has been established at a level of 1.15 times or greater.

#### **2.4 Water Revenue and Expense Projections**

The projection of water system O&M expenses over the forecast period was based on preliminary budget figures for FY 2015. In general, O&M expenses were comprised of costs related to salaries and wages, employee benefits, insurance, utilities, chemicals, professional services, and general administrative costs. In addition, O&M expenses also included costs for shared services between the City and CRW and administrative costs of CRW that were allocated to the water system.

Individual O&M expenses were classified as labor, benefits, insurance, chemicals, utilities, legal, or general and escalated in future years based on the corresponding escalation factor. The escalation factors for each of the expense classifications are provided in Table 2-5 and were developed based on discussions with CRW management.

**Table 2-5:  
O&M Cost Escalation Factors**

Expense Classification	Escalator
Labor	3.0%
Benefits	6.0%
Insurance	3.0%
Chemicals	4.0%
Utilities	3.0%
Legal	3.0%
General	2.8%

Capital improvement projects and expenditures related to minor capital purchases were escalated on an annual basis at a rate of 3.0 percent.

CRW's non-rate revenues are comprised of other water sales, collections (with interest) on past due accounts, water restoration fees, interest income, and other miscellaneous revenues. Non-rate, fee-based revenues were expected to remain constant over the forecast period; therefore, these items were not escalated in future years. All other non-rate revenues, with the exception of interest income, were projected over the forecast period based on an escalation rate of 3.0 percent per year. Interest income was calculated based on the average annual balance in the Water Revenue Fund and an interest earnings rate of approximately 0.5 percent per year.

## 2.5 Capital Projects

The projection of water system capital expenditures was based on a schedule of future capital project costs as provided in the 2014 Consulting Engineers' Annual Report for the water system. The total capital project costs relating to treatment, transmission, and distribution facilities over the forecast period are shown in Table 2-6. Other miscellaneous capital projects are shown as well.

**Table 2-6:  
Water System Capital Projects – FY 2015 through FY 2019**

Description	FY2015	FY2016	FY2017	FY2018	FY2019
Water Treatment Plant	\$ 825,000	\$ -	\$ -	\$ -	\$ -
Transmission System	935,000	515,000	530,450	546,364	562,754
Distribution System	3,299,352	643,750	1,659,118	-	-
Miscellaneous	-	-	-	1,639,091	1,688,263
Total	\$ 5,059,352	\$ 1,158,750	\$ 2,189,568	\$ 2,185,454	\$ 2,251,018

Note: Capital project expenditures escalated at an annual rate of 3.0 percent per year in future years.

2.5.1 Capital Project Funding

Funding of capital project expenditures shown in Table 2-6 were based on discussions with CRW management and CRW’s financial advisor, PRAG. The capital projects were assumed to be funded with cash generated from current revenues and funds to be received from the proposed PENNVEST loan, which will serve as a reimbursement for projects that have reached substantial completion as of the date the loan is expected to close. Therefore, proceeds received from the PENNVEST loan will serve as cash available to finance future capital project costs. The PENNVEST loan proceeds will reimburse CRW for completed projects which include treatment plant upgrades, water line extensions, and the development and implementation of a geographic information system (“GIS”).

The amount of capital projects funded from proposed PENNVEST loan proceeds, new Revenue Bonds, and cash from current revenues is shown in Table 2-7. The new Revenue Bonds were assumed with level debt service, an interest rate of 5.0 percent, and a term of 30 years.

**Table 2-7:  
Capital Project Funding Sources – FY 2015 through FY 2019**

Description	FY2015	FY2016	FY2017	FY2018	FY2019
Proposed PENNVEST Loan <sup>1</sup>	\$ 4,442,819	\$ -	\$ -	\$ -	\$ -
New Revenue Bonds	-	-	-	-	889,255
Cash	616,533	1,158,750	2,189,568	2,185,454	1,361,763
Total	\$ 5,059,352	\$ 1,158,750	\$ 2,189,568	\$ 2,185,454	\$ 2,251,018

Note: Capital project expenditures escalated at an annual rate of 3.0 percent per year in future years.

<sup>1</sup>Proceeds from the proposed PENNVEST loan serve as a reimbursement of costs for projects previously completed. Therefore, funds received under the loan represent cash available to fund future capital projects.

**2.6 Water System Rate Revenue Requirements**

The calculation of water system rate revenue requirements for the forecast period is shown in Table 2-8. Rate revenue requirements include O&M expenses, debt service, minor capital outlays, and cash funded capital project expenditures. Non-rate revenues (e.g. interest earnings, other water sales, collections on past due accounts, restoration fees, and other miscellaneous revenues) were subtracted in order to determine the annual water rate revenue requirements.



**Table 2-8:  
Projected Water Rate Revenue Requirements**

Line No.	Description	Fiscal Year Ending December 31				
		FY2015	FY2016	FY2017	FY2018	FY2019
O&M Expenses and Transfers Out						
1	Operation and Maintenance Expense	\$ 7,373,282	\$ 7,645,974	\$ 7,898,250	\$ 8,158,428	\$ 8,428,075
2	Transfer to Operating Reserve Account	-	-	-	-	-
3	Total O&M and Transfers Out	\$ 7,373,282	\$ 7,645,974	\$ 7,898,250	\$ 8,158,428	\$ 8,428,075
Capital Expenditures						
4	Debt Service	\$ 11,044,400	\$ 11,161,366	\$ 11,386,447	\$ 11,491,772	\$ 11,938,822
5	Minor Capital Outlay	554,800	571,444	588,587	606,245	624,432
6	Pay-Go Cash Funded Capital	5,059,352	1,158,750	2,189,568	2,185,454	1,361,763
7	Total Capital Expenditures	\$ 16,658,552	\$ 12,891,560	\$ 14,164,603	\$ 14,283,471	\$ 13,925,017
8	Total O&M and Capital Expenses	\$ 24,031,834	\$ 20,537,533	\$ 22,062,853	\$ 22,441,899	\$ 22,353,093
Less Revenue From Other Sources						
9	Miscellaneous Revenue	\$ 878,010	\$ 886,079	\$ 894,375	\$ 902,902	\$ 911,669
10	Interest Income	34,371	24,435	21,724	17,171	14,667
11	Sources & Uses of Funds	3,957,492	16,881	1,067,535	753,669	248,024
12	Rate Revenue Requirement	\$ 4,869,873	\$ 927,396	\$ 1,983,633	\$ 1,673,743	\$ 1,174,360
Adjustment for Revenue From Other Sources						
13	Operation and Maintenance Expenses	\$ 6,460,901	\$ 6,735,459	\$ 6,982,152	\$ 7,238,355	\$ 7,501,740
14	Capital Expenses	12,701,060	12,874,678	13,097,068	13,529,802	13,676,993
15	Total Rate Revenue Requirement	\$ 19,161,960	\$ 19,610,137	\$ 20,079,220	\$ 20,768,157	\$ 21,178,733
16	Rate Revenue Increase From Prior Year	7.8%	2.3%	2.4%	3.4%	2.0%
17	Rate Revenue Increase After Growth	8.6%	3.0%	3.0%	4.0%	2.5%

As shown on Line 17 of the table, a rate revenue increase is recommended to adequately fund the costs of the water system in each year of the forecast period and reflects the slight decline in customer accounts and billed water consumption that was projected. In FY 2015, the rate revenue increase need was calculated to be approximately 8.6 percent, while the required increase ranged between 2.5 and 4.0 percent per year in the remaining years of the forecast period.

## 2.7 Proposed Water Rates

Two water rate alternatives were prepared for CRW's consideration. The proposed water rates under Alternative 1 for FY 2015 through FY 2019 are shown in Table 2-9 and are based on the existing rates and the recommended rate revenue increases calculated in Table 2-8. The proposed water rates shown in this table reflect the application of the water rate revenue increase requirement to both the Readiness to Serve Charge and the volume rate.

This rate structure alternative generates approximately 29 percent of rate revenues from the Readiness to Serve Charge and approximately 71 percent from the volume rate.

**Table 2-9:  
Proposed Water Rates – Alternative 1**

Readiness to Serve Charge (Monthly)						
Meter Size	Existing FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Base Charge 5/8"	\$5.22	\$5.67	\$5.84	\$6.01	\$6.25	\$6.41
3/4"	\$11.32	\$12.29	\$12.66	\$13.04	\$13.56	\$13.90
1"	\$22.69	\$24.64	\$25.38	\$26.14	\$27.18	\$27.86
1-1/2"	\$48.61	\$52.78	\$54.37	\$56.00	\$58.24	\$59.69
2"	\$89.11	\$96.76	\$99.66	\$102.65	\$106.76	\$109.43
3"	\$249.10	\$270.49	\$278.61	\$286.96	\$298.44	\$305.90
4"	\$445.53	\$483.79	\$498.30	\$513.25	\$533.78	\$547.13
6"	\$1,203	\$1,306	\$1,345	\$1,386	\$1,441	\$1,477
8"	\$2,139	\$2,322	\$2,392	\$2,464	\$2,562	\$2,626
10"	\$3,315	\$3,599	\$3,707	\$3,818	\$3,971	\$4,070
12"	\$4,812	\$5,225	\$5,382	\$5,543	\$5,765	\$5,909
Volume Charge (\$ per 1,000 gallons)						
All customers	\$6.61	\$7.18	\$7.39	\$7.61	\$7.92	\$8.12

A second water rate alternative was prepared that increased the Readiness to Serve Charge and kept the volume rate unchanged. Implementing higher fixed charges is a trend in the industry in order to improve revenue stability and respond to trends of declining water consumption.

The proposed water rates under Alternative 2 for FY 2015 through FY 2019 are shown in Table 2-10. As shown in the table, the additional rate revenue required each year is obtained by increasing the Readiness to Serve Charge. There is no increase to the volume charge as it remains at \$6.61 per 1,000 gallons in FY 2015 and in the remaining years of the forecast period.

This rate structure alternative generates approximately 35 percent of rate revenues from the Readiness to Serve Charge in FY 2015. The percentage increases each year to reach approximately 43 percent by FY 2019. Correspondingly, revenue from the volume rate generates about 65 percent in FY 2015 and decreases each year to reach approximately 57 percent by FY 2019.

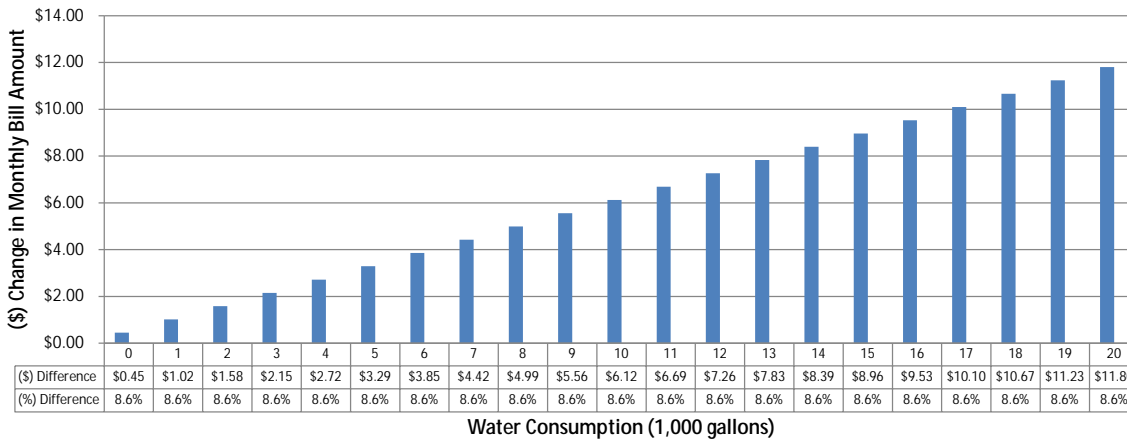
**Table 2-10**  
**Proposed Water Rates – Alternative 2**

Readiness to Serve Charge (Monthly)						
Meter Size	Existing FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Base Charge 5/8"	\$5.22	\$6.88	\$7.45	\$8.03	\$8.82	\$9.33
3/4"	\$11.32	\$14.92	\$16.15	\$17.41	\$19.14	\$20.23
1"	\$22.69	\$29.91	\$32.38	\$34.90	\$38.36	\$40.56
1-1/2"	\$48.61	\$64.07	\$69.36	\$74.77	\$82.18	\$86.89
2"	\$89.11	\$117.45	\$127.15	\$137.06	\$150.64	\$159.28
3"	\$249.10	\$328.31	\$355.45	\$383.13	\$421.11	\$445.27
4"	\$445.53	\$587.21	\$635.74	\$685.26	\$753.18	\$796.39
6"	\$1,203	\$1,585	\$1,717	\$1,850	\$2,034	\$2,150
8"	\$2,139	\$2,819	\$3,052	\$3,289	\$3,615	\$3,823
10"	\$3,315	\$4,369	\$4,730	\$5,098	\$5,603	\$5,925
12"	\$4,812	\$6,342	\$6,866	\$7,401	\$8,134	\$8,601
Volume Charge (\$ per 1,000 gallons)						
All customers	\$6.61	\$6.61	\$6.61	\$6.61	\$6.61	\$6.61

## 2.8 Customer Bill Impact

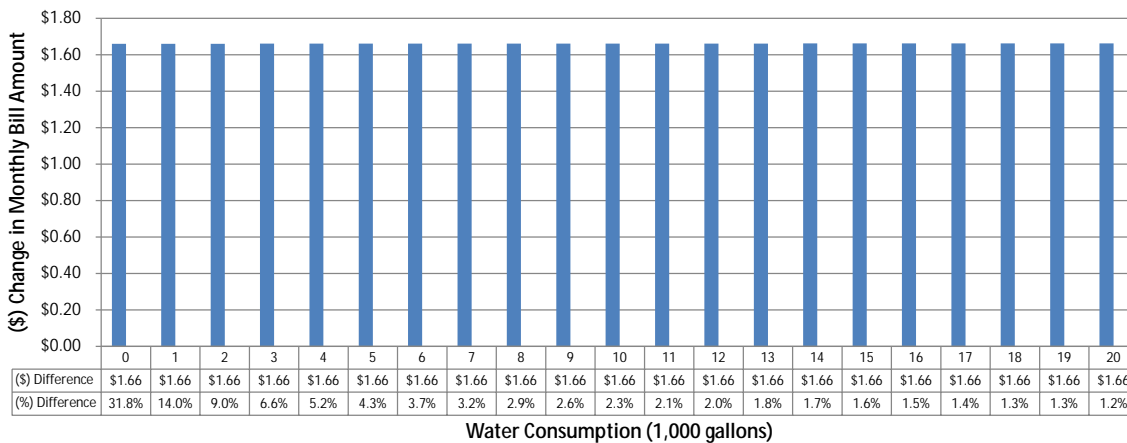
Residential customer bill impacts associated with the proposed water rates under Alternative 1 and Alternative 2 are provided in Figure 2-1 and Figure 2-2 across a range of consumption levels. According to Figure 1, as compared to the existing water rates, a residential customer using 5,000 gallons of water per month will experience an increase in their water bill of approximately \$3.29, or about 8.6 percent, per month. In addition, under this alternative, the increase in the monthly bill amount becomes larger as the level of consumption rises. However, the increase as a percentage of the customer's existing bill remains the same across all levels of consumption, at approximately 8.6 percent.

**Figure 2-1  
Residential (5/8-inch meter) Water Bill Impact – Alternative 1 (FY 2015)**



According to Figure 2, as compared to the existing water rates, a residential customer using 5,000 gallons of water per month will experience an increase in their water bill of approximately \$1.66, or about 4.3 percent, per month. In addition, under this alternative, the increase in the monthly bill amount remains the same at all levels of consumption. However, the percentage increase over the customer’s existing bill is highest at the lowest consumption levels and decreases as consumption rises.

**Figure 2-2  
Residential (5/8-inch meter) Water Bill Impact – Alternative 2 (FY 2015)**



**2.9 Cash Flow Projection of the Water System**

Based on the recommended rate revenue increases shown in Table 2-8, a cash flow forecast for the water system from FY 2015 through FY 2019 was prepared and is shown in Table 2-11. The cash flow forecast shows available cash within the Water Revenue Fund on Line 36 of at least 120 days and debt service coverage levels of at least 1.15 times the debt service associated with all existing and future Revenue Bonds. It also shows compliance with the additional bonds test on Line 40, with debt service coverage of at least 1.10 times maximum annual debt service in FY 2018 and FY 2019. It should be noted that the amount on Line 36 does not include cash held within the Operating Reserve Account or the Renewal and Replacement and Contingency Funds, as the financial forecast did not use funds from these accounts to fund O&M or capital costs in any year of the forecast period.



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**Table 2-11:**  
**Water System Cash Flow Projection for the Water Revenue Fund**

Line No.	Description	Budget FY2014	Projected FY2014	2015	2016	2017	2018	2019
<b>Revenues</b>								
1	Sales to City Customers	\$ 16,109,460	\$ 15,491,433	\$ 16,979,952	\$ 17,377,688	\$ 17,793,927	\$ 18,404,986	\$ 18,769,347
2	Sales to Susquehanna Township	1,901,952	2,524,680	2,182,009	2,232,449	2,285,293	2,363,171	2,409,386
3	Interest Income	-	6,848	34,371	24,435	21,724	17,171	14,667
4	Private Fire Protection Services	300,223	471,360	471,360	471,360	471,360	471,360	471,360
5	Restoration Fees	90,720	55,953	55,953	55,953	55,953	55,953	55,953
6	Other Water Sales	130,260	174,219	179,097	184,112	189,267	194,566	200,014
7	Liens	50,340	62,469	62,469	62,469	62,469	62,469	62,469
8	Other Revenue	70,824	166,118	109,131	112,186	115,326	118,554	121,872
9	<b>Total Revenues</b>	<b>\$ 18,653,779</b>	<b>\$ 18,953,080</b>	<b>\$ 20,074,342</b>	<b>\$ 20,520,652</b>	<b>\$ 20,995,318</b>	<b>\$ 21,688,230</b>	<b>\$ 22,105,069</b>
<b>Operating Expenses</b>								
10	Personnel	\$ 2,533,281	\$ 2,586,292	\$ 2,637,491	\$ 2,740,211	\$ 2,847,429	\$ 2,959,365	\$ 3,076,252
11	Operations	2,358,624	1,776,723	1,922,432	1,976,696	2,040,205	2,105,829	2,173,640
12	Allocation of Expense from CRW Administrative Fund	1,456,076	1,332,574	2,363,911	2,430,101	2,498,143	2,568,091	2,639,998
13	Shared Services	290,040	377,232	377,232	387,794	398,653	409,815	421,290
14	CRW Bank and Trustee Fees	186,216	65,474	72,216	72,216	72,216	72,216	72,216
15	CRW Other Expenses	-	5,250	-	-	-	-	-
16	<b>Total Operating Expenses</b>	<b>\$ 6,824,237</b>	<b>\$ 6,143,545</b>	<b>\$ 7,373,282</b>	<b>\$ 7,607,018</b>	<b>\$ 7,856,646</b>	<b>\$ 8,115,316</b>	<b>\$ 8,383,396</b>
<b>Other Expenses</b>								
17	Minor Capital Outlay	\$ 353,352	\$ 360,821	\$ 554,800	\$ 571,444	\$ 588,587	\$ 606,245	\$ 624,432
18	Transfers to Operating Reserve Account	139,884	411,536	-	38,956	41,605	43,112	44,680
<b>Debt Service</b>								
<i>Existing Debt Service</i>								
19	Water Revenue Bonds, Series A of 2001	\$ 741,425	\$ 741,425	\$ 758,275	\$ -	\$ -	\$ -	\$ -
20	Water Revenue Refunding Bonds, Series A of 2002	767,000	767,000	767,000	767,000	767,000	767,000	767,000
21	Variable Rate Water Revenue Refunding Bonds, Series B of 2002	3,467,783	3,467,783	3,926,153	4,797,594	4,809,275	-	-
22	Variable Rate Water Revenue Refunding Bonds, Series C of 2002	259,826	259,826	214,376	214,376	214,376	214,376	214,376
23	Water Revenue Refunding Bonds, Series of 2004	1,960,900	1,960,900	1,960,200	1,964,000	2,177,400	7,092,000	7,476,250
24	Water Revenue Refunding Bonds, Series of 2008	3,555,300	3,555,300	3,555,300	3,555,300	3,555,300	3,555,300	3,555,300
<i>New Debt Service</i>								
25	Proposed PENNVEST Financing (Various Projects)	\$ -	\$ -	\$ 312,802	\$ 312,802	\$ 312,802	\$ 312,802	\$ 312,802
26	New-Revenue Bond	-	-	-	-	-	-	62,800
27	<b>Total Debt Service</b>	<b>\$ 10,752,234</b>	<b>\$ 10,752,234</b>	<b>\$ 11,494,106</b>	<b>\$ 11,611,072</b>	<b>\$ 11,836,153</b>	<b>\$ 11,941,478</b>	<b>\$ 12,388,528</b>
28	Interest Earnings - DSRF <sup>1</sup>	(667,608)	(449,706)	(449,706)	(449,706)	(449,706)	(449,706)	(449,706)
29	<b>Total Debt Service, Net</b>	<b>\$ 10,084,626</b>	<b>\$ 10,302,528</b>	<b>\$ 11,044,400</b>	<b>\$ 11,161,366</b>	<b>\$ 11,386,447</b>	<b>\$ 11,491,772</b>	<b>\$ 11,938,822</b>
30	Capital Projects Funded with Cash	\$ 980,600	\$ 1,786,408	\$ 5,059,352	\$ 1,158,750	\$ 2,189,568	\$ 2,185,454	\$ 1,361,763
31	<b>Total Expenditures</b>	<b>\$ 18,382,699</b>	<b>\$ 19,004,837</b>	<b>\$ 24,031,834</b>	<b>\$ 20,537,533</b>	<b>\$ 22,062,853</b>	<b>\$ 22,441,899</b>	<b>\$ 22,353,093</b>
32	<b>Revenues Over (Under) Expenditures</b>	<b>\$ 271,080</b>	<b>\$ (51,757)</b>	<b>\$ (3,957,492)</b>	<b>\$ (16,881)</b>	<b>\$ (1,067,535)</b>	<b>\$ (753,669)</b>	<b>\$ (248,024)</b>
33	Beginning Balance	\$ 4,461,898	\$ 4,461,898	\$ 8,852,960	\$ 4,895,468	\$ 4,878,586	\$ 3,811,052	\$ 3,057,383
34	PENNVEST Bond Proceeds (Reimbursement)	-	4,442,819	-	-	-	-	-
35	<b>Revenues Over (Under) Expenditures</b>	<b>271,080</b>	<b>(51,757)</b>	<b>(3,957,492)</b>	<b>(16,881)</b>	<b>(1,067,535)</b>	<b>(753,669)</b>	<b>(248,024)</b>
36	Ending Balance	\$ 4,732,978	\$ 8,852,960	\$ 4,895,468	\$ 4,878,586	\$ 3,811,052	\$ 3,057,383	\$ 2,809,358
37	Target Reserve Balance (120 days O&M)	-	-	\$ 2,457,761	\$ 2,548,658	\$ 2,632,750	\$ 2,719,476	\$ 2,809,358
38	Projected Rate Increase			8.6%	3.0%	3.0%	4.0%	2.5%
39	Debt Service Coverage (Senior debt, 1.10x DS required)			1.19	1.19	1.19	1.18	1.15
40	Debt Service Coverage (Subordinate debt, 1.0x DS required)			1.15	1.16	1.16	1.18	1.15
41	Additional Bonds Test (All-in 1.10x maximum annual DS required) <sup>2</sup>			N/A	N/A	N/A	1.12	1.13
42	Capital Projects - Cash Funded			\$ 5,059,352	\$ 1,158,750	\$ 2,189,568	\$ 2,185,454	\$ 1,361,763
43	Capital Projects - Debt Funded			-	-	-	-	889,255
44	<b>Capital Projects - Total</b>			<b>\$ 5,059,352</b>	<b>\$ 1,158,750</b>	<b>\$ 2,189,568</b>	<b>\$ 2,185,454</b>	<b>\$ 2,251,018</b>

<sup>1</sup>Represents the amount of interest generated from funds on deposit in the Debt Service Reserve Funds of the 2002 and 2008 bonds. The latest version of the Trust Indenture between Capital Region Water and Bank of New York Mellon allows for these funds to offset debt service requirements on outstanding bonds.

<sup>2</sup>It is expected that the proposed PENNVEST loan will close in FY2014 and convert to senior position in December 2017.

### 3. The Wastewater System

#### 3.1 Existing Wastewater Rates

CRW's existing wastewater rate structure is comprised of volumetric rates that differ based on service area, level of service provided, and the results of a cost of service evaluation. Customers located within the City pay a retail rate, while customers located in the Suburban communities pay a wholesale rate. The rates differ based on the services being provided by CRW. For example, customers located within the City utilize CRW's treatment, conveyance, and collection systems and their rates reflect their proportionate share of the cost of operating and maintaining these facilities. However, customers located in the Suburban communities outside the City operate their own collection systems and only utilize CRW's treatment and conveyance facilities. Therefore, the wastewater rates paid by these communities exclude the costs of CRW's collection system. In addition to operating its own collection system, the Borough of Steelton also maintains its own conveyance system and discharges wastewater directly to CRW's AWTF. Therefore, its wholesale rate is different than the other Suburban communities as it reflects only its proportionate share of the costs associated with the use of CRW's treatment facilities.

The existing wastewater rates for all customers are provided in Table 3-1.

**Table 3-1:  
Existing Retail and Wholesale Wastewater Rates**

Customer Class	Cost per 1,000 Gallons
City Customers:	
Utilization	\$5.26
Maintenance	\$0.79
Total	\$6.05
Wholesale Customers:	
Suburban	\$3.00
Steelton	\$2.11

The Inter-Municipal Agreement between CRW and the Suburban communities contains pricing provisions that specify how the wholesale rates are established. A summary of the pertinent sections of the Inter-Municipal Agreement is provided below.

- 5.02. *Each Municipality agrees to pay the City for sewage transport, treatment, and disposal services rendered by the City with respect to sewage and wastes emanating from each such Municipality...in accordance with Schedule A of the Agreement.*
- 5.03. *Each Municipality agrees to pay to the City for each Industrial Establishment, a surcharge for pollutant load for all sewage and waste discharged to the Harrisburg Facilities and emanating from or containing a pollutant load of such strength character as to be classified as "high strength" by application of generally accepted engineering principles, or provisions of any Grant Agreement, or any state or federal law or regulation, which surcharge shall be determined by the City.*
- 5.04. *...City agrees to deliver to each Municipality, a statement of any adjustments to the rates and charges for the next calendar year no later than December 1 of any year. The City will cause its Consulting Engineers to prepare and deliver to it no later than October 1 of each year, a report which shall include estimates of Operating Expenses, and other expenditures, costs, revenues, and changes to the rates for the next calendar year.*
- 5.06. *Each Municipality covenants to pay all taxes and assessments including income, profits, property, franchise, excise, and/or other taxes levied or assessed by Federal, State or any municipal government against the City upon or by reason of payment or receipt of any sums payable by such Municipality hereunder to the City.*
- 6.02. *Each of the Joint Municipalities agrees to pay to the City for sewage transportation, treatment, and disposal, the following separate and distinct charges for customers of any of the Joint Municipalities discharging sewage and wastes to City sewer collection lines referred to in Section 6.01.:*
- A. An amount equal to the amount charged per customer for sewage and wastes discharged through the Harrisburg Conveyance System; and*
  - B. An amount equal to the separate amount charged per customer in the City as a sewer maintenance charge (as distinguished from sewer treatment charge).*



- 6.07. *If the City during the term hereof shall incur extra-ordinary costs in repairs to or in replacement of that part of its sewer lines governed by Article VI, to which sewage and wastes are discharged by one or more of the Joint Municipalities, any such Joint Municipality using that part of the sewer lines shall pay to the City such increased annual fees as are adequate to compensate the City for such additional costs...*
- 6.08. *If any Joint Municipality during the term hereof shall incur extraordinary costs in repair to or replacements of that part of its sewer collection system used jointly with the City, the City agrees to equitably share in the costs of such extraordinary repairs or replacements or to reduce annual fees paid by such Joint Municipality to the City under this Article VI...*

*Schedule A Rates and Charges for Sewage Services*

1. *The categories of rates and charges to be paid to the City for sewage transportation, treatment, and disposal services in accordance with Section 5.02 are as follows:*
  - (a) *Separate rates shall be applied to customers of the City, to customers of the Municipalities discharging wastes through the Harrisburg Conveyance System, and to customers of the Municipalities discharging wastes through the Steelton Conveyance System.*
  - (b) *For each Residence served by metered water service and for each Non-Residential establishment, a rate per 1,000 gallons of water used shall be charged, subject however to minimum charges. Water used for Non-Residential establishments shall be determined by water meter or by estimates made by the Municipality in accordance with generally accepted engineering standards and practices.*
  - (c) *For each Residence not served by metered water service, a flat rate shall be charged.*
2. *The rates and charges described above shall be determined in accordance with the following:*
  - (a) *Rates apply to all customers of the Municipalities and the City shall be based upon a uniform distribution of the estimated amount to be*

*received allocable to the Operating Expenses of the Harrisburg Facilities, subject to (c).*

*(b) Rates applied to customers in the Municipalities shall equal the rates applied to customers of the City, plus 15 percent of the portion of the City rates that is based on upon the estimated amount to be received allocable to Lease Rental payments and a margin of the same, as required under the Lease, subject to (c).*

*(c) Rates applied to customers of the Municipalities discharging wastes through the Steelton Conveyance System shall be based on the Harrisburg Facilities annual revenue requirements allocated only to the sewage treatment plant.*

*(d) The flat rate for Residences shall be based on the rate for customers with metered water service and an average water usage applicable to Residences in the service area of the Harrisburg Facilities.*

*(e) The minimum rates shall be those minimum rates which are imposed within each of the Municipalities and the City, respectively.*

### **3.2 Customer Growth**

The projection of retail wastewater rate revenues is based on rate revenue requirements in future years as well as an assumption regarding annual increases or decreases in billed wastewater flows from both City and Suburban customers. Based on historical trends and discussions with CRW management, an annual decline in customer accounts of -0.1 percent per year was assumed and billed flow per account was assumed to remain flat over the forecast period. As is discussed further in Section 3.7, the projected revenues to be collected from Suburban customers over the forecast period were based on these customers' billed wastewater flows in FY 2013. Therefore, no growth was assumed in the projection of wholesale rate revenue throughout the forecast period.

**3.3 Fiscal Policies**

3.3.1 Target Cash Reserve Balance

3.3.1.1 Wastewater Revenue Fund

CRW's Wastewater Revenue Fund is used to collect system revenues. Once deposited, funds are transferred to the Operating Account to pay monthly operating expenses and excess funds are transferred to other funds of the system, as required. Currently, there is no required level of reserves required to be maintained in the Operating Account or Wastewater Revenue Fund.

The amount of unrestricted and available cash in the Wastewater Revenue Fund as of the beginning of FY 2015 and the anticipated FY 2015 operating and capital expenses of the system were used to calculate the revenue requirements of the wastewater system. The beginning FY 2015 cash balance in the Wastewater Revenue Fund was estimated based on the amount of working capital attributable to the Fund according to CRW's FY 2013 audited financial statements and budgeted cash revenues and expenditures in FY 2014, as provided by CRW.

The financial forecast for the Wastewater Revenue Fund assumes an operating reserve target of 180 days of O&M expenditures. CRW's O&M expenses were projected to be approximately \$11.4 million to \$13.0 million from FY 2015 through FY 2019, which corresponds to an annual reserve target that ranges between approximately \$5.7 million and \$6.5 million over the forecast period, as shown in Table 3-2.

**Table 3-2:  
Projected Year-End Target Reserve Balances**

Fund	FY2015	FY2016	FY2017	FY2018	FY2019
Wastewater Revenue Fund	\$5,693,182	\$5,927,106	\$6,116,286	\$6,312,037	\$6,514,617

3.3.1.2 Renewal, Replacement, and Redemption Fund

The wastewater system also includes a Renewal, Replacement, and Redemption Fund. Cash remaining in the Operating Account is "swept" into this fund after all expenditures and transfers have been made. Expenditures relating to capital additions or other liabilities solely allocable to the wastewater system may be paid from this fund. In addition, outstanding bonds may be redeemed or purchased with monies from this

fund. There is no minimum amount of cash targeted to be maintained in this fund. It should be noted that the calculated wholesale rates and the proposed retail rates did not assume the use of monies from this fund.

### 3.3.2 Debt Service Coverage

Debt service coverage is the amount of net operating revenue (operating revenue less operating expenditures) available to fund annual principal and interest payments on outstanding debt. Currently, CRW's outstanding debt related to the wastewater system is comprised of PENNVEST loans and Revenue Bonds.

CRW's outstanding Revenue Bonds accrue interest based on a variable rate. For the purposes of projecting debt service in future years, a 3.0 percent rate of interest was assumed for the Revenue Bonds, and the debt service payment amounts were provided by CRW's financial advisor, PRAG. Interest is accrued on the PENNVEST loans according to a fixed rate and debt service on these loans is projected in future years accordingly.

Future debt service was assumed to include future Revenue Bond issues and a new PENNVEST loan ("2014 PENNVEST loan") based on discussions with CRW and its financial advisor, PRAG. The 2014 PENNVEST loan will be used to finance upgrades to the AWTF. The principal amount of the 2014 PENNVEST loan is anticipated to be \$21.5 million, which includes \$220,000 in capitalized interest. Debt service payments on the loan are scheduled to begin in FY 2017.

CRW also has access to a \$2.0 million revolving credit facility with M&T Bank. The purpose of the credit facility is to fund initial AWTF upgrade costs and facilitate construction draws related to the 2014 PENNVEST loan. The credit facility was established with the issuance of the Series 2014A Wastewater System Revenue Note.

The required level of debt service coverage on outstanding debt is described in Article V, Section 501 of the Trust Indenture<sup>2</sup> securing the Series 2014A Wastewater System Revenue Note and is included below.

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<sup>2</sup> Trust Indenture dated as of March 1, 2014 between The Harrisburg Authority and Manufacturers and Traders Trust Company.

*“The Authority covenants that (a) it has adopted and will charge, maintain and collect throughout its service area so long as any Bonds remain Outstanding and funds for their payment have not been provided, service rates, rents and other charges, which (after making due and reasonable allowances for prompt payment discounts, if any, contingencies and a margin of error in the estimates), shall generate Pledged Revenues (exclusive of Assessment Revenues, including connection and tapping fees which constitute Pledged Revenues) which shall be sufficient in each Fiscal Year to provide funds to pay (1) the Operating Expenses of the Authority, (2) an amount not less than 110% of the Debt Service Requirements with respect to its Outstanding Parity Obligations in such Fiscal Year, (3) any amount required to replenish the Debt Service Reserve Fund in full and (4) funds sufficient to pay the amount due in such Fiscal Year on all Subordinated Debt.”*

Therefore, based on the provisions of the Trust Indenture under the Series 2014 bonds, the debt service coverage target was established at a level of 1.15 times or greater with respect to debt service related to all senior debt and 1.05 times debt service with respect to all subordinate debt of the wastewater system.

### **3.4 Wastewater Revenue and Expense Projections**

The projection of wastewater O&M expenses over the forecast period was based on preliminary budget figures for FY 2015. In general, O&M expenses were comprised of costs related to salaries and wages, employee benefits, insurance, utilities, chemicals, professional services, and general administrative costs. In addition, O&M expenses also included costs for shared services between the City and CRW, and administrative costs of CRW that were allocated to the wastewater system. Based on discussions with CRW management, an expense of \$350,000 for nutrient credit purchases was assumed in FY 2015. With the completion of the upgrades to the AWTF, no expense for nutrient credit purchases was budgeted in FY 2016 or beyond; however, based on discussions with CRW management, additional operational expenses of approximately \$1.5 million were added in each year of the forecast period, beginning in FY 2016, to account for the additional cost to operate the upgraded AWTF and \$1 million was added in FY 2015 to account for interceptor cleaning costs.

Individual O&M expenses were classified as labor, benefits, insurance, chemicals, utilities, or general and escalated in future years based on the corresponding escalation factor. The escalation factors for each of the expense classifications are provided in Table 3-3 and were developed based on discussions with CRW staff.

**Table 3-3:  
O&M Cost Escalation Factors**

Expense Classification	Escalator
Labor	3.0%
Benefits	6.0%
Insurance	3.0%
Chemicals	4.0%
Utilities	3.0%
Legal	3.0%
General	2.8%

Capital improvement projects and expenditures related to minor capital purchases were escalated on an annual basis at a rate of 3.0 percent.

CRW's non-rate revenues were comprised of sludge handling charges, electricity sales, pretreatment charges, interest income, and other miscellaneous revenues. Non-rate, fee-based revenues were expected to remain constant over the forecast period; therefore, these items were not escalated in future years. All other non-rate revenues, with the exception of interest income, were projected over the forecast period based on an escalation rate of 3.0 percent per year. Interest income was calculated based on the average annual balance in the Wastewater Revenue Fund and an interest earnings rate of approximately 0.5 percent per year.

### **3.5 Capital Projects**

The projection of wastewater system capital project expenditures was based on a schedule of future capital project costs as provided in the 2014 Consulting Engineers' Annual Report for the wastewater system. The total capital project costs relating to treatment, pump station, conveyance, and collection facilities over the forecast period are shown in Table 3-4. The table also shows costs related CRW's Long-Term Control Plan as well as other miscellaneous projects.

**Table 3-4:  
Wastewater System Capital Projects – FY 2015 through FY 2019**

	FY2015	FY2016	FY2017	FY2018	FY2019
Wastewater Treatment Plant	\$ 28,363,867	\$ 10,058,723	\$ 426,231	\$ 4,289,203	\$ 193,732
Pump Station Improvements	-	1,133,000	5,569,725	4,644,090	-
Conveyance	150,000	1,533,240	3,279,172	3,390,430	193,732
Collection	1,328,507	1,347,618	1,164,303	1,203,846	-
Long-Term Control Plan	1,130,966	874,444	1,158,942	897,654	354,535
Miscellaneous	2,230,703	2,125,094	892,019	976,214	-
<b>Total</b>	<b>\$ 33,204,043</b>	<b>\$ 17,072,119</b>	<b>\$ 12,490,392</b>	<b>\$ 15,401,437</b>	<b>\$ 741,998</b>

Note: Capital project costs escalated at a rate of 3.0 percent per year in future years.

### 3.5.1 Capital Project Funding

The capital project expenditures shown in Table 3-4 were assumed to be funded with cash generated from current revenues, existing bond proceeds, and new Revenue Bond issues based on discussions with CRW management and CRW's financial advisor, PRAG. The amount of capital projects funded from each of these sources over the forecast period is shown in Table 3-5. The new Revenue Bonds were assumed with level debt service, an interest rate of 5.0 percent, and a term of 30 years.

**Table 3-5:  
Capital Project Funding Sources – FY 2015 through FY 2019**

Description	FY2015	FY2016	FY2017	FY2018	FY2019
Series 2014A/B Revenue Note/Bonds	\$ 28,130,350	\$ 3,708,000	\$ -	\$ -	\$ -
New Revenue Bonds	-	9,244,119	8,246,792	11,030,529	-
Cash	5,073,693	4,120,000	4,243,600	4,370,908	741,998
<b>Total</b>	<b>\$ 33,204,043</b>	<b>\$ 17,072,119</b>	<b>\$ 12,490,392</b>	<b>\$ 15,401,437</b>	<b>\$ 741,998</b>

Note: Capital project costs escalated at a rate of 3.0 percent per year in future years.

## 3.6 Wholesale Rate Calculation

### 3.6.1 Cost Categorization

The rate revenue requirements for FY 2015 were allocated to several different cost factors. These cost factors consist of the following categories:

- Treatment – These costs are related to wastewater treatment and are shared by all users of the system.
- Conveyance – These costs are related to the use of conveyance facilities and are shared by all users of the system, except customers whose wastewater flow is conveyed through the Steelton conveyance system.

- Collection – These costs are related to the City’s collection system and apply only to City customers.
- Other – These costs are related to system costs or revenues associated with City customers and are not associated with other users of the system.

In addition, administration costs were first categorized into a separate administration cost category and then subsequently re-allocated to the four categories listed above.

Note that the capital revenue requirement in FY 2015 includes AWTF biological nutrient removal, headworks, and other plant process improvement projects. The costs of these projects were allocated to the “Treatment” cost category. In addition, the capital plan in FY 2015 includes over \$1 million of pay-as-you-go funding for rehabilitation and replacement of the City’s collection system, and these costs were allocated to the “Collection” cost category. Other capital projects anticipated to be funded in FY 2015 include GIS mapping, which was allocated to the “Collection” cost category, and costs associated with the integrated long-term control planning project, which was allocated one third to each cost category “Treatment,” “Conveyance,” and “Collection.” Additional details regarding the allocation of capital costs to cost categories can be found in Appendix A.

A summary of the resulting revenue requirement categorizations for FY 2015 is provided in Table 3-6. O&M and capital rate revenue requirements represent annual O&M and capital costs less their respective miscellaneous revenue offsets.

**Table 3-6:  
Summary of Cost Categorization Results (FY 2015)**

Description	Treatment	Conveyance	Collection	Other	Total
Operating Revenue Requirement	\$ 4,745,396	\$ 4,020,475	\$ 2,313,611	\$ 3,694	\$ 11,083,175
Allocation %	43%	36%	21%	0%	100%
Capital Revenue Requirement	\$ 3,255,377	\$ 641,008	\$ 2,885,303	\$ (347)	\$ 6,781,342
Allocation %	48%	9%	43%	0%	100%
Total	\$ 8,000,773	\$ 4,661,483	\$ 5,198,913	\$ 3,347	\$ 17,864,517

### 3.6.2 Cost Allocation

The categorized costs were allocated to City and Suburban customers based on each customer’s proportionate usage of the system. A summary of the wastewater flows



attributable to City customers and to each of the Suburban customers is shown in Table 3-7.

**Table 3-7:  
Customer Units of Service (FY 2015)**

Customer Class	Non-Metered Consumption EDU's	Non-Metered Consumption (1,000 gallons)	Metered Consumption (1,000 gallons)	Total Consumption (1,000 gallons)	Extraneous Wastewater Flow <sup>3</sup> (1,000 gallons)	Total Wastewater Volume (1,000 gallons)
City of Harrisburg	-	-	1,438,863	1,438,863	1,346,124	2,784,987
Penbrook Borough	1,331	86,531	10,161	96,692	90,460	187,152
Paxtang Borough	669	43,501	5,530	49,031	45,871	94,902
Swatara Township - via Harrisburg	-	-	392,011	392,011	366,745	758,756
Swatara Township - via Steelton	-	-	68,936	68,936	64,493	133,429
Lower Paxton Township	13,012	845,796	178,032	1,023,828	957,839	1,981,668
Susquehanna Township	10,703	695,663	180,373	876,035	819,572	1,695,607
Steelton Borough	-	-	127,715	127,715	119,484	247,199
<b>Total</b>	<b>25,715</b>	<b>1,671,491</b>	<b>2,401,621</b>	<b>4,073,112</b>	<b>3,810,588</b>	<b>7,883,700</b>

<sup>1</sup>Based on FY 2013 billing data provided by the City.

<sup>2</sup>One EDU was assumed to equal 65,000 gallons of residential non-metered consumption per year.

<sup>3</sup>Calculated as the difference between total annual wastewater flow volume received at the AWTF less billed consumption for FY2013. Extraneous flow volumes were allocated among customer classes based upon their proportionate billed consumption amounts.

The units of service for flat rate customers with non-metered consumption were assumed to be 65,000 gallons per year. As shown in Table 3-8, the average amount of consumption per residential account, over the past five years for customers located in the City and in the Suburban communities receiving water service from CRW, was approximately 53,000 gallons per year. This is lower than the historical assumption used by CRW for its flat rate customers. Given that the historical data indicates billed water consumption per account is declining, CRW should consider adjusting its usage assumptions for flat rate customers if this trend continues in the future.

**Table 3-8  
Historical Water Consumption per Residential Account**

Year	Water Sales (Gallons)	Number of Customers	Annual Billed Water Consumption per Customer (Gallons)
2009	1,425,641,868	18,458	77,237
2010	1,098,845,154	18,445	59,574
2011	738,166,914	18,426	40,061
2012	835,840,867	18,454	45,293
2013	829,975,715	18,456	44,971
5-Year Historical Average			53,427

Source: Continuing Disclosure Annual Report for Capital Region Water for the fiscal year ending December 31, 2013.

The units of service were based on metered and billed water consumption, which implicitly assumes that inflow and infiltration (“I&I”) flow volumes are proportional to the billed water consumption amounts. As a result, I&I costs were also implicitly distributed proportionally to billed flows. CRW is currently in the process of collecting wastewater flow data at various locations throughout the system. In the future, as this flow data becomes available, CRW should test the validity of this assumption and adjust the allocation of I&I costs as warranted by the data.

The units of service were distributed to the four cost categories based on each customer’s use of the wastewater system. This is shown in Table 3-9.

**Table 3-9:  
Allocation of Units of Service to Cost Categories**

Customer Class	Allocation (%)			
	Treatment	Conveyance	Collection	Other
City of Harrisburg	100%	100%	100%	100%
Penbrook Borough	100%	100%	0%	0%
Paxtang Borough	100%	100%	0%	0%
Swatara Township - via Harrisburg	100%	100%	0%	0%
Swatara Township - via Steelton	100%	0%	0%	0%
Lower Paxton Township	100%	100%	0%	0%
Susquehanna Township	100%	100%	0%	0%
Steelton Borough	100%	0%	0%	0%

The unit cost of service was calculated by dividing the categorized costs by the units of service applicable to each cost category. The unit cost of service for O&M and capital costs is shown in Table 3-10.

**Table 3-10:  
Unit Cost of Service (FY 2015)**

Description	Treatment	Conveyance	Collection	Other
Units of Service (1,000 gallons)	4,073,112	3,876,461	1,438,863	1,438,863
Operating Revenue Requirement	\$ 4,745,396	\$ 4,020,475	\$ 2,313,611	\$ 3,694
Capital Revenue Requirement	\$ 3,255,377	\$ 641,008	\$ 2,885,303	\$ (347)
Operating Unit Cost (\$/1,000 gallons)	\$1.17	\$1.04	\$1.61	\$0.00
Capital Unit Cost (\$/1,000 gallons)	\$0.80	\$0.17	\$2.01	-\$0.74

### 3.6.3 Wholesale Rate Calculation

The FY 2015 wholesale rates were calculated for Suburban customers based on the calculated unit cost of service for each cost category and each customer's use of the wastewater system. For example, the City does not provide collection service to Suburban customers. Therefore, the wholesale rates exclude the unit cost for the "Collection" category. Similarly, a separate wholesale rate is shown for customers discharging wastewater through the Steelton conveyance system, as the wholesale rate for these customers excludes the unit rate associated with the costs incurred by CRW to convey wastewater to its treatment plant.

The calculated wholesale rates for FY 2015 for Suburban customers and for customers using the Steelton conveyance system are shown in Table 3-11. The O&M and capital components of the rates, by cost category, are also shown in this table. The table also shows a credit for an overpayment of expenses related to nutrient credit purchases. The current FY 2014 wholesale rates were based on nutrient credit purchases of \$1,000,000 in FY 2014. The actual amount of purchases was \$350,000. Therefore, a credit was applied based on the amount overpaid by Suburban and Steelton customers in FY 2014 and their projected units of service.

Additional wholesale rate calculation details are provided in Appendix A of this report.

**Table 3-11:  
Calculated Wholesale Rates (FY 2015)**

Description	Customer Class		
	City	Suburbs <sup>1</sup>	Steelton <sup>2</sup>
<b>O&amp;M Rate</b>			
Treatment	\$1.17	\$1.17	\$1.17
Conveyance	\$1.04	\$1.04	\$0.00
Collection	\$1.61	\$0.00	\$0.00
Other	\$0.00	\$0.00	\$0.00
Credit: Nutrient Credit Overpayment	<u>\$0.00</u>	<u>-\$0.17</u>	<u>-\$0.14</u>
<b>Total O&amp;M Rate (\$/1,000 gallons)</b>	<b>\$3.81</b>	<b>\$2.03</b>	<b>\$1.02</b>
<b>Capital Charge (Lease Rental Rates)<sup>3</sup></b>			
Treatment	\$0.80	\$0.92	\$0.92
Conveyance	\$0.17	\$0.19	\$0.00
Collection	\$2.01	\$0.00	\$0.00
Other <sup>4</sup>	<u>-\$0.74</u>	<u>\$0.00</u>	<u>\$0.00</u>
<b>Total Capital Charge (\$/1,000 gallons)</b>	<b>\$2.23</b>	<b>\$1.11</b>	<b>\$0.92</b>
<b>Total Rate (\$/1,000 gallons)</b>	<b>\$6.04</b>	<b>\$3.14</b>	<b>\$1.94</b>

<sup>1</sup>Penbrook and Paxtang Borough, and Sw atara, Low er Paxton, and Susquehanna Tow nship.

<sup>2</sup>Steelton Borough and a portion of Sw atara do not share in the conveyance system costs.

<sup>3</sup>Reflects a 15% adjustment to the unit costs per Section 2b of Schedule A of the Agreement.

<sup>4</sup>Represents the use of cash-on-hand to fund the City's portion of capital project costs. A portion of the cash used represents cash generated from the overpayment of nutrient credit expenses by City customers in FY2014.

The wholesale rates calculated as part of this report were based on one EDU representing 65,000 gallons of wastewater volume per year. However, if an estimate of 53,000 gallons per EDU was used to represent the annual wastewater volume of flat rate Suburban customers, the unit rate charged to Suburban and Steelton customers would be \$3.40 and \$2.11, respectively, in FY 2015.

### 3.7 Wastewater System Rate Revenue Requirements

The calculation of the rate revenue requirement for City customers is shown in Table 3-12. Rate revenue requirements include O&M expenses, debt service, minor capital outlays, and cash funded capital project expenditures. Non-rate revenues (e.g. interest earnings, waste hauling, electric sales, pretreatment fees and charges, and other miscellaneous revenues) were subtracted in order to determine the annual wastewater rate revenue requirements. In addition, wholesale rate revenue, which was estimated

by multiplying the wholesale rates calculated in Section 3.6 by the estimated amount of Suburban customer wastewater flow, was included in the calculation in Table 3-12 and serves to offset the City's rate revenue requirement.

**Table 3-12:  
Wastewater Rate Revenue Requirements for City Customers**

Line No.	Description	Fiscal Year Ending December 31				
		FY2015	FY2016	FY2017	FY2018	FY2019
1	Operation and Maintenance Expense	\$ 11,386,363	\$ 11,854,212	\$ 12,232,572	\$ 12,624,075	\$ 13,029,234
	Capital Expenditures					
2	Debt Service	\$ 1,707,996	\$ 2,388,267	\$ 4,672,547	\$ 5,460,162	\$ 5,463,349
3	Minor Capital Outlay	567,991	585,031	602,582	620,659	639,279
4	Pay-Go Cash Funded Capital	<u>5,073,693</u>	<u>4,120,000</u>	<u>4,243,600</u>	<u>4,370,908</u>	<u>741,998</u>
5	Total Capital Expenditures	\$ 7,349,680	\$ 7,093,298	\$ 9,518,729	\$ 10,451,729	\$ 6,844,626
6	Total O&M and Capital Expenses	\$ 18,736,043	\$ 18,947,511	\$ 21,751,300	\$ 23,075,804	\$ 19,873,860
	Less Revenue From Other Sources					
7	Wholesale Revenue	\$ (8,105,665)	\$ (9,027,449)	\$ (10,695,696)	\$ (11,441,895)	\$ (9,975,181)
8	Miscellaneous Revenue	\$ (795,927)	\$ (798,203)	\$ (800,542)	\$ (802,947)	\$ (805,419)
9	Interest Income	(75,599)	(72,038)	(67,905)	(60,524)	(57,100)
10	Sources & Uses of Funds	<u>(1,062,435)</u>	<u>(362,102)</u>	<u>(1,291,150)</u>	<u>(1,661,148)</u>	<u>291,525</u>
11	Net Rate Revenue Requirements	\$ (10,039,626)	\$ (10,259,791)	\$ (12,855,292)	\$ (13,966,514)	\$ (10,546,175)
	Adjustment for Revenue From Other Sources					
12	Operation and Maintenance Expenses	\$ 2,409,172	\$ 1,956,523	\$ 668,429	\$ 318,709	\$ 2,191,534
13	Capital Expenses	<u>6,287,245</u>	<u>6,731,197</u>	<u>8,227,579</u>	<u>8,790,581</u>	<u>7,136,151</u>
14	Total Rate Revenue Requirement	\$ 8,696,417	\$ 8,687,720	\$ 8,896,008	\$ 9,109,290	\$ 9,327,685
15	Rate Revenue Increase From Prior Year	0.0%	-0.1%	2.4%	2.4%	2.4%
16	Rate Revenue Increase After Growth	0.0%	0.0%	2.5%	2.5%	2.5%

As shown on Line 16 of the table, no increase in retail rate revenue is needed in FY 2015 and FY 2016. However, a 2.5 percent increase in retail rate revenue is projected in FY 2017 through FY 2019 to adequately fund system costs.

### 3.8 Proposed Retail Wastewater Rates

The proposed retail wastewater rates for FY 2015 through FY 2019 are shown in Table 3-13 and are based on the existing retail rates and the recommended rate revenue increases shown in Table 3-12.

**Table 3-13:  
Proposed Retail Wastewater Rates**

Description	Existing	FY2015	FY2016	FY2017	FY2018	FY2019
	FY2014					
<b>Volume (\$/1,000 gallons)</b>						
Sewer Utilization Charge	\$5.26	\$5.26	\$5.26	\$5.39	\$5.53	\$5.66
Sewer Maintenance Charge	<u>\$0.79</u>	<u>\$0.79</u>	<u>\$0.79</u>	<u>\$0.79</u>	<u>\$0.79</u>	<u>\$0.79</u>
Total	\$6.05	\$6.05	\$6.05	\$6.18	\$6.32	\$6.45

As an alternative to the current rate structure, which recovers the required rate revenue solely from a volumetric charge, CRW could consider adding a fixed charge to recover a portion of the capital cost of the system on a fixed revenue basis. Some wastewater utilities recover a portion of the cost of treating inflow and infiltration from a fixed charge and a portion from a volume charge to reflect that the number of connections in the wastewater system reflects the size of the system and the greater potential for infiltration through poor joints and cracked pipes, and the inflow through roof and foundation drains. In addition, some wastewater utilities recover a portion of annual debt service with a fixed charge to better match fixed costs with a fixed revenue stream. We understand that CRW does not currently wish to modify its existing wastewater rate structure. However, in the future, as CRW proceeds with its integrated long-term control plan and AWTF improvements, these rate structure alternatives should be considered and evaluated further.

### **3.9 Cash Flow Projection of the Wastewater System**

Based on the recommended rate revenue increases shown in Table 3-12, a cash flow forecast for the wastewater system for FY 2015 through FY 2019 was prepared and is shown in Table 3-14. The cash flow forecast shows cash on hand of at least 180 days within the Wastewater Revenue Fund and debt service coverage levels of at least 1.15 times debt service attributable to Revenue Bonds and at least 1.05 times all other debt service. It should be noted that the amount on Line 29 does not include cash held within the Renewal, Replacement, and Redemption Fund or any other restricted cash of the system as the financial forecast did not use funds from these accounts to fund O&M or capital costs in any year of the forecast period.



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**Table 3-14:  
Wastewater System Cash Flow Projection**

Line No.	Description	Fiscal Year Ending December 31st						
		Budgeted FY2014	Projected FY2014	2015	2016	2017	2018	2019
<b>Revenues</b>								
1	Sales to City Customers	\$ 9,155,580	\$ 9,191,502	\$ 8,696,417	\$ 8,687,720	\$ 8,896,008	\$ 9,109,290	\$ 9,327,685
2	Sales to Public Authorities	7,839,468	8,913,062	8,105,665	9,027,449	10,695,696	11,441,895	9,975,181
3	Sludge Handling Charges	474,996	342,179	342,179	342,179	342,179	342,179	342,179
4	Investment Income	16,836	37,839	75,599	72,038	67,905	60,524	57,100
5	Electricity Sales	150,000	303,239	303,239	303,239	303,239	303,239	303,239
6	Liens	33,108	16,916	17,389	17,876	18,376	18,891	19,420
7	Other Revenue	51,912	131,380	133,120	134,909	136,748	138,638	140,581
8	<b>Total Revenues</b>	<b>\$ 17,721,900</b>	<b>\$ 18,936,117</b>	<b>\$ 17,673,608</b>	<b>\$ 18,585,409</b>	<b>\$ 20,460,151</b>	<b>\$ 21,414,656</b>	<b>\$ 20,165,385</b>
<b>Operating Expenses</b>								
9	Personnel	\$ 3,350,879	\$ 2,748,776	\$ 3,658,788	\$ 3,801,141	\$ 3,949,719	\$ 4,104,828	\$ 4,266,786
10	Operations	5,930,279	3,966,998	4,553,375	3,294,223	3,391,387	3,491,452	3,594,505
11	Additional Operating Expense (BNR Upgrade)	-	-	-	1,500,000	1,542,000	1,585,176	1,629,561
12	Allocation of Expense from CRW Administrative Fund	1,456,076	1,220,733	2,363,911	2,430,101	2,498,143	2,568,091	2,639,998
13	Shared Services	1,641,636	1,529,343	784,251	806,210	828,784	851,990	875,846
14	<b>Total Operating Expenses</b>	<b>\$ 12,378,870</b>	<b>\$ 9,465,850</b>	<b>\$ 11,360,325</b>	<b>\$ 11,831,674</b>	<b>\$ 12,210,034</b>	<b>\$ 12,601,537</b>	<b>\$ 13,006,696</b>
<b>Other Expenses</b>								
15	Minor Capital Outlay	1,537,272	551,498	567,991	585,031	602,582	620,659	639,279
16	CRW Bank and Trustee Fees	5,064	385,852	26,038	22,538	22,538	22,538	22,538
<b>Debt Service</b>								
<i>Existing Debt Service</i>								
17	1998 PENNVEST Loan	\$ 94,588	\$ 94,588	\$ 94,588	\$ 94,588	\$ 88,965		
18	2009 PENNVEST Loan	106,523	106,523	104,168	109,144	114,120	114,120	114,120
19	2013 PENNVEST Loan	49,669	49,669	49,669	49,669	49,669	49,669	50,679
20	Sewer Revenue Bonds, Series B of 2014 (VRDO)	1,298,600	1,298,600	1,459,571	1,482,036	2,096,914	2,095,628	2,097,805
<i>New Debt Service</i>								
21	PENNVEST Loan, Series 2014	-	-	-	-	1,087,650	1,186,527	1,186,527
22	New Debt Service (Bonds)	-	-	-	652,831	1,235,229	2,014,219	2,014,219
23	<b>Total Debt Service</b>	<b>\$ 1,549,380</b>	<b>\$ 1,549,380</b>	<b>\$ 1,707,996</b>	<b>\$ 2,388,267</b>	<b>\$ 4,672,547</b>	<b>\$ 5,460,162</b>	<b>\$ 5,463,349</b>
24	Capital Projects Funded with Cash	\$ 1,933,227	\$ 4,927,051	\$ 5,073,693	\$ 4,120,000	\$ 4,243,600	\$ 4,370,908	\$ 741,998
25	<b>Total Revenue Requirements</b>	<b>\$ 17,403,813</b>	<b>\$ 16,879,631</b>	<b>\$ 18,736,043</b>	<b>\$ 18,947,511</b>	<b>\$ 21,751,300</b>	<b>\$ 23,075,804</b>	<b>\$ 19,873,860</b>
26	<b>Revenues Over (Under) Expenditures</b>	<b>\$ 318,087</b>	<b>\$ 2,056,486</b>	<b>\$ (1,062,435)</b>	<b>\$ (362,102)</b>	<b>\$ (1,291,150)</b>	<b>\$ (1,661,148)</b>	<b>\$ 291,525</b>
27	Beginning Balance	\$ 13,594,563	\$ 13,594,563	\$ 15,651,049	\$ 14,588,614	\$ 14,226,513	\$ 12,935,363	\$ 11,274,215
28	Revenues Over (Under) Expenditures	318,087	2,056,486	(1,062,435)	(362,102)	(1,291,150)	(1,661,148)	291,525
29	Ending Balance	\$ 13,912,650	\$ 15,651,049	\$ 14,588,614	\$ 14,226,513	\$ 12,935,363	\$ 11,274,215	\$ 11,565,740
30	Target Reserve Balance (180 days O&M)			\$ 5,693,182	\$ 5,927,106	\$ 6,116,286	\$ 6,312,037	\$ 6,514,617
31	Projected City Rate Increase			0.0%	0.0%	2.5%	2.5%	2.5%
32	Debt Service Coverage (Senior debt, 1.10x DS required)			4.31	3.16	2.47	2.14	1.74
33	Debt Service Coverage (Subordinate debt, 1.0x DS required)			3.69	2.82	1.77	1.61	1.31
34	Capital Projects - PayGo Funded			\$ 5,073,693	\$ 4,120,000	\$ 4,243,600	\$ 4,370,908	\$ 741,998
35	Capital Projects - AWTF Unspent Bond Proceeds			28,130,350	3,708,000	-	-	-
36	Capital Projects - Debt Funded			-	9,244,119	8,246,792	11,030,529	-
37	<b>Capital Projects - Total</b>			<b>\$ 33,204,043</b>	<b>\$ 17,072,119</b>	<b>\$ 12,490,392</b>	<b>\$ 15,401,437</b>	<b>\$ 741,998</b>

#### 4. Water and Wastewater Rate Comparison

CRW's proposed water and wastewater rates were compared to the rates currently in effect for other utilities within the region. In addition to the CRW, the following utilities were included in the comparison.

- City of Pittsburgh, PA
- City of Altoona, PA
- City of Williamsport, PA
- City of Bethlehem, PA
- City of Philadelphia, PA
- City of Allentown, PA
- Pennsylvania American Water
- City of Erie, PA
- City of Lancaster, PA

Monthly bills were calculated for residential, commercial, and industrial customers based on an assumed amount of water consumption, wastewater flow, and meter size. Table 4-1 shows the assumed amount of water consumption, wastewater flow, and meter size for each customer. The amount of water consumption and wastewater flow was assumed to be equal for each customer.

**Table 4-1  
Customer Usage and Meter Size Characteristics**

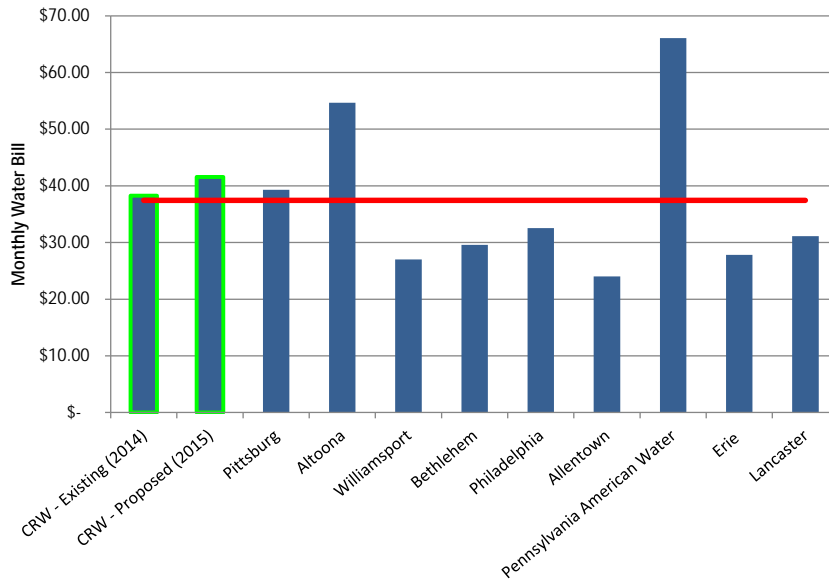
Customer Class	Test Usage (gallons)	Test Usage (CCF)	Meter Size
Residential	5,000	6.68	5/8"
Commercial	14,000	18.72	1"
Industrial	30,000	40.10	3"

##### 4.1 Estimated Water Bills

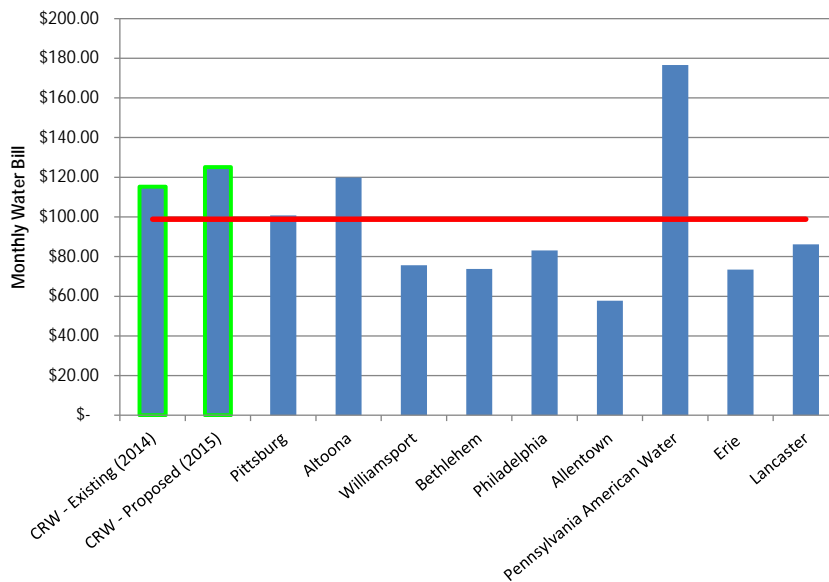
The comparison of estimated monthly water bills are shown by customer type in Figure 4-1, Figure 4-2, and Figure 4-3. CRW's existing and proposed water rates under Alternative 1 are included in each comparison. In addition, a line representing the average of all estimated bills for utilities included in the comparison is also shown.



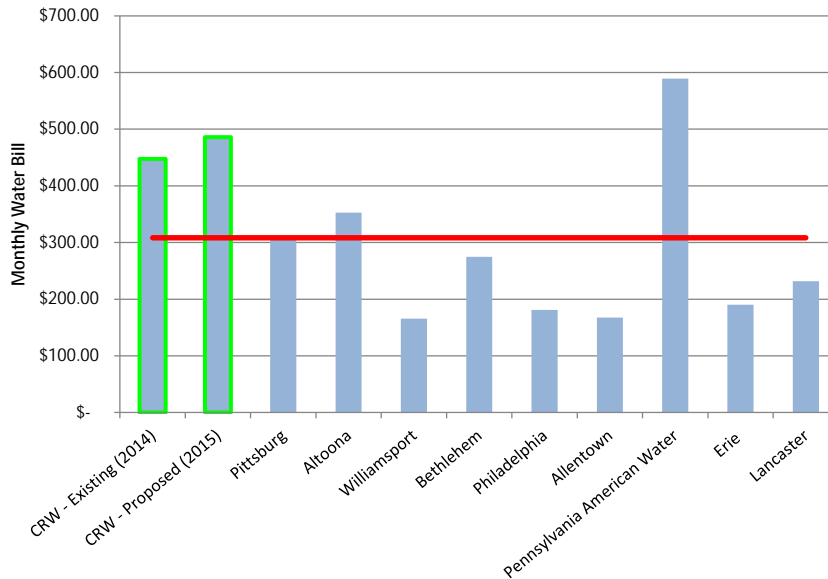
**Figure 4-1  
Estimated Water Bill Comparison - Residential**



**Figure 4-2  
Estimated Water Bill Comparison - Commercial**



**Figure 4-3**  
**Estimated Water Bill Comparison – Industrial**

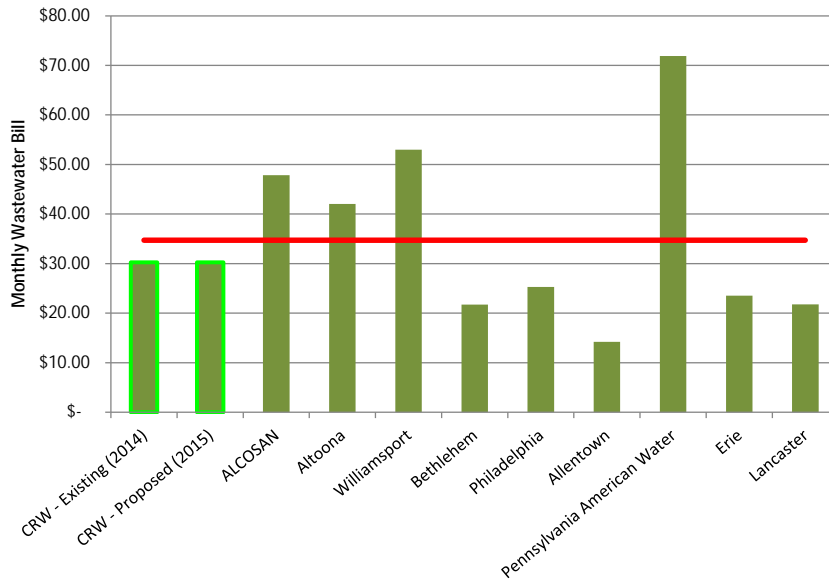


As shown in each of the figures, CRW's estimated monthly bills based on existing rates were among the highest of the utilities that were surveyed. Given the proposed Alternative 1 rates, CRW's estimated monthly residential bill was less than two other utilities, while its estimated monthly bill for commercial and industrial customers were each less than only one other utility.

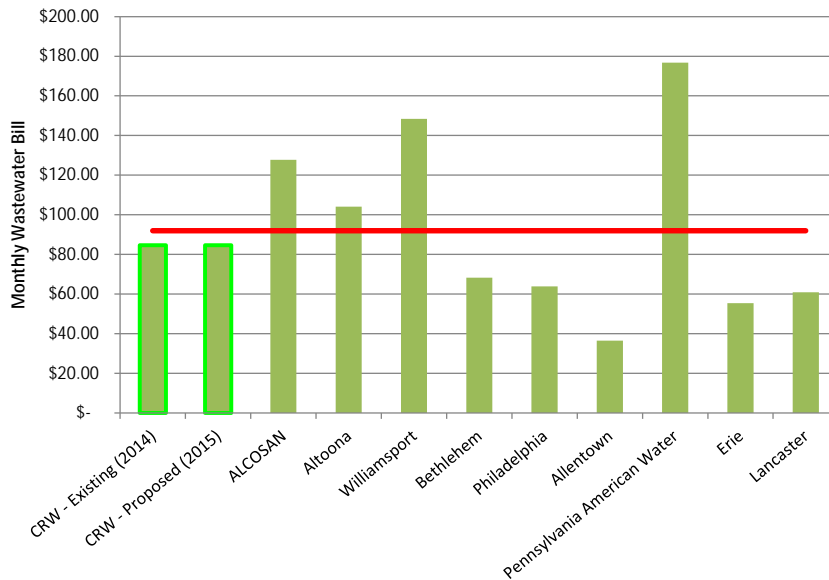
#### 4.2 Estimated Wastewater Bills

The comparison of estimated monthly wastewater bills are shown by customer type in Figure 4-4, Figure 4-5, and Figure 4-6. It should be noted that the estimated bills for CRW reflect its FY 2015 retail rate to City customers. In addition, a line representing the average of all estimated bills for utilities included in the comparison is shown in each figure.

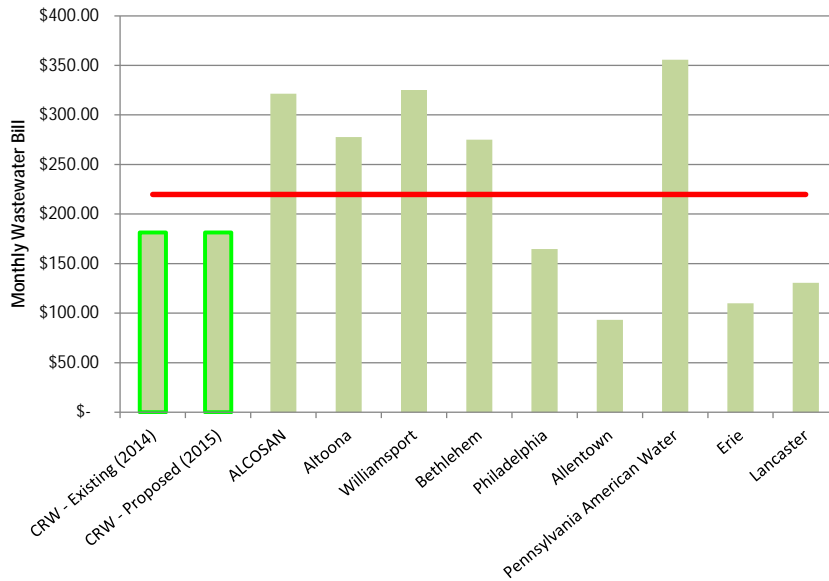
**Figure 4-4**  
**Estimated Wastewater Bill Comparison – Residential**



**Figure 4-5**  
**Estimated Wastewater Bill Comparison – Commercial**



**Figure 4-6**  
**Estimated Wastewater Bill Comparison – Industrial**



As shown in each of the figures, CRW’s estimated monthly wastewater bills for both its existing and proposed retail rate were close to the average monthly bills of all utilities included in the comparison. Based on the proposed retail rate, CRW’s estimated residential and commercial bills were less than four other utilities, while its industrial bill was less than five other utilities that were surveyed.

## 5. Conclusions and Recommendations

The following are the conclusions and recommendations of this rate study:

- A water rate revenue increase is recommended in FY 2015 to adequately fund the costs of the water system. Two water rate alternatives were prepared for CRW's consideration. Alternative 1 keeps the existing rate structure and applies the rate increases equally between the Readiness to Serve Charge and the volumetric rate. Alternative 2 increases the Readiness to Serve Charge and keeps the volume rate unchanged. Implementing higher fixed charges is a trend in the industry in order to improve revenue stability and respond to trends of declining water consumption.
- If CRW selects Alternative 1, then it is recommended that the monthly Readiness to Serve Charge for a customer with a 5/8" meter be increased from \$5.22 to \$5.67 per month, and the volume charge be increased from \$6.61 per 1,000 gallons to \$7.18 per 1,000 gallons at the beginning of fiscal year FY 2015. This rate structure alternative generates approximately 29 percent of rate revenues from the Readiness to Serve Charge and approximately 71 percent from the volume rate.
- The recommended water rate increase in FY 2015 (under Alternative 1) would raise the typical residential bill by \$2.95 per month, from \$34.30 to \$37.25 assuming consumption of 4,400 gallons per month. This increase, if adopted, corresponds to a water rate increase of approximately 8.6 percent for the typical residential customer. Water rate increases of 3.0 percent in FY 2016 and FY 2017, 4.0 percent in FY 2018, and 2.5 percent in FY 2019 are projected to cover projected costs and to meet fiscal requirements and targets in these years.
- If CRW selects Alternative 2, then it is recommended that the monthly Readiness to Serve Charge for a customer with a 5/8" meter be increased from \$5.22 to \$6.88 per month in FY 2015, and the volume charge be unchanged at \$6.61 per 1,000 gallons. This rate structure alternative generates approximately 35 percent of rate revenues from the Readiness to Serve Charge in FY 2015. The percentage increases each year to reach approximately 43 percent by FY 2019. Correspondingly, revenue from the volume rate generates about 65 percent in FY 2015 and decreases each year to reach approximately 57 percent by FY 2019.

- The recommended water rate increase in FY 2015 (under Alternative 2) would raise the typical residential bill for a customer consuming 4,400 gallons per month by \$1.66 per month, from \$34.30 to \$35.96. This increase, if adopted, corresponds to approximately a 4.8 percent water rate increase for the typical residential customer.
- The decision to proceed with Alternative 1 or Alternative 2 should consider the stability of revenues, as well as the bill impact on customers. Alternative 2 provides more revenue stability since it results in more fixed revenues. However, under Alternative 2, increasing the Readiness to Serve Charge and not the volumetric rate will result in higher bill increases on a percentage basis than Alternative 1 for customers that consume relatively small amounts of water.
- A City retail wastewater rate revenue increase is not recommended in FY 2015. The existing retail rates are projected to be able to adequately fund all costs and fiscal requirements in FY 2015. In addition, no wastewater rate increase is projected for FY 2016. Wastewater rate increases of 2.5 percent are projected in FY 2017 through FY 2019 to cover projected costs and to meet fiscal requirements and targets in these years.
- In the future, CRW should consider adding a fixed charge to the City retail wastewater rate structure to recover a portion of the capital cost of the system on a fixed revenue basis. Some wastewater utilities recover a portion of the cost of treating inflow and infiltration from a fixed charge and a portion from a volume charge to reflect that the number of connections in the wastewater system reflects the size of the system and the greater potential for infiltration through poor joints and cracked pipes, and the inflow through roof and foundation drains. In addition, some wastewater utilities recover a portion of annual debt service with a fixed charge to better match fixed costs with a fixed revenue stream.
- The wastewater cost of service evaluation results indicate that the net cost of providing wastewater service to Suburban wholesale customers will increase from \$3.00 per 1,000 gallons in FY 2014 to \$3.14 per 1,000 gallons in FY 2015, and the net cost of providing wastewater service to Steelton will decrease from \$2.11 per 1,000 gallons to \$1.94 per 1,000 gallons. Given the planned pump station and AWTF capital projects planned over the next five years, it is anticipated that Suburban wholesale rates will need to be increased

in future years through FY 2018 to cover the projected costs that are anticipated in these years.

- The units of service for flat rate wastewater customers with non-metered consumption was 65,000 gallons per year. An analysis of the average consumption per residential account was completed using data from the past five years. This analysis indicates that the average residential consumption per account has decreased to approximately 53,000 gallons per year. As such, CRW should continue to monitor this per account consumption and consider adjusting its usage assumption for flat rate customers if this trend continues in the future.
- In general, CRW's existing water and wastewater rates were comparable, but on the higher end, in comparison to other utilities within the region. The existing monthly residential water bill for a customer using 5,000 gallons per month was the fourth highest among 10 utilities that were surveyed. The existing monthly bill for commercial customers using 14,000 gallons per month was the third highest among the 10 utilities that were surveyed, while the existing monthly bill for industrial customers using 30,000 gallons per month was the second highest among the 10 utilities that were surveyed. Raising water rates to the recommended levels is anticipated to keep customer bills among the highest of the utilities that were surveyed.
- The existing monthly residential and commercial wastewater bills were close to the average monthly bills for the 10 utilities that were surveyed. The existing residential and commercial bills, assuming 14,000 and 30,000 gallons per month, respectively, were less than four other utilities, while its industrial bill was less than five other utilities that were surveyed.

In preparation of this report and the conclusions contained herein, ARCADIS has relied on these and other assumptions and information provided by CRW, its financial advisor, and others with respect to conditions which may exist or events which may occur in the future. ARCADIS has not independently verified the accuracy of the information provided by CRW and others. While we believe such sources are reliable and the information obtained to be accurate and appropriate for the analysis undertaken and the conclusions reached herein, as is often the case, there may be differences between actual and projected results, some of the estimates used in this report will not be realized, and unanticipated events and circumstances may occur.

Therefore, there are likely to be differences between the data and results projected in this report and actual results achieved, and those differences may be material.

In the completion of the rate study for CRW, ARCADIS is (a) not recommending any action regarding municipal financial products or the issuance of municipal securities; (b) is not acting as a registered municipal advisor to CRW and does not owe a fiduciary duty to CRW pursuant to Section 15B of the Securities Exchange Act of 1934, as amended by the Dodd-Frank Wall Street Reform and Consumer Protection Act, with respect to the information and material contained in this report. CRW should discuss any information and material prepared in connection with this report with any and all internal or external registered municipal advisors that it deems appropriate before acting on this information and material.





## **Appendix A**

Wholesale Wastewater Rate  
Calculation Details

Table A.1

Capital Region Water  
 Operating Expense Allocation  
 Wholesale Rate Cost Allocation Study

Line	Description	FY2015			Allocation %			Allocation \$					
		Projected	Alloc Ref	Treatment	Conveyance	Collection	Administration	Other	Treatment	Conveyance	Collection	Administration	Other
<b>2010 Sewerage Administration Division</b>													
Administration - Personnel:													
1	8240001 - Salaries and Wages	\$ 226,181	1	75.0%	15.0%	10.0%	0.0%	0.0%	\$ 169,636	\$ 33,927	\$ 22,618	\$ -	\$ -
2	8240005 - Medical	83,100	1	75.0%	15.0%	10.0%	0.0%	0.0%	62,325	12,465	8,310	-	-
3	8240006 - Social Security/FICA	17,303	1	75.0%	15.0%	10.0%	0.0%	0.0%	12,977	2,595	1,730	-	-
4	8240007 - Group Life Insurance	1,140	1	75.0%	15.0%	10.0%	0.0%	0.0%	855	171	114	-	-
5	8240010 - Severance Pay	-	1	75.0%	15.0%	10.0%	0.0%	0.0%	-	-	-	-	-
6	8240012 - Unemployment Compensation	2,100	1	75.0%	15.0%	10.0%	0.0%	0.0%	1,575	315	210	-	-
7	8240013 - Workers Compensation	10,740	1	75.0%	15.0%	10.0%	0.0%	0.0%	8,055	1,611	1,074	-	-
8	8240050 - Pension	11,309	1	75.0%	15.0%	10.0%	0.0%	0.0%	8,482	1,696	1,131	-	-
Administration - Operating:													
9	8241002 - Advertising	\$ 438		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	438	-
10	8241008 - Personal Safety	874	1	75.0%	15.0%	10.0%	0.0%	0.0%	656	131	87	-	-
11	8241011 - Telephone	14,076		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	14,076	-
12	8241017 - Other Rentals	175		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	175	-
13	8241501 - Conferences and Training	624		0.0%	0.0%	0.0%	100.0%	0.0%	\$ -	\$ -	\$ -	\$ 624	\$ -
14	8241503 - Tuition/Training	-		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-
15	8241703 - Office Supplies	-		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-
16	8241704 - Postage	76		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	76	-
17	8241705 - Printing	5,155		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	5,155	-
18	8241750 - Office	3,995		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	3,995	-
19	Total 842000 - Insurance Expense	312,368		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	312,368	-
20	Auto Insurance	15,270	12	72.8%	26.8%	0.4%	0.0%	0.0%	11,122	4,085	64	-	-
21	8242402 - Consulting	-		60.0%	30.0%	10.0%	0.0%	0.0%	-	-	-	-	-
22	8242409 - Other Professional Fees	53,942		100.0%	0.0%	0.0%	0.0%	0.0%	53,942	-	-	-	-
23	8242902 - Subscriptions	-		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-
24	8242950 - Permits	500		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	500	-
25	8243013 - Maint Serv Contract	559		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	559	-
26	8243016 - Motor Fuels/Lubricants	5,218		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	5,218	-
27	8243023 - Tires & Batteries	128		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	128	-
28	8243024 - Uniform Rentals	10,307	5	41.2%	30.4%	28.5%	0.0%	0.0%	4,244	3,128	2,934	-	-
29	8243026 - Vehicle Parts & Supplies	1,908		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	1,908	-
30	8244029 - Other Cont Maint	3,485		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	3,485	-
31	8245009 - Office Equipment	9,363		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	9,363	-
32	8245014 - Operations Equipment	8,295		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	8,295	-
33	8246054 - GIS System	-	13	7.1%	7.1%	85.7%	0.0%	0.0%	-	-	-	-	-
34	8246060 - Streets and Roads	2,890		0.0%	0.0%	0.0%	0.0%	100.0%	-	-	-	-	2,890
<b>2920 Sewer Operations Division</b>													
Operations - Personnel:													
35	8340001 - Salaries and Wages	\$ 713,276	2	76.6%	20.9%	2.4%	0.0%	0.0%	\$ 546,497	\$ 149,312	\$ 17,467	\$ -	\$ -
36	8340003 - Overtime	458,647	2	76.6%	20.9%	2.4%	0.0%	0.0%	351,405	96,010	11,232	-	-
37	8340005 - Medical	265,920	2	76.6%	20.9%	2.4%	0.0%	0.0%	203,742	55,666	6,512	-	-
38	8340006 - Social Security/FICA	54,566	2	76.6%	20.9%	2.4%	0.0%	0.0%	41,807	11,422	1,336	-	-
39	8340007 - Group Life Insurance	3,648	2	76.6%	20.9%	2.4%	0.0%	0.0%	2,795	764	89	-	-
40	8340012 - Unemployment Compensation	6,720	2	76.6%	20.9%	2.4%	0.0%	0.0%	5,149	1,407	165	-	-
41	8340013 - Workers Comp Insurance	34,368	2	76.6%	20.9%	2.4%	0.0%	0.0%	26,332	7,194	842	-	-

Table A.1

Capital Region Water  
 Operating Expense Allocation  
 Wholesale Rate Cost Allocation Study

Line	Description	FY2015			Allocation %				Allocation \$				
		Projected	Alloc Ref	Treatment	Conveyance	Collection	Administration	Other	Treatment	Conveyance	Collection	Administration	Other
42	8340050 - Pension	35,664	2	76.6%	20.9%	2.4%	0.0%	0.0%	\$ 27,325	\$ 7,466	\$ 873	\$ -	\$ -
43	8340055 - Accrued Leave Payout	-	2	76.6%	20.9%	2.4%	0.0%	0.0%	-	-	-	-	-
Operations - Operating:													
44	8341007 - Miscellaneous Contracted Servcs	\$ -		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
45	8341008 - Personal Safety	-	2	76.6%	20.9%	2.4%	0.0%	0.0%	-	-	-	-	-
46	8341017 - Other Rentals	3,000		100.0%	0.0%	0.0%	0.0%	0.0%	3,000	-	-	-	-
47	8341702 - Miscellaneous Supplies and Exp	12,000		100.0%	0.0%	0.0%	0.0%	0.0%	12,000	-	-	-	-
48	8342901 - Membership Dues	-		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
49	8343005 - Chemicals	270,117		100.0%	0.0%	0.0%	0.0%	0.0%	270,117	-	-	-	-
50	8343006 - Custodial	960		100.0%	0.0%	0.0%	0.0%	0.0%	960	-	-	-	-
51	8343008 - Electricity	910,005		100.0%	0.0%	0.0%	0.0%	0.0%	910,005	-	-	-	-
52	8343011 - Heat	48,400		100.0%	0.0%	0.0%	0.0%	0.0%	48,400	-	-	-	-
53	8343014 - Medical/Lab	48,000	2	76.6%	20.9%	2.4%	0.0%	0.0%	36,777	10,048	1,175	-	-
54	8343021 - Refuse	564,000		100.0%	0.0%	0.0%	0.0%	0.0%	564,000	-	-	-	-
55	8343027 - Water	78,000		100.0%	0.0%	0.0%	0.0%	0.0%	78,000	-	-	-	-
56	8343060 - Service Contracts	120,000	a	37.5%	37.5%	25.0%	0.0%	0.0%	45,000	45,000	30,000	-	-
57	8344029 - Other Cont Maint	36,000	b	90.0%	10.0%	0.0%	0.0%	0.0%	32,400	3,600	-	-	-
58	8345007 - Mechanical Equipment Parts	900		100.0%	0.0%	0.0%	0.0%	0.0%	900	-	-	-	-
59	8345014 - Operations Equipment	-	c	100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
60	8345015 - Other Capital Equipment	-	d	100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
61	8345016 - Plant Equipment	-		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
62	8345018 - Vehicular Equipment	-		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
63	8346012 - Nutrient Credits	350,000		100.0%	0.0%	0.0%	0.0%	0.0%	350,000	-	-	-	-
<b>2930 Sewer Maintenance Division</b>													
Maintenance - Personnel													
64	8540001 - Salaries and Wages	\$ 387,014	3	60.0%	30.0%	10.0%	0.0%	0.0%	\$ 232,208	\$ 116,104	\$ 38,701	\$ -	\$ -
65	8540003 - Overtime	21,071	3	60.0%	30.0%	10.0%	0.0%	0.0%	12,643	6,321	2,107	-	-
66	8540005 - Medical	149,580	3	60.0%	30.0%	10.0%	0.0%	0.0%	89,748	44,874	14,958	-	-
67	8540006 - Social Security/FICA	29,606	3	60.0%	30.0%	10.0%	0.0%	0.0%	17,764	8,882	2,961	-	-
68	8540007 - Group Life Insurance	2,052	3	60.0%	30.0%	10.0%	0.0%	0.0%	1,231	616	205	-	-
69	8540012 - Unemployment Compensation	3,780	3	60.0%	30.0%	10.0%	0.0%	0.0%	2,268	1,134	378	-	-
70	8540013 - Workers Comp Insurance	19,332	3	60.0%	30.0%	10.0%	0.0%	0.0%	\$ 11,599	\$ 5,800	\$ 1,933	\$ -	\$ -
71	8540050 - Pension	19,351	3	60.0%	30.0%	10.0%	0.0%	0.0%	11,611	5,805	1,935	-	-
72	8540055 - Accrued Leave Payout	-	3	60.0%	30.0%	10.0%	0.0%	0.0%	-	-	-	-	-
Maintenance - Operating													
73	8541007 - Miscellaneous Contracted Servcs	\$ 4,500	3	60.0%	30.0%	10.0%	0.0%	0.0%	2,700	1,350	450	-	-
74	8541008 - Personal Safety	3,600	3	60.0%	30.0%	10.0%	0.0%	0.0%	2,160	1,080	360	-	-
75	8541702 - Misc Supplies & Exp	24,000	3	60.0%	30.0%	10.0%	0.0%	0.0%	14,400	7,200	2,400	-	-
76	8543014 - Medical/Lab	-		60.0%	30.0%	10.0%	0.0%	0.0%	-	-	-	-	-
77	8543016 - Motor Fuels/Lubricants	36,000	3	60.0%	30.0%	10.0%	0.0%	0.0%	21,600	10,800	3,600	-	-
78	8543023 - Tires & Batteries	4,800	3	60.0%	30.0%	10.0%	0.0%	0.0%	2,880	1,440	480	-	-
79	8543025 - Utility Plant Fuels/Lube	-	3	60.0%	30.0%	10.0%	0.0%	0.0%	-	-	-	-	-
80	8543026 - Vehicle Parts & Supplies	24,000	3	60.0%	30.0%	10.0%	0.0%	0.0%	14,400	7,200	2,400	-	-
81	8544050 - Tools & Hardware	12,000	3	60.0%	30.0%	10.0%	0.0%	0.0%	7,200	3,600	1,200	-	-
82	8545007 - Mechanical Equipmenet Parts	120,000	3	60.0%	30.0%	10.0%	0.0%	0.0%	72,000	36,000	12,000	-	-

Table A.1

Capital Region Water  
 Operating Expense Allocation  
 Wholesale Rate Cost Allocation Study

Line	Description	FY2015 Projected	Alloc Ref	Allocation %					Allocation \$				
				Treatment	Conveyance	Collection	Administration	Other	Treatment	Conveyance	Collection	Administration	Other
83	8545008 · Motor Equipment	-		60.0%	30.0%	10.0%	0.0%	0.0%	-	-	-	-	-
84	8545014 · Operations Equipment	600		60.0%	30.0%	10.0%	0.0%	0.0%	360	180	60	-	-
85	8545016 · Plant Equipment	12,000	e	89.0%	11.0%	0.0%	0.0%	0.0%	10,680	1,320	-	-	-
86	8545018 · Vehicular Equipment	50		60.0%	30.0%	10.0%	0.0%	0.0%	30	15	5	-	-
87	8546002 · Asphalt	5,000		60.0%	30.0%	10.0%	0.0%	0.0%	3,000	1,500	500	-	-
88	8546004 · Concrete	5,000		60.0%	30.0%	10.0%	0.0%	0.0%	3,000	1,500	500	-	-
89	8546013 · Pipe Connections	7,000	3	60.0%	30.0%	10.0%	0.0%	0.0%	4,200	2,100	700	-	-
90	8546018 · Snow Control	1,500		60.0%	30.0%	10.0%	0.0%	0.0%	900	450	150	-	-
<b>2940 Sewer Field Maintenance Division</b>													
Field Maintenance - Personnel													
91	8640001 · Salaries and Wages	\$ 507,475	4	2.3%	49.1%	48.7%	0.0%	0.0%	\$ 11,422	\$ 248,961	\$ 247,092	\$ -	\$ -
92	8640003 · Overtime	258,826	4	2.3%	49.1%	48.7%	0.0%	0.0%	5,826	126,977	126,024	-	-
93	8640005 · Medical	232,680	4	2.3%	49.1%	48.7%	0.0%	0.0%	5,237	114,150	113,293	-	-
94	8640006 · Social Security/FICA	38,822	4	2.3%	49.1%	48.7%	0.0%	0.0%	874	19,046	18,903	-	-
95	8640007 · Group Life Insurance	3,192	4	2.3%	49.1%	48.7%	0.0%	0.0%	72	1,566	1,554	-	-
96	8640012 · Unemployment Compensation	5,880	4	2.3%	49.1%	48.7%	0.0%	0.0%	\$ 132	\$ 2,885	\$ 2,863	\$ -	\$ -
97	8640013 · Workers Comp Insurance	30,072	4	2.3%	49.1%	48.7%	0.0%	0.0%	677	14,753	14,642	-	-
98	8640050 · Pension	25,373	4	2.3%	49.1%	48.7%	0.0%	0.0%	571	12,448	12,354	-	-
Field Maintenance - Operating													
99	8641008 · Personal Safety	1,200	4	2.3%	49.1%	48.7%	0.0%	0.0%	27	589	584	-	-
100	8641705 · Printing	-	f	20%	70%	10%	0%	0%	-	-	-	-	-
101	8643005 · Chemicals	-	f	20%	70%	10%	0%	0%	-	-	-	-	-
102	8643008 · Electricity	152,000	g	0%	90%	10%	0%	0%	-	136,800	15,200	-	-
103	8643016 · Motor Fuels/Lubricants	600		20%	70%	10%	0%	0%	120	420	60	-	-
104	8643021 · Refuse	-		20%	70%	10%	0%	0%	-	-	-	-	-
105	8643023 · Tires & Batteries	1,200		20%	70%	10%	0%	0%	240	840	120	-	-
106	8643026 · Vehicle Parts & Supplies	12,000		20%	70%	10%	0%	0%	2,400	8,400	1,200	-	-
107	8643027 · Water	36,000	f	20%	70%	10%	0%	0%	7,200	25,200	3,600	-	-
108	8644029 · Other Cont Maint	9,000		20%	70%	10%	0%	0%	1,800	6,300	900	-	-
109	8644050 · Tools & Equipment	1,200		20%	70%	10%	0%	0%	240	840	120	-	-
110	8645007 · Mech Equipment Parts	-		20%	70%	10%	0%	0%	-	-	-	-	-
111	8645018 · Vehicular Equipment	520,000		20%	70%	10%	0%	0%	104,000	364,000	52,000	-	-
<b>Other Expenses</b>													
112	6021 · Legal	161,388		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	161,388	-
113	6022 · Engineering	40,526		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	40,526	-
114	6023 · Financial Advisor	29,863		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	29,863	-
115	4113 · Planning module fees	-		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
116	8243014 · EE Testing	1,811		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	1,811	-
117	841070 · Share Services Expense	784,000	9	1.1%	49.6%	49.2%	0.0%	0.0%	8,909	389,034	386,057	-	-
118	841070B · Share Services Exp - VMC	251	9	1.1%	49.6%	49.2%	0.0%	0.0%	3	125	124	-	-
119	6603 · Bank fees - 1988B	-		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-
120	6606 · Bank fees - 1989(3)	-		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-
121	6600 · Bank fees - Other	18,538		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	18,538	-
122	6800 · Trustee Fees - Other	4,000		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	4,000	-
123	6805 · Trustee Fees-M&T 2014A RevNote	3,500		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	3,500	-

Table A.1

Capital Region Water  
 Operating Expense Allocation  
 Wholesale Rate Cost Allocation Study

Line	Description	FY2015			Allocation %			Allocation \$					
		Projected	Alloc Ref	Treatment	Conveyance	Collection	Administration	Other	Treatment	Conveyance	Collection	Administration	Other
124	6002 - Misc Expense	-		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
125	6100.02 - Series 2014B Standard & Poor's	3,500		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	3,500	-
126	BNR Upgrade Project - Operating Expenses	-		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
127	Interceptor Cleaning	1,000,000		0.0%	100.0%	0.0%	0.0%	0.0%	-	1,000,000	-	-	-
<b>CRW Administrative Fund Expenses</b>													
128	Total 6050 - Payroll Expenses	\$ 843,833		0.0%	0.0%	0.0%	100.0%	0.0%	\$ -	\$ -	\$ -	\$ 843,833	\$ -
129	Personnel - City Related	274,509	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	274,509	-	-
130	6050D - Social Security/FICA	64,553		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	64,553	-
131	Social Security/FICA - City Related	21,000	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	21,000	-	-
132	6050E - Employer Pension Contribution	42,192		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	42,192	-
133	Employer Pension Contribution - City Related	13,725	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	13,725	-	-
134	6052 - Payroll Processing Fees	4,089		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	4,089	-
135	6060 - Employee Health Benefits - Other	218,455		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	218,455	-
136	Employee Health Benefits - City Related	97,091	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	97,091	-	-
137	6061 - PA Unemployment & FUTA	4,784		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	4,784	-
138	6110 - Advertising and Public Notices	1,168		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	1,168	-
139	6115 - Community Outreach Rebranding	36,265		0.0%	0.0%	100.0%	0.0%	0.0%	-	-	36,265	-	-
140	6120 - Printing	20,446		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	20,446	-
141	6130 - Telephone/Internet	17,525		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	17,525	-
142	6140 - Postage	35,781		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	35,781	-
143	6150 - Website	1,168		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	1,168	-
144	PNC Lockbox Charges	91,522	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	91,522	-	-
145	Muni-Link Fees	35,051	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	35,051	-	-
146	Mailing Equipment	7,302	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	7,302	-	-
147	Armor Car Charges	4,381	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	4,381	-	-
148	Shared Services - Treasury Charges	14,605	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	14,605	-	-
149	Shared Services - IT Charges	27,749	8	0.0%	0.0%	100.0%	0.0%	0.0%	-	-	27,749	-	-
150	6210 - Legal - General	59,879		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	59,879	-
151	6240 - Audit & Acctg Support	43,351		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	43,351	-
152	62?? - Financial Consultant	43,814		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	43,814	-
153	6271 - IT Support	33,347		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	33,347	-
154	6278 - DOCSTAR	1,217		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	1,217	-
155	6280 - Other-Professional Fees	59,879		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	59,879	-
156	6520 - Travel Accident Insurance	1,701		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	1,701	-
157	6530 - Employee Dishonesty Bond	84		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	84	-
158	6540 - Workers' Compensation Ins.	40,782		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	40,782	-
159	6610 - Office Space Rental	118,784		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	118,784	-
160	6630 - Parking Rentals	4,479		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	4,479	-
161	6710 - Meal Allowance/Coffee/Soda	2,921		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	2,921	-
162	6720 - Travel / Lodging	2,434		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	2,434	-
163	6730 - Mileage and/or Fuel	292		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	292	-
164	6740 - Conference/Seminars/Education	7,302		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	7,302	-
165	6750 - Membership Dues	12,170		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	12,170	-
166	6760 - Miscellaneous	2,337		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	2,337	-
167	6770 - Bank Service Charges	146		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	146	-
168	6820 - Subscriptions	876		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	876	-
169	6830 - Office Supplies	8,763		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	8,763	-

Table A.1

Capital Region Water  
 Operating Expense Allocation  
 Wholesale Rate Cost Allocation Study

Line	Description	FY2015 Projected	Alloc Ref	Allocation %			Allocation \$						
				Treatment	Conveyance	Collection	Administration	Other	Treatment	Conveyance	Collection	Administration	Other
170	6910 - Office Equipment	3,505		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	3,505	-
171	7010 - Office Equipment (IT-HW/SW)	6,523		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	6,523	-
172	7020 - Office Furniture	32,130		0.0%	0.0%	0.0%	100.0%	0.0%	-	-	-	32,130	-
173	Total Operating Expenses	\$ 11,954,354							\$ 4,578,809	\$ 3,186,616	\$ 1,815,838	\$ 2,370,200	\$ 2,890
	Less: Non-Rate Revenues												
174	Interest Income	75,599		100.0%	0.0%	0.0%	0.0%	0.0%	75,599	-	-	-	-
175	4104 - Sludge Handling Charges	342,179		100.0%	0.0%	0.0%	0.0%	0.0%	342,179	-	-	-	-
176	4105 - Sale of Electric	303,239		100.0%	0.0%	0.0%	0.0%	0.0%	303,239	-	-	-	-
177	4106 - Contr Waste Hauling Charges	11,141		100.0%	0.0%	0.0%	0.0%	0.0%	11,141	-	-	-	-
178	4107 - Pretreatment Charges	13,875		100.0%	0.0%	0.0%	0.0%	0.0%	13,875	-	-	-	-
179	4108 - Cont Waste Haul Lab Fees	-		100.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
180	4109 - Pretreatment Lab Fees	44,219		100.0%	0.0%	0.0%	0.0%	0.0%	44,219	-	-	-	-
181	4110 - Liens Princ-Convey / Treatment	13,778		0.0%	100.0%	0.0%	0.0%	0.0%	-	13,778	-	-	-
182	4111 - Liens Int-Convey / Treatment	586		0.0%	100.0%	0.0%	0.0%	0.0%	-	586	-	-	-
183	4112 - Liens Princ-Coll System	3,025		0.0%	0.0%	100.0%	0.0%	0.0%	-	-	3,025	-	-
184	4114 - Miscellaneous Income	55,801		100.0%	0.0%	0.0%	0.0%	0.0%	55,801	-	-	-	-
185	4860 - Planning Module Fees	7,737		100.0%	0.0%	0.0%	0.0%	0.0%	7,737	-	-	-	-
186	Net Operating Expenses	\$ 11,083,175							\$ 3,725,019	\$ 3,172,252	\$ 1,812,813	\$ 2,370,200	\$ 2,890
187	Allocation % of Total	100%							34%	29%	16%	21%	0%
<b>Allocation of Administration Expenses</b>													
<i>The allocation of Administration Expenses is based on the allocation of all other direct costs. This calculation is shown below.</i>													
188	Total Operating Expenses	\$ 11,954,354							\$ 4,578,809	\$ 3,186,616	\$ 1,815,838	\$ 2,370,200	\$ 2,890
189	Less: Administration Expenses	(2,370,200)							-	-	-	(2,370,200)	-
190	Less: Electricity	(1,062,005)							(910,005)	(136,800)	(15,200)	-	-
191	Adjusted Net Operating Expenses	\$ 8,522,149							\$ 3,668,804	\$ 3,049,816	\$ 1,800,638	\$ -	\$ 2,890
192	Administration Category Allocation (%)	100%							43%	36%	21%	0%	0%
193	Administration Category Allocation (\$)	\$ 2,370,200							\$ 1,020,377	\$ 848,222	\$ 500,798	\$ -	\$ 804
194	<b>Net O&amp;M Expense Allocation (%)</b>	<b>100%</b>							<b>43%</b>	<b>36%</b>	<b>21%</b>	<b>0%</b>	<b>0%</b>
195	<b>Net O&amp;M Expense Allocation (\$)</b>	<b>\$ 11,083,175</b>							<b>\$ 4,745,396</b>	<b>\$ 4,020,475</b>	<b>\$ 2,313,611</b>	<b>\$ -</b>	<b>\$ 3,694</b>

Table A.2

Capital Region Water  
 Capital Cost Allocation  
 Wholesale Rate Cost Allocation Study

Line	Description	FY2015 Projected	Alloc Ref	Treatment	Conveyance	Allocation % Collection	Administration	Other	Treatment	Conveyance	Allocation \$ Collection	Administration	Other
1	Debt Service	\$ 1,707,996	10	83.1%	1.1%	15.9%	0.0%	0.0%	\$ 1,418,870	\$ 18,368	\$ 270,758	\$ -	\$ -
2	PayGo Capital Projects	5,073,693	11	36.2%	12.3%	51.5%	0.0%	0.0%	1,836,508	622,641	2,614,545	-	-
3	Rev Req to meet 1.1 DSC, if applicable	-		0.0%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-
4	Total Capital Expenses	\$ 6,781,689							\$ 3,255,377	\$ 641,008	\$ 2,885,303	\$ -	\$ -
	Less: Non-Rate Revenues												
5	4102 - Sale of Scrap	347		0.0%	0.0%	0.0%	0.0%	100.0%	-	-	-	-	347
6	Net Capital Expenses	\$ 6,781,342							\$ 3,255,377	\$ 641,008	\$ 2,885,303	\$ -	\$ (347)
7	Allocation % of Total		100%						48%	9%	43%	0%	0%
<b>Allocation of Administration Expenses</b>													
8	Administration Category Allocation (%)		0%						0%	0%	0%	0%	0%
9	Administration Category Allocation (\$)	\$ -							\$ -	\$ -	\$ -	\$ -	\$ -
10	<b>Net Capital Expense Allocation (%)</b>		52%						<b>48%</b>	<b>9%</b>	<b>43%</b>	<b>0%</b>	<b>0%</b>
11	<b>Net Capital Expense Allocation (\$)</b>	\$ 6,781,342							<b>\$ 3,255,377</b>	<b>\$ 641,008</b>	<b>\$ 2,885,303</b>	<b>\$ -</b>	<b>\$ (347)</b>

Table A.3

Capital Region Water  
 Cost Allocation References  
 Wholesale Rate Cost Allocation Study

Line	Alloc Ref	Description	FY2015 Projected	Treatment	Conveyance	Collection	Admin	Other	Total	Basis	Treatment	Conveyance	Collection	Admin	Other	Total
<b>2910 Administration Division Personnel</b>																
1		Plant Superintendent	\$ 70,380	75.0%	15.0%	10.0%	0.0%	0.0%	100%	Oversees plant operations, operations of pump stations, and LTCP-related.	\$ 52,785	\$ 10,557	\$ 7,038	\$ -	\$ -	\$ 70,380
2		Administrative Assistant I	41,077	75.0%	15.0%	10.0%	0.0%	0.0%	100%	Position supports Plant Superintendent and Director Admin and Maint.	30,808	6,162	4,108	-	-	41,077
3		Total:	\$ 111,457								\$ 83,593	\$ 16,719	\$ 11,146	\$ -	\$ -	\$ 111,457
4	1	2910 Administration Personnel Allocation	100%								75%	15%	10%	0%	0%	
<b>2920 Operations Division Personnel</b>																
5		Pretreatment Coordinator	\$ 57,120	70.0%	20.0%	10.0%	0.0%	0.0%	100%	Pretreatment program is used to protect discharges to treatment facility but there's involvement w/ the CSO and FOG programs.	\$ 39,984	\$ 11,424	\$ 5,712	\$ -	\$ -	\$ 57,120
6		New - Operations Manager	60,000	100.0%	0.0%	0.0%	0.0%	0.0%	100%	100% Treatment system related per CRW management.	60,000	-	-	-	-	60,000
7		New - Inspector	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection system related per CRW management.	-	-	-	-	-	-
8		Operator I (4)	164,308	75.0%	23.0%	2.0%	0.0%	0.0%	100%	Position monitors pump stations and conveyance lines but will monitor collection system as well.	123,231	37,791	3,286	-	-	164,308
9		Operator IV (10)	469,210	75.0%	23.0%	2.0%	0.0%	0.0%	100%	Position monitors pump stations and conveyance lines but will monitor collection system as well.	351,908	107,918	9,384	-	-	469,210
10		Total:	\$ 750,638								\$ 575,123	\$ 157,133	\$ 18,382	\$ -	\$ -	\$ 750,638
11	2	2920 Operations Division Personnel Allocation	100%								77%	21%	2%	0%	0%	
<b>2930 Maintenance Division Personnel</b>																
12		Maintenance Supervisor	\$ 61,199	60.0%	30.0%	10.0%	0.0%	0.0%	100%	Maintenance performed at ATF and pump stations. Some pump stations related to collection only.	\$ 36,719	\$ 18,360	\$ 6,120	\$ -	\$ -	\$ 61,199
13		Electrician III	46,627	60.0%	30.0%	10.0%	0.0%	0.0%	100%	Maintenance performed at ATF and pump stations. Some pump stations related to collection only.	27,976	13,988	4,663	-	-	46,627
14		Maintenance Worker IV (4)	186,507	60.0%	30.0%	10.0%	0.0%	0.0%	100%	Maintenance performed at ATF and pump stations. Some pump stations related to collection only.	111,904	55,952	18,651	-	-	186,507
15		Laborer I	36,536	60.0%	30.0%	10.0%	0.0%	0.0%	100%	Maintenance performed at ATF and pump stations. Some pump stations related to collection only.	21,922	10,961	3,654	-	-	36,536
16		Laborer III	37,587	60.0%	30.0%	10.0%	0.0%	0.0%	100%	Maintenance performed at ATF and pump stations. Some pump stations related to collection only.	22,552	11,276	3,759	-	-	37,587
17		New - Maintenance Worker I	38,680	60.0%	30.0%	10.0%	0.0%	0.0%	100%	Maintenance performed at ATF and pump stations. Some pump stations related to collection only.	23,208	11,604	3,868	-	-	38,680
18		Total:	\$ 407,136								\$ 244,282	\$ 122,141	\$ 40,714	\$ -	\$ -	\$ 407,136
19	3	2930 Maintenance Division Personnel Allocation	100%								60%	30%	10%	0%	0%	
<b>2940 Field Maintenance Division</b>																
20		Field Maintenance Specialist II (2)	\$ 96,196	0.0%	100.0%	0.0%	0.0%	0.0%	100%	100% Conveyance system per CRW management.	\$ -	\$ 96,196	\$ -	\$ -	\$ -	\$ 96,196
21		Field Maintenance Worker I (6)	213,192	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection system per CRW management.	-	-	213,192	-	-	213,192
22		New - Field Maintenance Supervisor	58,000	20.0%	70.0%	10.0%	0.0%	0.0%	100%	VAC of tanks, facility lines, CSO chambers and lines leading into the conveyance system.	11,600	40,600	5,800	-	-	58,000
23		New - Field Maintenance Worker I	31,949	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection system per CRW management.	-	-	31,949	-	-	31,949
24		New - Field Maintenance Laborer (2)	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection system based on allocation of positions in prior year.	-	-	-	-	-	-
25		New - Field Maintenance Specialist I (3)	116,043	0.0%	100.0%	0.0%	0.0%	0.0%	100%	100% Conveyance system per CRW management.	-	116,043	-	-	-	116,043
26		Total:	\$ 515,380								\$ 11,600	\$ 252,839	\$ 250,941	\$ -	\$ -	\$ 515,380
27	4	2940 Field Maintenance Division Personnel Allocation	100%								2%	49%	49%	0%	0%	
28	5	Uniform Allocation	100%	41%	30%	28%	0%	0%	100%	Based on average of all direct labor, excluding Administration / Management.	41%	30%	28%	0%	0%	100%
<b>Property Liability Insurance</b>																
29		Property / Liability Total	\$ -	0.0%	0.0%	0.0%	0.0%	0.0%	\$ -	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



Table A.3

Capital Region Water  
 Cost Allocation References  
 Wholesale Rate Cost Allocation Study

Line	Alloc Ref	Description	FY2015 Projected	Treatment	Conveyance	Collection	Admin	Other	Total	Basis	Treatment	Conveyance	Collection	Admin	Other	Total	
30	6	Property Liability Insurance Allocation		100%							0%	0%	0%	100%	0%	100%	
31	7	Medical / Vision / Dental Insurance		100%	45%	29%	27%	0%	0%	100%	N/A	45%	29%	27%	0%	0%	100%
<b>CRW Admin Fund - Personnel</b>																	
32		UBC Manager	\$ 60,180	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	\$ -	\$ -	\$ 60,180	\$ -	\$ -	\$ 60,180	
33		Revenue Cust Serv Mgr	81,600	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	81,600	-	-	81,600	
34		UBC Assistant Mgr	49,990	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	49,990	-	-	49,990	
35		Posting Specialist	42,591	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	42,591	-	-	42,591	
36		Cashier I	36,536	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	36,536	-	-	36,536	
37		UBC Clerk	43,936	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	43,936	-	-	43,936	
38		UBC Clerk	45,366	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	45,366	-	-	45,366	
39		Paralegal	42,530	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	42,530	-	-	42,530	
40		Cashier I	36,536	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	36,536	-	-	36,536	
41		Meter Reader II	42,380	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	42,380	-	-	42,380	
42		Meter Reader II	42,380	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	42,380	-	-	42,380	
43		Secretary II	39,858	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	39,858	-	-	39,858	
44		New - Route Auditor	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection per CRW management.	-	-	-	-	-	-	
45		Total	\$ 563,883								\$ -	\$ -	\$ 563,883	\$ -	\$ -	\$ 563,883	
46	8	Total CRW Admin Fund - Personnel Allocation		100%							0%	0%	100%	0%	0%		
<b>Shared Services Allocation</b>																	
47		Department of Public Works - Sweep Cleaning	772,000	0.0%	50.0%	50.0%	0.0%	0.0%	100%	50% Conveyance system and 50% Collection system per CRW management.	-	386,000	386,000	-	-	772,000	
48		Department of Public Works - Vehicle	12,000	74.2%	25.3%	0.5%	0.0%	0.0%	100%	See vehicle allocation #12 below.	8,909	3,034	57	-	-	12,000	
49		Total	\$ 784,000								\$ 8,909	\$ 389,034	\$ 386,057	\$ -	\$ -	\$ 784,000	
50	9	Total Shared Services Allocation		100%							1%	50%	49%	0%	0%		
<b>CAPITAL EXPENSE ALLOCATIONS</b>																	
<b>Debt Service Allocation</b>																	
51		Default Financing (Current Year)	-	47.0%	11.1%	41.9%	0.0%	0.0%	100%	Weighted average of projects funded with reserves or new, non-AWTF related, debt.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
52		Principal / Interest PENNVEST Stormwater 78004 (1998)	\$ 94,588	0.0%	0.0%	100.0%	0.0%	0.0%	100%	Sewer collection system related.	-	-	94,588	-	-	94,588	
53		Principal / Interest PENNVEST Loan 73137 (2009)	104,168	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Replacements to the AWTF.	104,168	-	-	-	-	104,168	
54		Guaranteed Sewer Revenue Note, Series A of 1998 - Fulton Bank	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	Debt was retired in FY2014.	-	-	-	-	-	-	
55		2013 PENNVEST Loan for Utility and Sinkhole Project	49,669	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection system, debt related to project affecting City customers only.	-	-	49,669	-	-	49,669	
56		2014 VRDO - AWTF Upgrade Bond Financing	1,459,571	90.1%	1.3%	8.7%	0.0%	0.0%	100%	Weighted average of projects funded with 2014 VRDO Revenue Bonds.	1,314,702	18,368	126,501	-	-	1,459,571	
57		Proposed AWTF Upgrade PENNVEST Financing	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	100% Treatment system, debt related to AWTF BNR Project.	-	-	-	-	-	-	

Table A.3

Capital Region Water  
 Cost Allocation References  
 Wholesale Rate Cost Allocation Study

Line	Alloc Ref	Description	FY2015 Projected	Treatment	Conveyance	Collection	Admin	Other	Total	Basis	Treatment	Conveyance	Collection	Admin	Other	Total
58		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
59		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
60		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
61		Total	\$ 1,707,996								\$ 1,418,870	\$ 18,368	\$ 270,758	\$ -	\$ -	\$ 1,707,996
62	10	Total Debt Service Allocation	100%								83%	1%	16%	0%	0%	
<b>PayGo Expense</b>																
63		Projects Funded with Fund Reserves	\$ 3,338,122	47.0%	11.1%	41.9%	0.0%	0.0%	100%	Weighted average of all eligible projects.	\$ 1,568,460	\$ 371,260	\$ 1,398,402	\$ -	\$ -	\$ 3,338,122
64		AWTF - BNR Upgrade Project	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
65		AWTF - Headworks Screening/Trucked-in Waste Receiving Station Study	16,667	100.0%	0.0%	0.0%	0.0%	0.0%	100%	100% Treatment system related per CRW management.	16,667	-	-	-	-	16,667
66		AWTF - Headworks Screening/Trucked-in Waste Receiving Station Design	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
67		AWTF - Headworks Screening/Trucked-in Waste Receiving Station Construction	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
68		Front Street & Spring Creek Pump Station Improvements - Design	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
69		Front Street & Spring Creek Pump Station Improvements - Construction	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
70		General - GIS Mapping (Cash Reserves / Default Project Financing)	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
71		Sewer Maintenance & Repair Due to Deferred COH Action (Equip Needs)	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
72		Capital Investment R&R Conveyance	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
73		Capital Investment R&R Collection	1,111,690	0.0%	0.0%	100.0%	0.0%	0.0%	100%	100% Collection system related based on project description.	-	-	1,111,690	-	-	1,111,690
74		Legal, Regulatory, Community Service	307,214	33.0%	33.0%	34.0%	0.0%	0.0%	100%	Related to LTCP, allocate based on "Integrated Long Term Control Planning" project per CRW management.	101,381	101,381	104,453	-	-	307,214
75		Flow, Rain, & Water Quality Monitoring	-	33.0%	33.0%	34.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
76		Integrated Long Term Control Planning (Cash Reserves / Default Project Financing)	-	33.0%	33.0%	34.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
77		Miscellaneous AWTF Projects	150,000	100.0%	0.0%	0.0%	0.0%	0.0%	100%	100% Treatment system related based on project description.	150,000	-	-	-	-	150,000
78		Miscellaneous Conveyance System Projects	150,000	0.0%	100.0%	0.0%	0.0%	0.0%	100%	100% Conveyance system related based on project description.	-	150,000	-	-	-	150,000
79		AWTF - Anaerobic Digester Rehabilitation	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
80		AWTF - Anaerobic Digester Piping Replacement	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
81		AWTF - Cogeneration Improvements	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
82		AWTF - Primary Thickener & Gravity Thickener Sludge Pump Replacement	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
83		AWTF - Primary Clarifier Improvemnts/Repairs	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
84		AWTF - Hydrogritter Improvements	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
85		AWTF Electrical Interconnect	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
86		Combined Sewer System - NMC Implementation & LTCP Phase 1 Upgrades	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-

Table A.3

Capital Region Water  
 Cost Allocation References  
 Wholesale Rate Cost Allocation Study

Line	Alloc Ref	Description	FY2015 Projected	Treatment	Conveyance	Collection	Admin	Other	Total	Basis	Treatment	Conveyance	Collection	Admin	Other	Total
87		AWTF - SCADA and Process Control Upgrades	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
88		Separate Sewer System - Asylum Run Interceptor Improvements	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
89		Combined Sewer System - NMC Implementation & LTCP Phase 2 Upgrades	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
90		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
91		Funded with Bond Proceeds	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
92		PayGo (\$4M per year)	-	11.3%	61.4%	27.3%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
93		New Debt (Revenue Bond)	-	41.6%	46.0%	12.3%	0.0%	0.0%	100%	N/A	-	-	-	-	-	-
94		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
95		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
96		General - GIS Mapping (2014 Bonds portion)	-	0.0%	0.0%	100.0%	0.0%	0.0%	100%	Funded with '2014 VRDO AWTF Bond Financing'.	-	-	-	-	-	-
97		Integrated Long Term Control Planning (2014 Bonds portion)	-	33.0%	33.0%	34.0%	0.0%	0.0%	100%	Funded with '2014 VRDO AWTF Bond Financing'.	-	-	-	-	-	-
98		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
99		<<Add new>>	-	0.0%	0.0%	0.0%	0.0%	0.0%	0%	N/A	-	-	-	-	-	-
100		Total	\$ 5,073,693								\$ 1,836,508	\$ 622,641	\$ 2,614,545	\$ -	\$ -	\$ 5,073,693
101	11	PayGo Expense Allocation	100%								36%	12%	52%	0%	0%	
		<b>Road Vehicles</b>														
102		Vehicle G-3 - Chevrolet 1/2 Ton Pickup Truck	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
103		Vehicle G-5 - Chevrolet Lumina	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
104		Vehicle G-7 - Chevrolet S10 Pickup	-	78.0%	22.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
105		Vehicle G-9 - Chevrolet Jimmy SUV	-	70.0%	30.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
106		Vehicle G-10 - Ford Pickup Truck	-	78.0%	22.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
107		Vehicle G-12 - Chevrolet 1/2 Ton Pickup	-	78.0%	22.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
108		Vehicle G-14 - Chevrolet 3/4 Ton Pickup	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
109		Vehicle G-15 - Chevrolet 1/2 Ton Pickup	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
110		Vehicle G-17 - Pickup Truck w/ Utility Body	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
111		Vehicle G-19 - Chevrolet 3/4 Ton Pickup	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
112		Vehicle G-20 - Chevrolet 3/4 Ton Pickup	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
113		Vehicle G-56 - Ford Taurus	-	70.0%	25.0%	5.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
114		Total	\$ -								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
115	12	Total Road Vehicle Insurance Allocation	100.0%								72.8%	26.8%	0.4%	0.0%	0.0%	
		<b>GIS Project</b>														
116		Sewer Maintenance & Repair Due to Deferred COH Action (Equip Needs)	\$ -	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
117		Capital Investment R&R Conveyance	-	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	N/A	-	-	-	-	-	-
118		Capital Investment R&R Collection	1,111,690	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	N/A	-	-	1,111,690	-	-	1,111,690
119		Legal, Regulatory, Community Service	307,214	33.0%	33.0%	34.0%	0.0%	0.0%	100.0%	100% Collection system related based on project	101,381	101,381	104,453	-	-	307,214
120		Flow, Rain, & Water Quality Monitoring	-	33.0%	33.0%	34.0%	0.0%	0.0%	100.0%	Related to LTCP, allocate based on 'Integrated Lr	-	-	-	-	-	-
121		Total	\$ 1,418,904								\$ 101,381	\$ 101,381	\$ 1,216,143	\$ -	\$ -	\$ 1,418,904
122	13	Total GIS Project Allocation	100.0%								7.1%	7.1%	85.7%	0.0%	0.0%	
		<b>Full Vehicle Listing</b>														
123		Vehicle G-1 - <i>Removed from list</i>	\$ -						0%	Per email from MD 1018.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
124		Vehicle G-2 - Navistar Dump Truck	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
125		Vehicle G-3 - Chevrolet 1/2 Ton Pickup Truck	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
126		Vehicle G-4 - <i>Removed from list</i>	-						0%	Per email from MD 1018.	-	-	-	-	-	-
127		Vehicle G-5 - Chevrolet Lumina	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
128		Vehicle G-6 - International Vector	-	10.0%	85.0%	5.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
129		Vehicle G-7 - Chevrolet S10 Pickup	-	78.0%	22.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
130		Vehicle G-8 - International Crane Truck	-	75.0%	25.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
131		Vehicle G-9 - Chevrolet Jimmy SUV	-	70.0%	30.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-

Table A.3

Capital Region Water  
 Cost Allocation References  
 Wholesale Rate Cost Allocation Study

Line	Alloc Ref	Description	FY2015						Total	Basis	Treatment	Conveyance	Collection	Admin	Other	Total
			Projected	Treatment	Conveyance	Collection	Admin	Other								
132		Vehicle G-10 - Ford Pickup Truck	-	78.0%	22.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	-
133		Vehicle G-11 - <i>Removed from list</i>	-					0%	Per email from MD 1018.	-	-	-	-	-	-	
134		Vehicle G-12 - Chevrolet 1/2 Ton Pickup	-	78.0%	22.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
135		Vehicle G-13 - LN8000	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
136		Vehicle G-14 - Chevrolet 3/4 Ton Pickup	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
137		Vehicle G-15 - Chevrolet 1/2 Ton Pickup	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
138		Vehicle G-16 - GMC Single Rear Axle Dump Truck	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
139		Vehicle G-17 - Pickup Truck w/ Utility Body	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
140		Vehicle G-18 - International 4900 Dump Truck	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
141		Vehicle G-19 - Chevrolet 3/4 Ton Pickup	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
142		Vehicle G-20 - Chevrolet 3/4 Ton Pickup	-	0.0%	100.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
143		Vehicle G-22 - Case 721D Loader	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
144		Vehicle G-23 - <i>Removed from list</i>	-					0%	Per email from MD 1018.	-	-	-	-	-	-	
145		Vehicle G-25 - Ingersol Rand Air Compressor	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
146		Vehicle G-50 - <i>Removed from list</i>	-					0%	Per email from MD 1018.	-	-	-	-	-	-	
147		Vehicle G-51 - <i>Removed from list</i>	-					0%	Per email from MD 1018.	-	-	-	-	-	-	
148		Vehicle G-53 - Cat 721D Fork Lift	-	100.0%	0.0%	0.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
149		Vehicle G-55 - <i>Removed from list</i>	-					0%	Per email from MD 1018.	-	-	-	-	-	-	
150		Vehicle G-56 - Ford Taurus	-	70.0%	25.0%	5.0%	0.0%	0.0%	100%	Per email from MD 1018.	-	-	-	-	-	
151		Total	\$	-	-	-	-	-			\$	-	\$	-	\$	-
152		Full Vehicle Allocation		100.0%							74.2%	25.3%	0.5%	0.0%	0.0%	

a Costs are related to flow monitoring (\$802,000 and allocated all to conveyance), rain gauge monitoring, HVAC, instrumentation, cryogenics, cogeneration, and boiler maintenance (\$8,000 in total, \$6,000 allocated to treatment and \$2,000 allocated to conveyance). All costs not specifically allocated should be allocated to treatment per MD.

b Costs are related to motor shafts and pump shafts for pump station equipment and various service calls at the pump stations per MD.

c Costs are related to the purchase of flow meters and rain gauges.

d Treatment related capital maintenance.

e Costs are related to equipment for cogeneration facility. There should be an allocation of \$20,000 to the pump stations (conveyance) and the rest should be allocated to treatment per MD.

f Allocate 20% to treatment, 70% to conveyance and 10% to collections per MD.

g Allocate 90% to conveyance and 10% to collections per MD.

h Equipment purchases related to new Collection sub-division per MD.

Table A.4

**Capital Region Water  
Units of Service  
Wholesale Rate Cost Allocation Study**

Customer Class	Residential EDUs <sup>1</sup>	Commercial EDUs	Residential Non-Metered Flow (1,000 gallons)	Commercial Non-Metered Flow (1,000 gallons)	Residential Metered Flow (1,000 gallons)	Commercial Metered Flow (1,000 gallons)	Industrial Metered Flow (1,000 gallons)	Utility Metered Flow (1,000 gallons)	Public Metered Flow (1,000 gallons)	Other Metered Flow (1,000 gallons)	Total Flow (1,000 gallons)
City of Harrisburg	-	-	-	-	649,339	440,650	19,341	55,181	271,872	2,480	1,438,863
Penbrook Borough	1,331	-	86,531	-	-	10,161	-	-	-	-	96,692
Paxtang Borough	669	-	43,501	-	-	5,530	-	-	-	-	49,031
Swatara Township - via Harrisburg	-	-	-	-	392,011	-	-	-	-	-	392,011
Swatara Township - via Steelton	-	-	-	-	68,936	-	-	-	-	-	68,936
Lower Paxton Township	12,501	511	812,581	33,215	-	178,032	-	-	-	-	1,023,828
Susquehanna Township	10,703	-	695,663	-	-	180,373	-	-	-	-	876,035
Steelton Borough	-	-	-	-	117,534	10,181	-	-	-	-	127,715
<b>Total</b>	<b>25,204</b>	<b>511</b>	<b>1,638,276</b>	<b>33,215</b>	<b>1,227,820</b>	<b>824,927</b>	<b>19,341</b>	<b>55,181</b>	<b>271,872</b>	<b>2,480</b>	<b>4,073,112</b>

<sup>1</sup>One EDU was assumed to equal 53,000 gallons of residential non-metered consumption per year.

Customer Class	Allocation (%)			
	Treatment	Conveyance	Collection	Other
City of Harrisburg	100%	100%	100%	100%
Penbrook Borough	100%	100%	0%	0%
Paxtang Borough	100%	100%	0%	0%
Swatara Township - via Harrisburg	100%	100%	0%	0%
Swatara Township - via Steelton	100%	0%	0%	0%
Lower Paxton Township	100%	100%	0%	0%
Susquehanna Township	100%	100%	0%	0%
Steelton Borough	100%	0%	0%	0%

**Table A.5****Capital Region Water  
Unit Cost of Service - 2015  
Wholesale Rate Cost Allocation Study**

Description	Treatment	Conveyance	Collection		Other
Units of Service (1,000 gallons)	4,073,112	3,876,461	1,438,863		1,438,863
Operating Revenue Requirement	\$ 4,745,396	\$ 4,020,475	\$ 2,313,611	\$ -	\$ 3,694
Capital Revenue Requirement	3,255,377	641,008	2,885,303	-	(347)
Sources and Uses	-	-	-	-	(1,062,435)
Operating Unit Cost (\$/1,000 gallons)	\$1.17	\$1.04	\$1.61	\$0.00	\$0.00
Capital Unit Cost (\$/1,000 gallons)	\$0.80	\$0.17	\$2.01	\$0.00	-\$0.74

**Table A.6**

**Capital Region Water  
City Retail and Suburban Wholesale Rate Summary (FY2015)  
Wholesale Rate Cost Allocation Study**

Description	Customer Class		
	City	Suburbs <sup>1</sup>	Steelton <sup>2</sup>
O&M Rate			
Treatment	\$1.17	\$1.17	\$1.17
Conveyance	\$1.04	\$1.04	\$0.00
Collection	\$1.61	\$0.00	\$0.00
Other	\$0.00	\$0.00	\$0.00
Credit: Nutrient Credit Overpayment	<u>\$0.00</u>	<u>-\$0.17</u>	<u>-\$0.14</u>
Total O&M Rate (\$/1,000 gallons)	\$3.81	\$2.03	\$1.02
Capital Charge (Lease Rental Rates) <sup>3</sup>			
Treatment	\$0.80	\$0.92	\$0.92
Conveyance	\$0.17	\$0.19	\$0.00
Collection	\$2.01	\$0.00	\$0.00
Other <sup>4</sup>	<u>-\$0.74</u>	<u>\$0.00</u>	<u>\$0.00</u>
Total Capital Charge (\$/1,000 gallons)	\$2.23	\$1.11	\$0.92
Total Rate (\$/1,000 gallons)	\$6.04	\$3.14	\$1.94
Existing Rate (\$/1,000 gallons)	\$6.05	\$3.00	\$2.11
Percent Increase / Decrease	-0.1%	4.8%	-8.1%

<sup>1</sup> Penbrook and Paxtang Borough, and Swatara, Lower Paxton, and Susquehanna Township.

<sup>2</sup> Steelton Borough and a portion of Swatara do not share in the conveyance system costs.

<sup>3</sup> Reflects a 15% adjustment to the unit costs per Section 2b of Schedule A of the Agreement.

<sup>4</sup> Represents the use of cash-on-hand to fund the City's portion of capital project costs. A portion of the cash used represents cash generated from the overpayment of nutrient credit expenses by City customers in FY2014.