



# **WATER RESOURCES**

**FY 2013 Rate Study and Annual Report**

**Council Work Session  
February 28, 2012**



## FY 2013 Rate Study and Annual Report

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*Mission Statement:*

**“Provide excellent water, wastewater, and stormwater services that promote the health, safety, and prosperity of the community.”**

To: The Honorable Mayor and Members of the City Council  
From: Timothy A. Mitchell, P.E., Director of Utilities  
Re: FY 2013 Rate Study and Annual Report  
Date: February 28, 2012

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## I. EXECUTIVE SUMMARY

The Department of Water Resources prepares the Rate Study and Annual Report in order to determine the adequacy of the water and sewer rates to fund the operating and capital expenses of the Water and Sewer Funds and ensure compliance with the CSO financial criteria. This year we have added stormwater as well. As always, the following are the guiding principles that are adhered to in developing the recommended rates and fees:

- Equitable sharing of water, sewer, and stormwater costs based on actual services provided.
- Ensure rates promote sustainable water, sewer, and stormwater operations and infrastructure.
- Minimize future rate spikes.
- Meet the financial obligations related to the CSO Consent Order.
- Meet Council's financial policies.

The proposed water volume rate is recommended to be increased by 3%, while there is no proposed increase in the sewer volume because we estimate that the average annual sewer bill as of July 1, 2012 will be at or slightly above 1.25% of the median household income (MHI). The water rate increase is due in part to an overall decline in water consumption. Additionally, the need to continue the investment in the water infrastructure; however, previous projections assumed a 3% increase with minimal increases in consumption. As a result, even with a 3% increase in water rates we will not be able to continue the investment in the water infrastructure at the previously planned levels. While we are pleased to be in a position where we can recommend that there is no sewer rate increase, this results in a number of concerns including: a significant reduction in the CSO Program, deferred sanitary sewer system maintenance, and deferred maintenance at the Lynchburg Regional Wastewater Treatment Plant (WWTP). Additionally, there are concerns of additional enforcement action or a change in the criteria in which we calculated sewer rates.

For the second year in a row, the City of Lynchburg's combined water and sewer bill based on 5,000 gallons of consumption is less than the statewide average. Last year the combined rate was 1% less than the statewide average. This year the difference has increased to 3% less. This is based on the "23rd Annual Virginia Water and Wastewater Report 2011", prepared by Draper Aden Associates. Since 2004 the statewide average combined rate has increased by 41.1% while City's combined rate has only increased a total of 18.9%.

Stormwater has been included for the first time in this report. Projections for the Stormwater Fund are included in Appendix I – Financial Projections along with projections for the Water and Sewer Funds. In order to meet the existing stormwater needs, to better address the existing stormwater infrastructure issues, and to better plan for new regulatory requirements, the initial stormwater fee is recommended to be \$4.00 per single family unit (sfu) per month. Also, as with the Water and Sewer Funds, financial policies are recommended for the fund. A target of 10% for the fund balance and 1.15 for the debt coverage ratio is recommended.

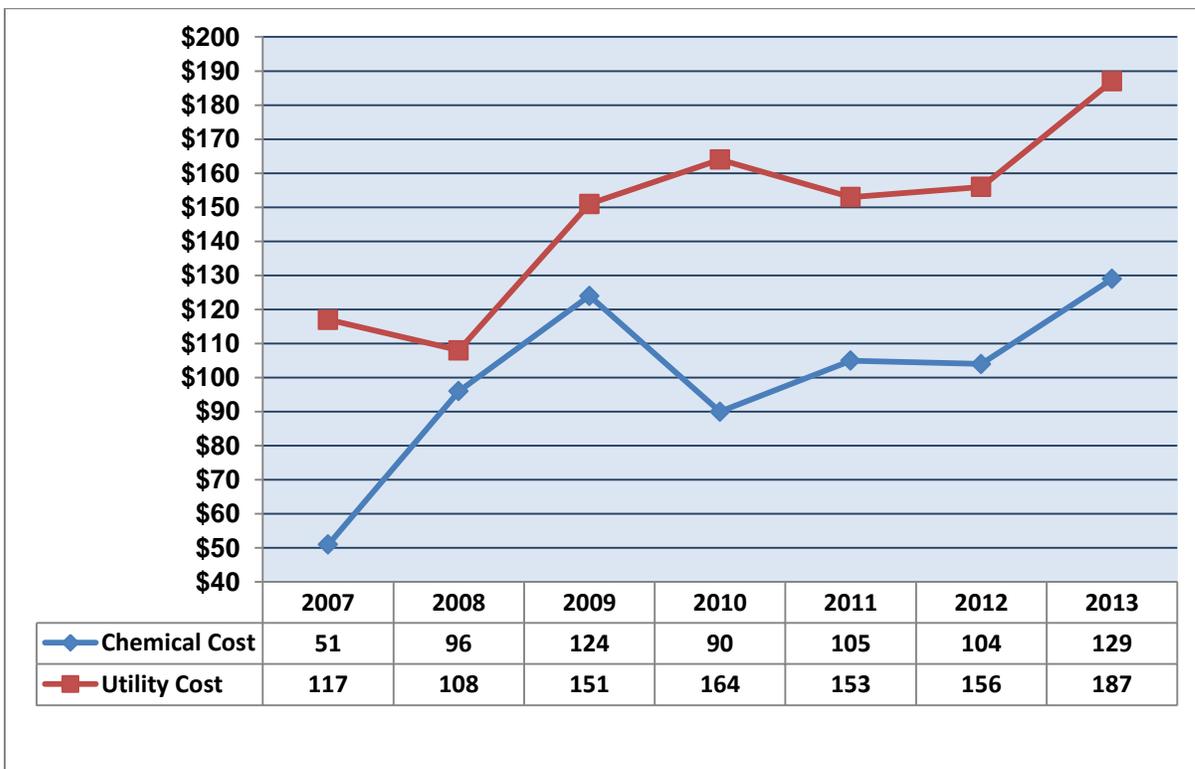
## II. WATER FUND

### A. Water Fund – Expenses

The **Administrative Division** provides administrative functions for water, sewer, and stormwater are all funded in the water fund. Transfers are made from the sewer and stormwater funds to cover administrative costs associated with sewer and stormwater activities. The proposed FY 2013 Administrative Division budget is \$2,971,946 and reflects an increase of \$244,004 over the adopted FY 2012 budget primarily due to reassigning two positions that were previously in the sewer fund to administration and additional personnel benefits costs. The increase associated with the reassignment of these two positions and additional employee benefits costs comprise \$239,004 of the overall increase.

The **Water Treatment Division** is responsible for the operation and maintenance of the City's two water filtration plants, the Pedlar Reservoir, and numerous pump stations and water tanks. The proposed FY 2013 budget is \$3,247,093 and represents a \$137,565 increase above the adopted FY 2012 budget primarily due to increases in personnel benefits (\$29,858) and increases in power and chemicals (\$75,000). As shown in *Figure II-1 – Water Treatment Variable Expenses per Million Gallons Treated*, since 2007 the variable costs associated with utilities and chemicals has risen from \$168 per million gallons treated to \$316, an 88% increase.

**Figure II-1 – Water Treatment Variable Expenses per Million Gallons Treated**



The **Water Line Maintenance Division** is responsible for the operation and maintenance of nearly 500 miles of water line and appurtenances within the City including: repairing main breaks, fire hydrant maintenance, service installations, etc.. The proposed budget for FY 2013 is \$1,620,732 and represents a \$70,172 increase above the adopted FY 2012 budget. This increase is primarily due to a \$89,500 increase in materials, such as prices for copper and fittings for water system maintenance.

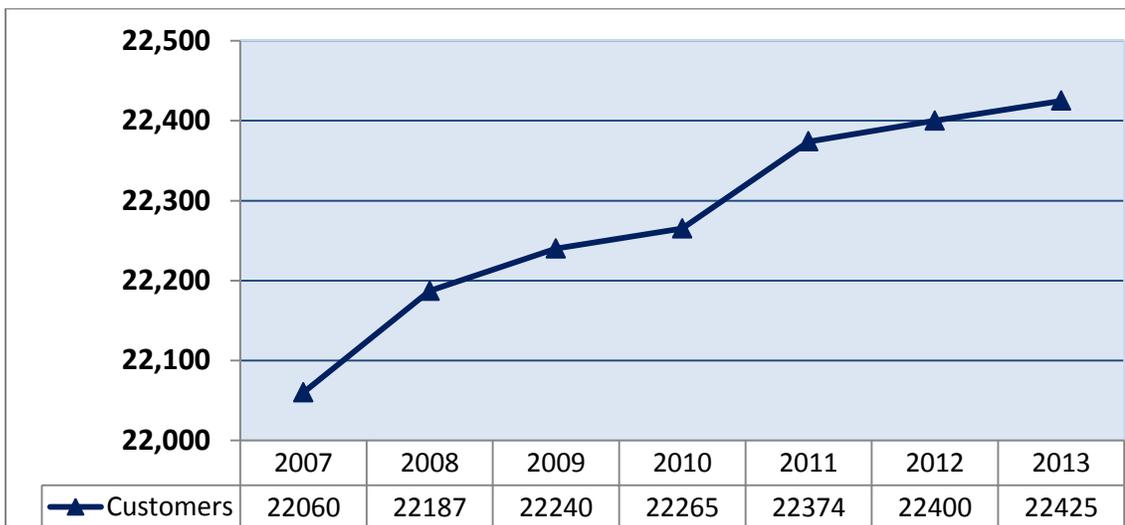
The **Meter Reading Division** is responsible for the reading, maintenance, replacement, of nearly 23,000 meters. Additionally, they are responsible for cut-offs / ons related to delinquent accounts. The proposed budget for FY 2013 is \$878,189 which represents a \$17,307 decrease from the FY 2012 adopted budget. The primary reason for this decrease is the reassignment of a vacant Meter Reader position to the Stormwater Fund. The position is no longer needed in the Meter Reading Division due to efficiencies gained through the installation of automated meter reading equipment.

Other expenses such as debt service and non-departmental costs are expected to remain relatively stable for FY 2013.

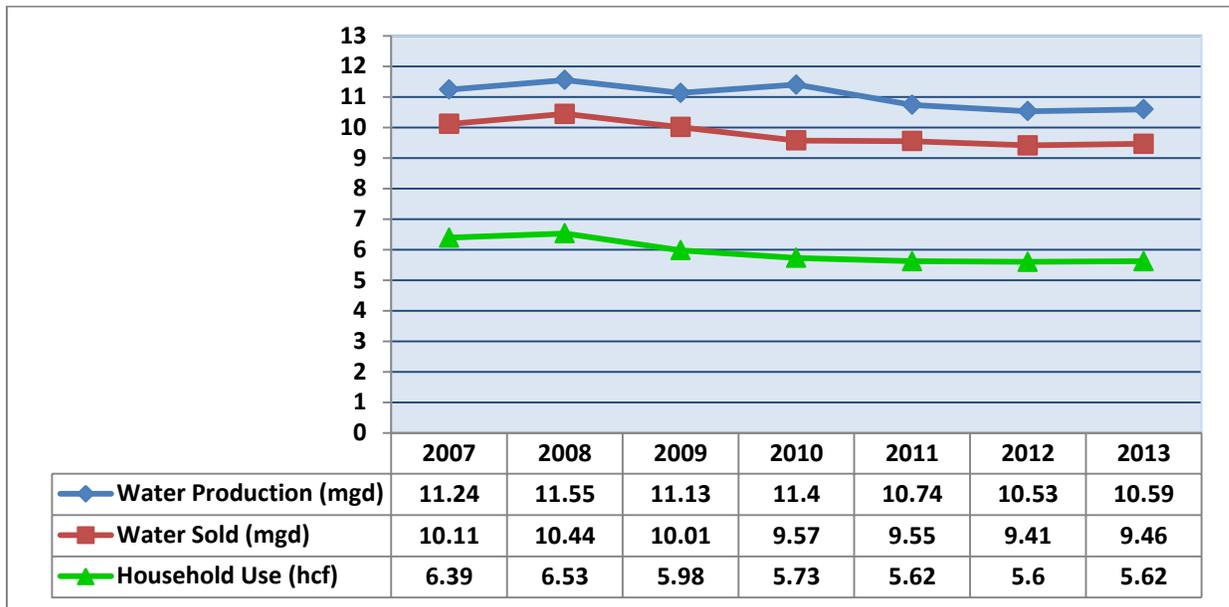
**B. Water Fund – Revenues**

Water Fund revenues are expected to be approximately \$12.77 million in FY 2013. This is down from previous projections in which we estimated the FY 2013 revenues to \$13.36 million. Revenues for the current year are also projected to be well under the FY 2012 budgeted amount by nearly \$500,000. The primary reason for this decline is the a a continued reduction in household consumption. Although, there has been a slow but steady growth in the number of customers (365 more customers since 2007), *Figure II-2 Number of Water Customers*, the overall water sold has decreased during this same time period by 650,000 gallons per day. More importantly, the average household consumption has decreased from 6.39 hcf per month to 5.62 hcf per month. See *Figure II-3 – Water Produced and Sold*.

**Figure II-2 Number of Water Customers**



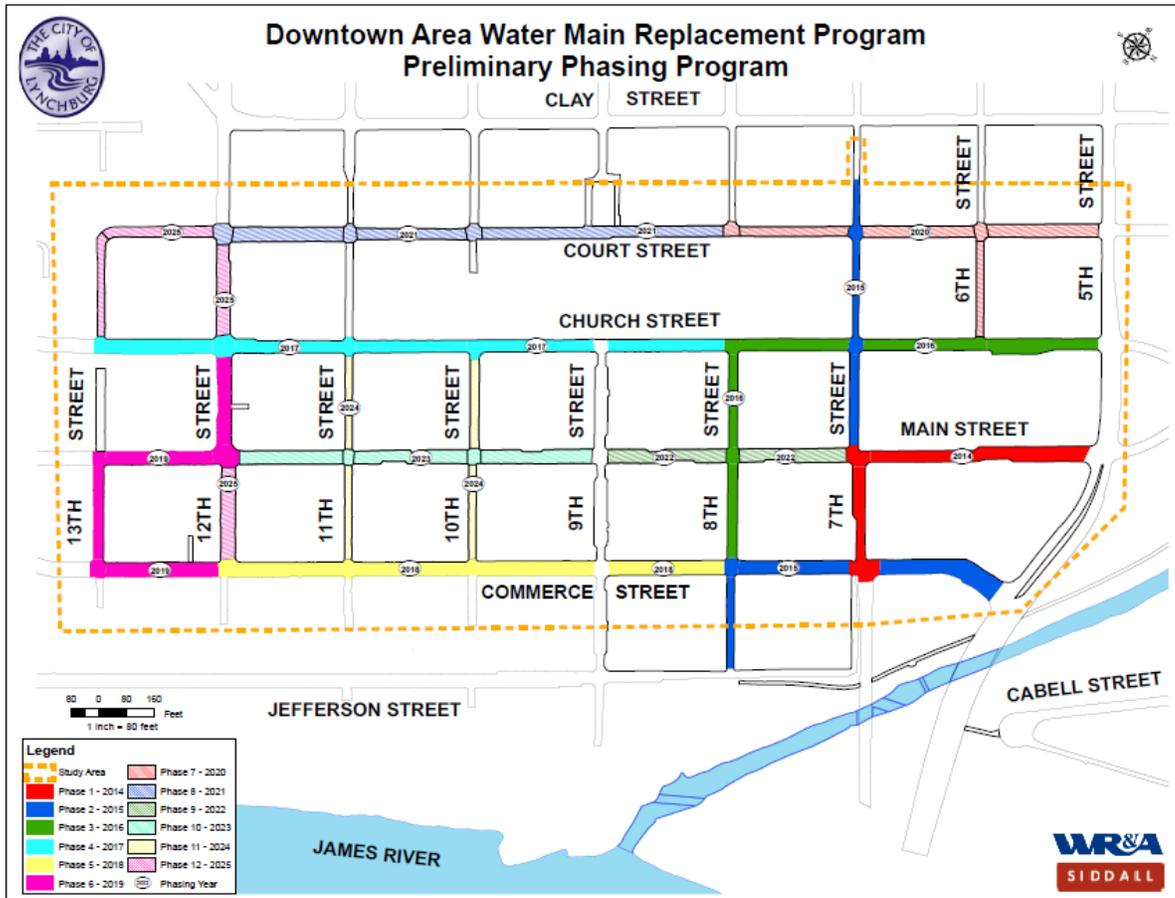
**Figure II-3 – Water Produced and Sold**



**C. Water Fund – Capital**

Previously plans included investing \$3.5 million per year into the distribution system assuming 3% annual water rate increases, primarily replacing older small water mains that frequently break and into the Central Business District (CBD) Water Line Replacement Program (*Figure II-4*). However, as a result of declining consumption and lower than anticipated revenue, it is necessary to scale back this to \$2.0 million per year. The impact of this will be to essentially stop the small water main replacement program and extend the CBD Water Line Replacement Program by at least four years. So instead of completing the program in 10 to 12 years, it will likely take at least 16 years. Additionally, reductions in the small main replacement program, which replaces aging and undersized lines, will also be necessary.

**Figure II-4 – Central Business District Water Line Replacement Program**



Continued investment in the infrastructure is critical for long term sustainability. While a slowdown in investment for a year or so is manageable, to do so for an extended period of time is unadvisable and future rate increases above 3% may be necessary. The risk of reducing the investment in the system is more frequent main breaks, resulting in service disruptions, inconveniences, possible system contamination, property damage, and lost revenues for businesses. While overall system demands are down, they are shifting locations which create other challenges. When the original system was designed and constructed the primary water consumption was in the downtown area, while residential and inner City demands are down, there are growing demands in the Candler’s Mountain and southwest portions of the City. A new water storage tank is planned on Candler’s Mountain to meet growing needs and to be able to take the only tank in that pressure zone off line for maintenance. Additional system improvements are also being evaluated to better meet the changing demands. There is currently at least \$15 million in distribution system infrastructure needs.

**D. Water Fund – Summary**

The combination of increased expenses and declining consumption has led to a recommended water rate increase of 3%, which is consistent with previous projections, and the need to dramatically reduce the water capital program for the near future.

### III. SEWER FUND

#### A. Sewer Fund – Expenses

The **Wastewater Treatment Division** is responsible for the operation and maintenance of the Lynchburg Regional Wastewater Treatment Plant. The proposed FY 2013 budget is \$6,819,526 and represents a \$27,064 decrease from the adopted FY 2012 budget. Although we are indicating a slight decrease, there are some significant challenges that need to be noted.

This budget proposes two new driver/operator positions which are needed to be able to haul sludge to the Campbell County landfill beginning in June. This along with increases in personnel benefits results in an increase of \$125,606 in personal services. This is somewhat offset by a \$30,000 reduction in temporary personnel costs.

The Concord Turnpike landfill is adjacent to the Wastewater Plant and has a ¼ mile private access road into the facility which exempts the facility from VDOT weight limits on public roads. This allows for fewer loads, larger storage capacities and the ability to use less experienced drivers than what can be used on public roads. Currently the WWTP uses primarily three axle roll off trucks, which can carry up to 25 tons on the private road, but on public road are restricted to 12 tons. This not only affected the number of loads but also capacity to meet State and Federal Sewage Collection and Treatment regulations which require the ability to store five days of solids production. Because of this one of the first transitions was to begin using six axle tractor trailers which can legally haul about 19 tons. The chart below will indicate some of the affects the relocation will have on sludge disposal operations.

	<b>Current</b>	<b>Projected</b>
Yearly miles traveled	1,500 miles	42,000 miles
Weight per load	20-25 wet tons	<12 wet tons
Total storage capacity	326 wet tons	176 wet tons
Loads per year	1100 loads	1835 loads
Yearly Hours require driving	330 hours	2400 hours
Hours lost for truck down time	15 hours	200 hours

The above changes result in the following sludge disposal cost increases:

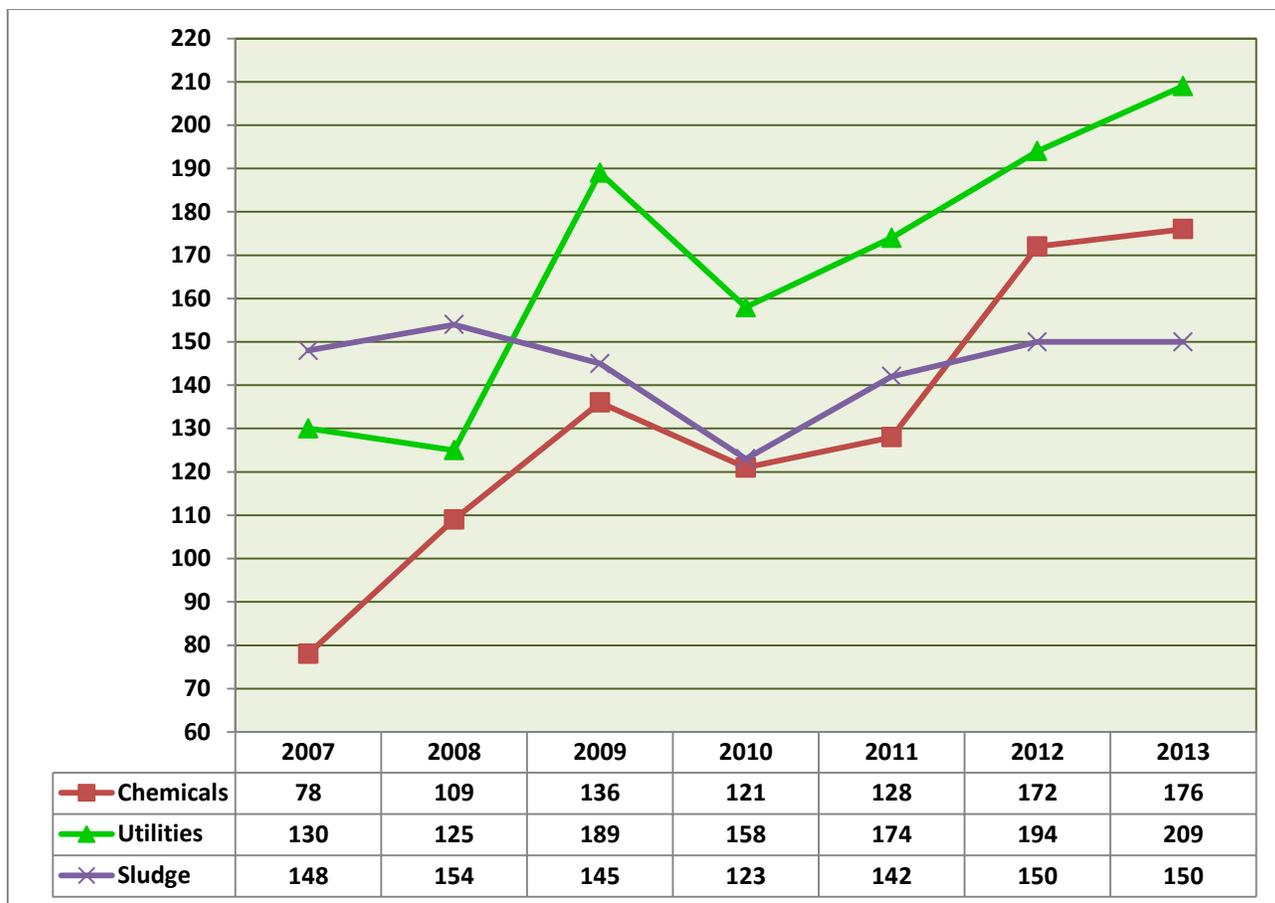
	<b>FY 2012</b>	<b>Projected FY 2013</b>	<b>Increase</b>
Truck repair costs	\$25,000	\$75,000	\$50,000
Fuel	\$15,000	\$50,000	\$35,000
Additional Personnel (4)	\$80,000	\$160,000	\$80,000

The total FY 2013 operational increase associated with sludge disposal = \$165,000

Additionally, we have recently purchased 6 new trailers at \$53,000 each for this operation. A total of 22 trailers will ultimately be needed to transport the sludge and continue to meet the five day sludge storage requirement.

A \$266,000 decrease in costs associated with nutrient trading will be realized as a result of some process changes that will allow the WWTP to meet the phosphorus limits and sell nitrogen credits. However, as in the Water Fund, the variable expenses, (chemicals, power, and sludge disposal) As shown in *Figure III-1 – Sewer Treatment Variable Expenses per Million Gallons Treated*, since 2007 the variable costs associated with utilities and chemicals has risen from \$356 per million gallons treated to \$535, a 50% increase.

**Figure III-1 – Sewer Treatment Variable Expenses per Million Gallons Treated**

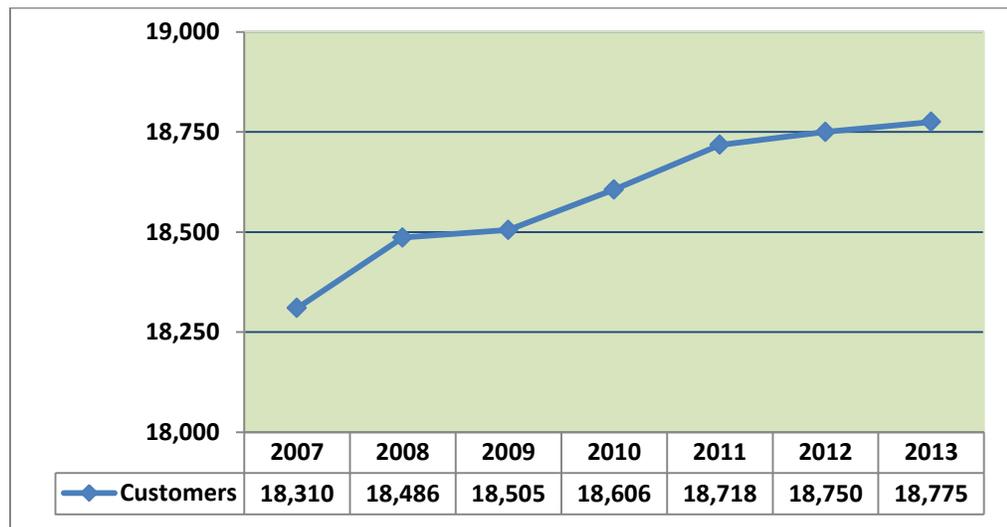


The **Sewer Line Maintenance Division** is responsible for the operation and maintenance of over 450 miles of sanitary sewer lines in the City including: inspection, cleaning, repairing, installation of services, etc. The proposed budget for FY 2013 is \$2,317,776 and represents a \$161,203 decrease above the adopted FY 2012 budget. This increase is primarily due to a \$137,793 decrease in personal services associated with reassigning 1.30 positions to the Stormwater Fund and a \$37,100 internal service charge decrease associated with moving three vehicles to the Stormwater Fund.

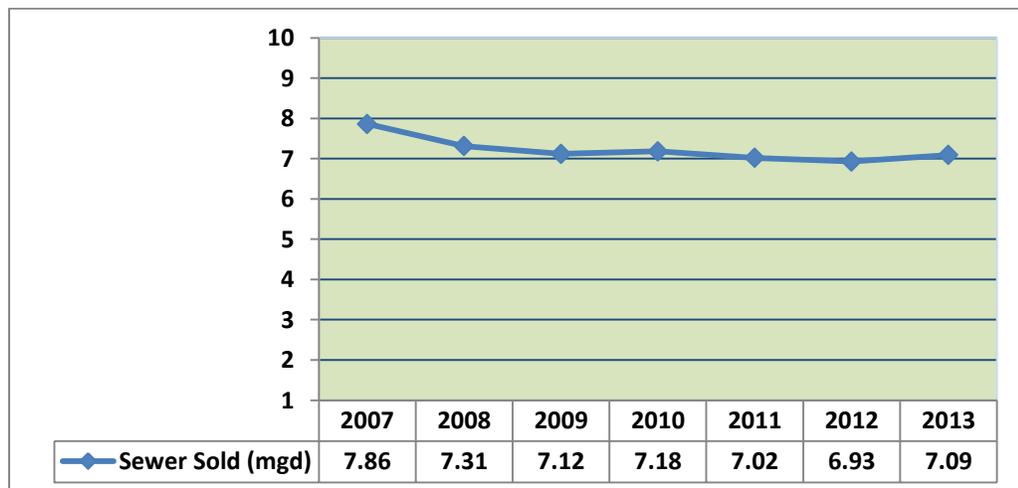
## B. Sewer Fund – Revenues

Sewer Fund revenues are expected to be approximately \$19.45 million in FY 2013. This is down nearly \$1 million from previous projections in which we estimated the FY 2013 revenues to \$20.43 million. Revenues for the current year are also projected to be well under the FY 2012 budgeted amount by nearly \$600,000. The primary reason for this difference is the continued reduction in household consumption and no proposed sewer rate increase. Similar to water, there has been a slow but steady growth in the number of customers (465 more customers since 2007), *Figure III-2 Number of Sewer Customers*, the overall sewer sold has decreased during this same time period by 770,000 gallons per day. See *Figure III-3 – Sewer Sold*.

**Figure III-2 Number of Sewer Customers**



**Figure III-3 Sewer Sold**



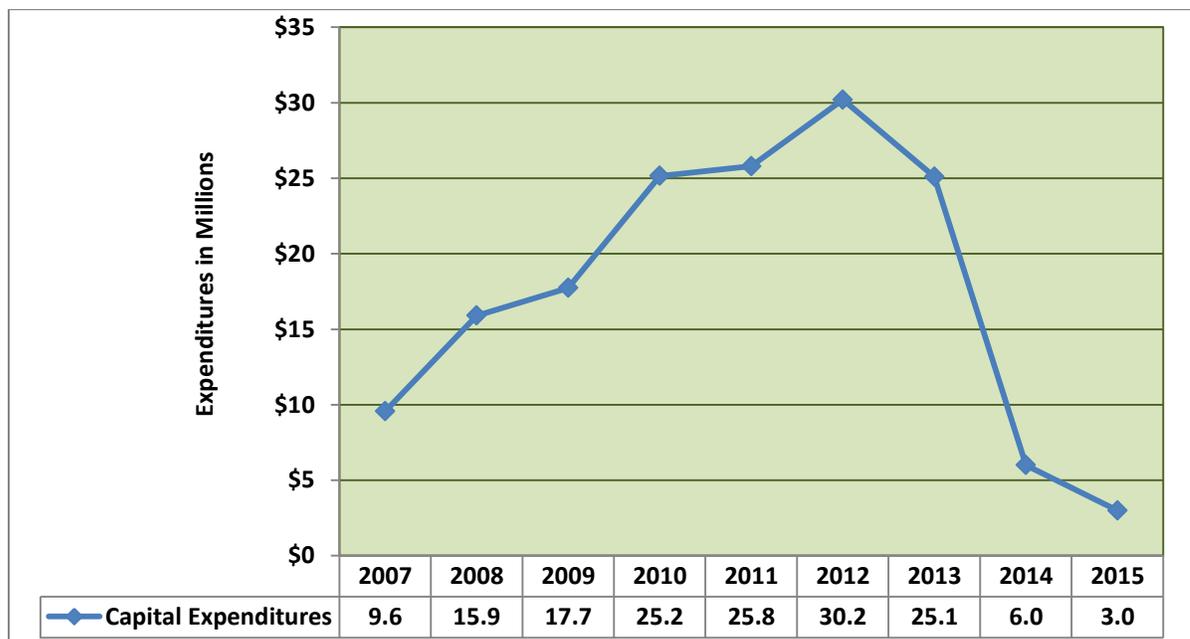
### C. Sewer Fund – Capital

As a result of declining consumption and associated revenues combined with the fact that we meet the CSO Consent Order MHI requirements without raising sewer rates, we have suddenly run out of debt capacity. The impacts of this are primarily on the CSO Program. However, other programs such as the Sanitary Sewer Evaluation Study (SSES) and associated maintenance of the separate sewer system will be scaled back as well. It is important to note that this is a critical program which is needed to reduce the number of unpermitted sewer overflows. The following is a description of the current progress and potential impacts to the CSO Program.

#### CSO Progress

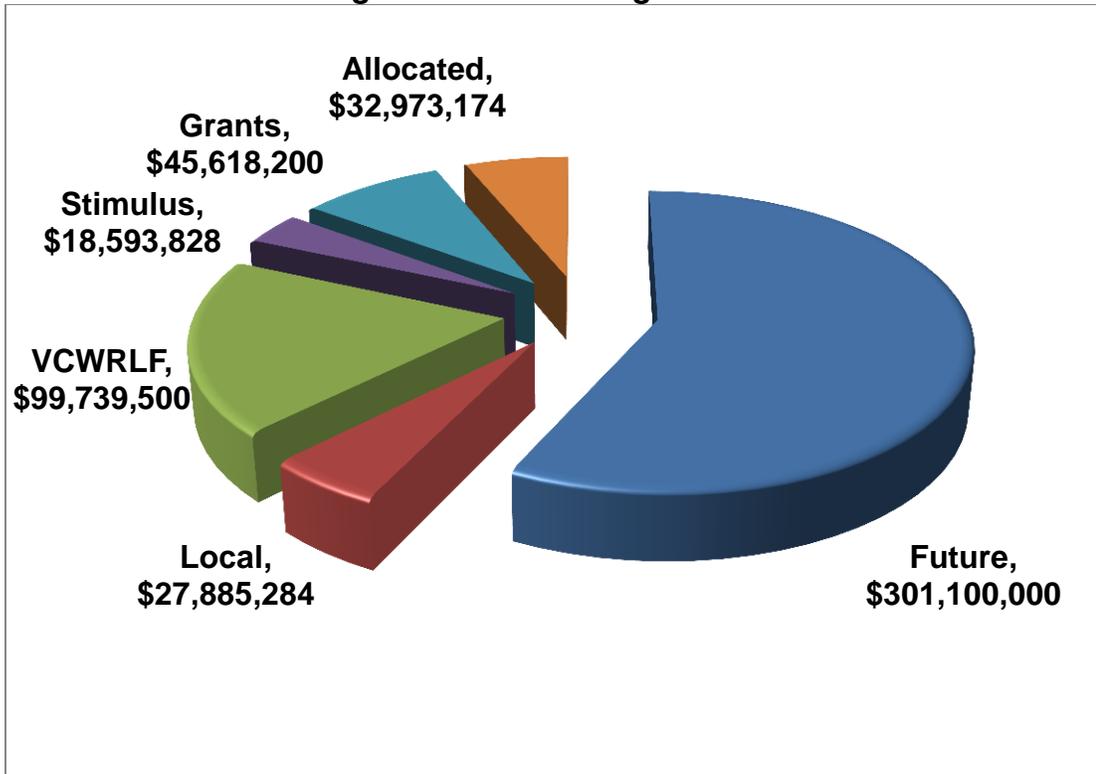
The Department of Water Resources continues to make significant progress on the CSO Program. To date 108 of the 132 original overflow points have been eliminated along with significant reductions in overflow volume and pollutant load. As a result of the American Recovery and Reinvestment Act funding, favorable cash flow and debt coverage numbers, in recent years we have been able to invest a significant amount into the CSO program. However, we have now come to a turning point. Little or no growth in the median household income, declining water consumption, and high debt service payments have resulted in only minimal debt capacity for the near future (refer to *Figure III-4, CSO Capital Spending*).

**Figure III-4 CSO Capital Spending**



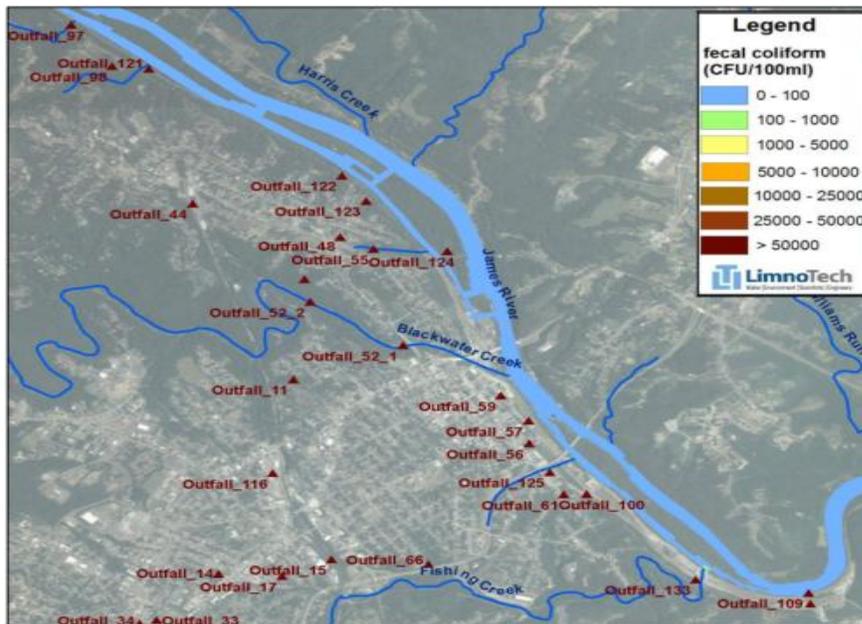
While we may all welcome a break from the extensive CSO construction, the situation does create concerns. As shown in *Figure III-5, CSO Program Cost*, we still have over \$300 million remaining to complete the program. Should the program slow or stop for an extended period of time it would likely attract the attention of EPA.

**Figure III-5 CSO Program Cost**

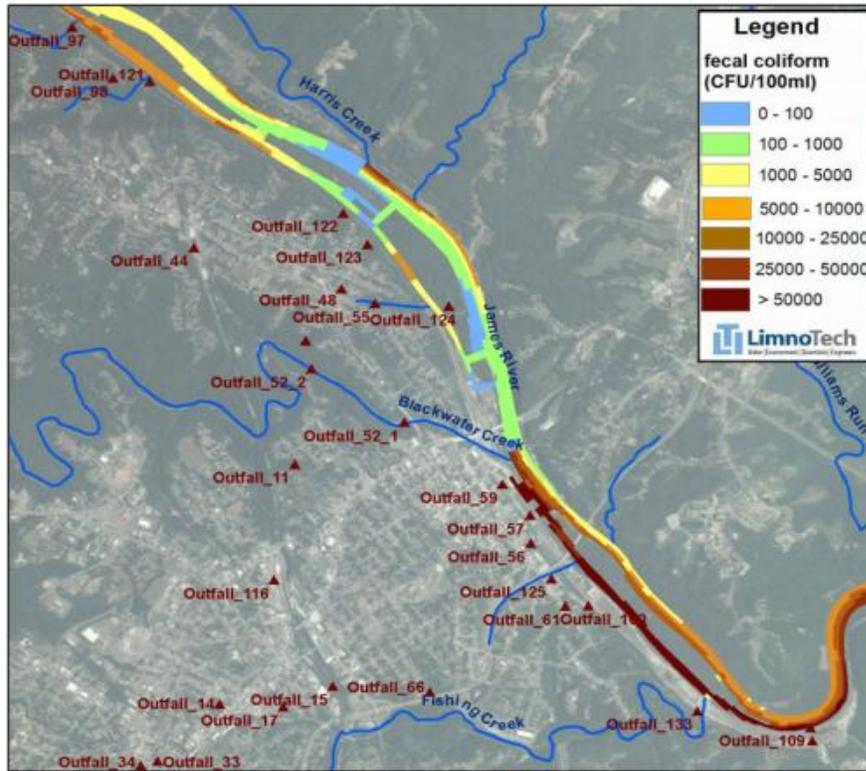


Figures III-6, III-7 & III-8, are based on an extensive water quality model and water quality sampling developed as part of the Long Term Control Plan update currently underway by Greeley and Hansen. These figures indicate the levels of fecal coliform in the James River before, during, and after a rainfall event. Based on these facts, we are clearly a long way from meeting the water quality requirements.

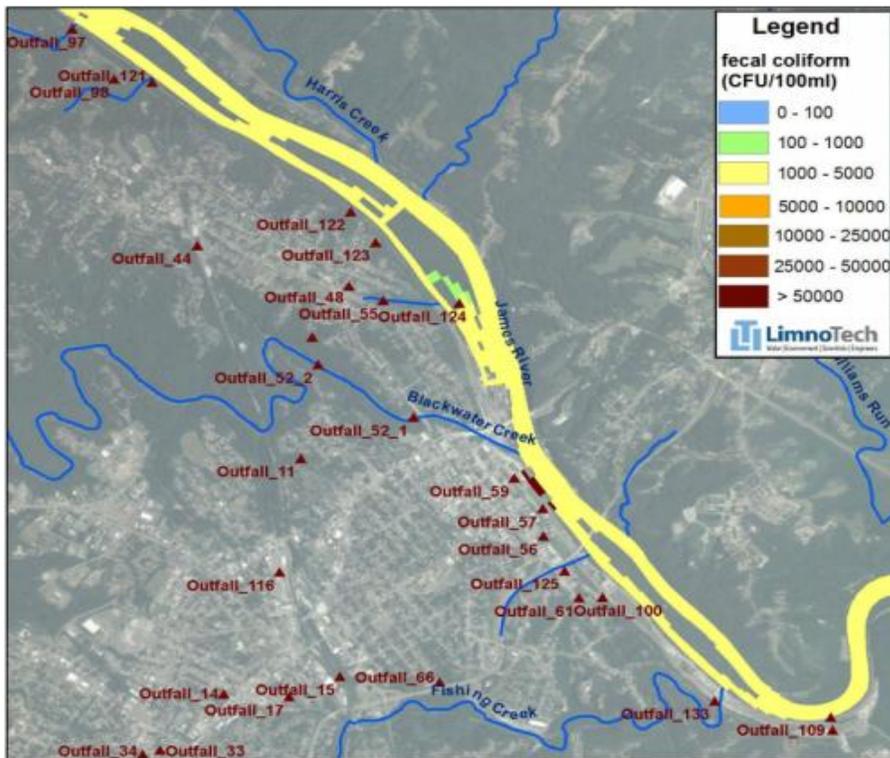
**Figure III-6 Water Quality 24 Hours Prior to Rainfall**



**Figure III-7 Water Quality During Rainfall**



**Figure III-8 Water Quality 24 Hours After Rainfall**



Potential impacts of slowing or stopping our CSO Program for an extended period include: EPA to reopening our Consent Order to try and incorporate more stringent requirements such as a fixed date for completion of the program or an increase in the sewer rate to at least 2.0% of the MHI. Currently, one or both of these scenarios are being imposed by EPA across the country. We have long said that we have one of the best Consent Orders in the country because Lynchburg was proactive nearly two decades ago. As shown above in the MHI calculation, an additional concern that DEQ has raised is that because our typical household water consumption has decreased to below 6 hcf (5.6 hcf) we are actually well below the MHI requirements. If we were to use 6 hcf instead of 7 hcf for the purpose of calculating compliance, our current sewer rates would only be at 1.12% of the median household income.

The reason for pointing these issues out is that while we are not recommending a sewer rate increase this year, it may be in the City's best interest to consider raising the sewer rate in future beyond what is currently planned in future years for the purpose of continuing a strong CSO Program, renewing aging infrastructure, and hopefully avoiding federal intervention into the program.

#### **IV. STORMWATER FUND**

Recently, City Council adopted an ordinance establishing a stormwater utility that will be funded by a fee assessed to each developed property in the City based on its impervious area. The purpose of establishing a utility and fee is multifold. These include: regulatory issues (pending requirements associated with the Chesapeake Bay; local water quality requirements; new State stormwater regulations; a shifting of responsibilities from the Department of Conservation and Recreation (DCR) to localities; continued compliance with increasing MS4 permit requirements); the funding of existing and new stormwater program efforts, the need to adequately maintain our existing stormwater infrastructure.

##### **A. Regulatory Issues**

The Watershed Implementation Plan (WIP) submitted by the State to EPA as required by the Chesapeake Bay TMDL describes specific reductions goals related to urban stormwater (and other sectors). The WIP further states the strategy in which these stormwater goals will be met will be through the MS4 permits with certain reductions required each of three subsequent five year permit cycles.

The first permit cycle, beginning in July 2013, will require the City to achieve 5% towards our pollution reduction goals. The second permit cycle an additional 35% would need to be achieved, and finally 60% in the third permit cycle. With our current estimate of approximately \$110 million needed to comply with the urban stormwater requirements divided based on the reduction goals in each permit cycle the estimated cost for each five year permit cycle is as follows: first permit cycle = \$5.5 million; second permit cycle = \$38.5 million; and the third permit cycle = \$66 million.

There potentially is a number of ways that these costs can be reduced and/or spread out over a longer period of time. Currently there are several bills in the General Assembly that could help reduce this cost, specifically, SB 77 and HB 176 expand the nutrient trading program. This would essentially allow us to trade nitrogen and phosphorous credits between wastewater and stormwater potentially lengthening the time needed to comply with the urban stormwater requirements and finding the most cost effective means for compliance. We can also potentially take credit for water quality features put in place in conjunction with CSO and redevelopment to further meet our target reductions. Good management and planning will help mitigate the impacts of the Chesapeake Bay clean-up and other local water quality requirements on the citizens of Lynchburg.

## **B. Operations**

The Departments of Water Resources, Public Works and Community Development are the core departments implementing the components of the City's Municipal Separate Storm Sewer System (MS4) permit and overall stormwater program.

The Department of Water Resources is responsible for the overall management of the permit and coordination among all departments to ensure compliance with the six minimum control measures as dictated by our MS4 permits. Additionally, the department performs any necessary maintenance or repair work to the storm system network and stormwater BMPs, manages the Illicit Discharge Detection and Elimination (IDDE) program and manages compliance of stormwater maintenance agreements for stormwater BMPs. The department is also responsible for maintenance of the stormwater GIS system. Additionally, more and more sophisticated stormwater quality devices (as shown below) are being installed throughout the City which are labor intensive and expensive to maintain.



The Department of Public Works is responsible for managing the leaf collection and street sweeping programs. The department is also responsible for operation and maintenance work on culvert, storm ditch-line and stormwater BMPs.

The Department of Community Development is responsible for the enforcement of the erosion and sediment control program for public and private land disturbing activities and the stormwater management ordinance for adequate channel and water quality management of development projects. The divisions of Zoning and Natural Resources and Building Inspections assist with the Illicit Discharge Detection and Elimination Program.

### **C. New Initiatives and Recommended Changes**

#### **1. Leaf collection**

Historically, leaf collection has been a General Fund function; however, beyond providing the citizens with a desired service, leaf collection is a regulatory requirement in both the CSO Program and the MS4 permit. Currently 25% of leaf collection is funded by VDOT, the remaining 75% is funded in the general fund. Because of the regulatory requirements, it is recommended that 50% (\$335,391) of leaf collection be funded through the stormwater fund.

#### **2. Street Sweeper**

Currently the City's Street Sweeping Program has been scaled back to approximately the equivalent of one full time street sweeper. Like leaf collection, street sweeping is also a regulatory requirement as well as a very cost effective method of pollutant removal while improving the aesthetics of the community. For these reasons, we recommend restoring a street sweeping position that was recently eliminated. The City currently owns three street sweepers so no additional equipment would be needed. The annual cost of adding the position and operating a street sweeper is \$107,150.



#### **3. Infrastructure**

Besides just complying with new and strengthened regulations, it is also critical that we devote adequate resources to maintaining our existing stormwater infrastructure. Currently, very little is even known about the location, condition, or even extent of our stormwater infrastructure. As with other infrastructure, deferring maintenance usually ends up costing more in the long run. We are recommending that at least \$300,000 annually be devoted to pay-as-you-go capital for general system repairs. Below are examples of some existing infrastructure issues that we are aware of but that no funding exists to address.

### ***Edgewood Storm System***



This property on Edgewood Drive has a 24" public storm line running through it that has completely collapsed creating multiple sink holes on the property. The estimated cost to replace the storm system is \$98,000. Below are a few of the known existing stormwater issues that need to be addressed but that are currently unfunded.

### ***Simsbury Lane***



***Ardmore Outfall***



***Ardmore Inlet***



***Falcon Hill Outfall***



***Falcon Hill Outfall***



## ***Blackwater Creek***



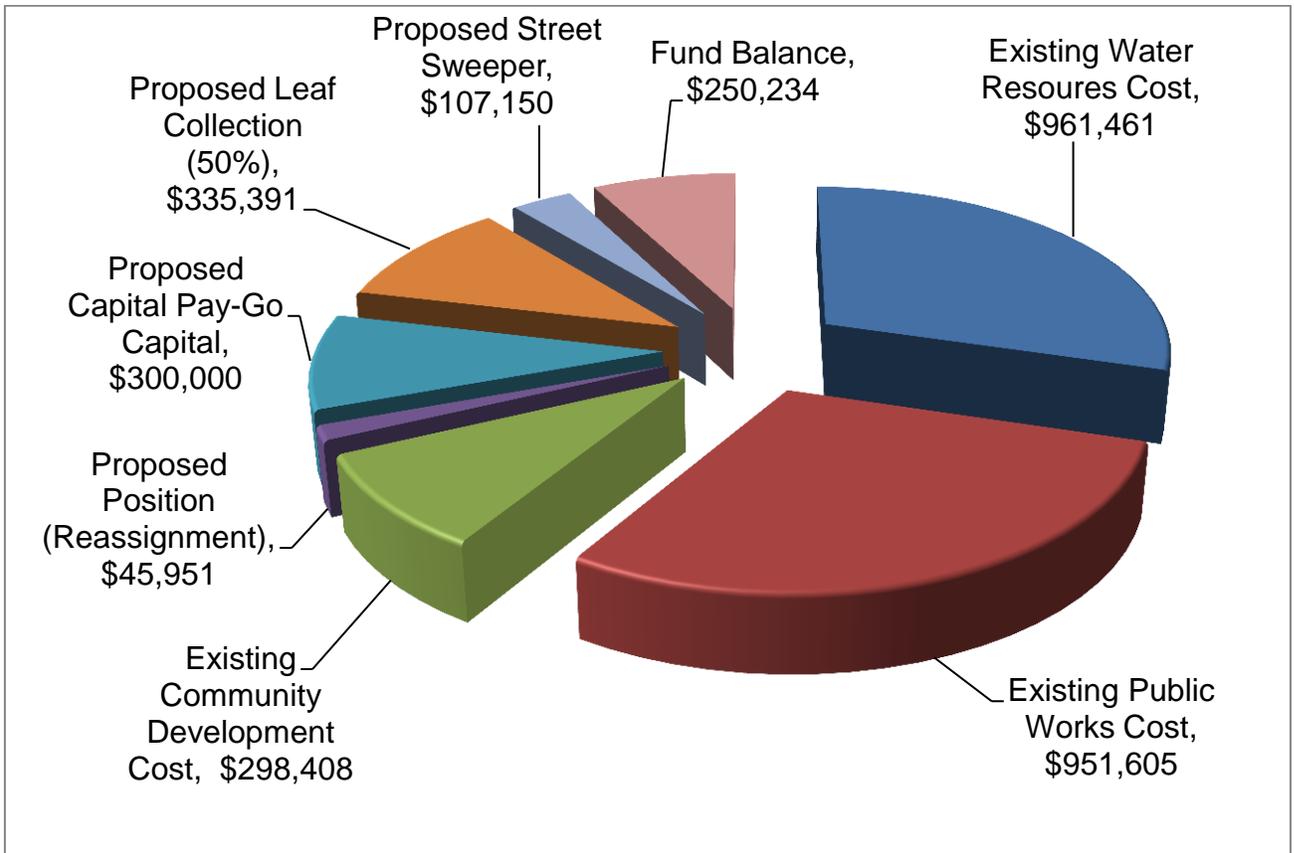
### **4. Master Planning and Design**

It is recommended that beginning in FY 2014 that at least \$200,000 per year be devoted to mapping, condition assessment, master planning and design in order to determine the most cost effective and efficient way to not only meet the new regulatory requirements, but also properly manage our stormwater infrastructure. The actual needs for this are actually far greater.

### **D. Proposed Stormwater Budget and Fee**

The proposed stormwater budget and associated fee are based on these recommendations. While the majority of the fee covers existing stormwater programs, additional funds would be devoted to master planning and infrastructure maintenance, restoration of a street sweeper position and activity, additional maintenance costs associated with the increasing number stormwater quality devices, more accurate distribution of administrative costs associated with stormwater and previously funded in either the water or sewer fund, moving a vacant position to stormwater to provide better oversight of the private stormwater basin maintenance activities, assist with the Illicit Discharge Detection and Elimination (IDDE) program, and to provide technical assistance with the stormwater credit program. *Figure IV-1 Stormwater Budget Items*, shows a breakdown of the proposed stormwater operating budget.

**Figure IV-1 Stormwater Budget Items**



Each new activity, its associated cost and corresponding portion of the proposed \$4 per sfu fee, *Figure IV-2 Stormwater Fee Allocation*, shows exactly how much of the proposed fee is allocated to each specific activity. Bolded items are either new initiatives or a proposed change in funding source.

**Figure IV-2 Stormwater Fee Allocation**

Activity	Cost	Rate
Water Resources less VDOT	\$ 311,461	\$ 0.48
Public Works	\$ 951,605	\$ 1.46
Community Development	\$ 298,408	\$ 0.46
Reassigned Position	\$ 45,951	\$ 0.07
<b>Pay-Go Capital</b>	<b>\$ 300,000</b>	<b>\$ 0.46</b>
<b>Street Sweeper</b>	<b>\$ 107,150</b>	<b>\$ 0.16</b>
<b>Leaf Collection (50%)</b>	<b>\$ 335,391</b>	<b>\$ 0.52</b>
<b>Fund Balance</b>	<b>\$ 250,234</b>	<b>\$ 0.38</b>
VDOT	\$ 650,000	\$ -
<b>Total</b>	<b>\$ 3,250,200</b>	<b>\$ 4.00</b>

## V. RATE INCREASES

The rate adjustments proposed in this report will result in a typical composite monthly water and sewer bill increase of approximately 0.8%. "Table V-1 Monthly Bill Impact" provides a comparison of typical monthly water and sewer bills for a cross section of the customer base. It should be noted that an average household now uses less than 6 hcf per month so in those cases the impact will be less than indicated below.

**Table V-1 Monthly Bill Impact**

Customer Type	Monthly Volume	Current Bill	Proposed Bill	% Increase
Residential	7 hcf	\$59.28	\$59.76	0.8%
Commercial	30 hcf	\$241.90	\$243.99	0.9%
Industrial	1000 hcf	\$7,943.70	\$8,013.69	0.9%

### A. Water Volume Rate

The water volume rate is recommended to increase by 3%. The impact of this increase to a typical household will be less than 50 cents per month.

### B. Sewer Volume Rate

There is no sewer rate increase proposed for FY 2013. The City's CSO Special Order dictates that we maintain the average annual sewer bill at 1.25% of the Median Household Income (MHI). As of July 1, 2011 the sewer rate was 1.30% of the MHI, slightly above the minimum required by the CSO Consent Order. *Table V-2, MHI Calculation*, includes the calculation for the MHI requirement as of July 1, 2011. Indications are that the CPI which is used to update the MHI has slightly increased but even with the increases we estimate that we will meet or exceed the CSO MHI requirement for next year.

**Table V-2 MHI Calculation**

<b>Annual Sewer Bill</b>	
Sewer volume rate	\$5.65
Avg. monthly use in HCF	x 7
Volume charge	39.55
Meter charge	1.85
Total monthly sewer bill	41.40
	x12
Annual sewer bill	\$496.80
<b>MHI Calculation</b>	
MHI in 2009 per U.S. Census Bureau	\$37,070
Increase in CPI from 12/2009 to 7/2011 x 75%	3.46%
MHI @ 7/2011 (\$37,070 x 1.0346%)	\$38,353
Annual sewer Bill as a % of MHI (\$496.80 / \$38,353)	1.30%

Based on increases in CPI since July 1, 2011, for projection purposes, we assume annual sewer rate increases of 2% will be needed effective July 1, 2013 to stay above the 1.25% threshold. However, it is important to note that changes in MHI are subject to a number of variables in addition to CPI. The next MHI estimate is expected to be released later this year. It is also important to note that the Department of Environmental Quality (DEQ) has argued that the average monthly sewer use for residential customers should be 6 HCF, not 7 HCF. If DEQ should prevail and the City is required to use the 6 HCF number, the annual sewer bill as a percent of MHI would be 1.12% as of July 1, 2011.

### C. Sewer Only Rate

Since there is no proposed increase in the sewer volume rate, the sewer only rates are also recommended to remain the same.

### D. Stormwater Rate

As discussed above the recommended stormwater rate is \$4.00 per sfu per month.

### E. Industrial Surcharges

These charges are designed to recover the cost of treating high strength sewerage which is measured in pounds of biological oxygen demand (BOD) or total suspended solids (TSS) over the amounts assumed to be included in domestic sewerage. There are a total of 19 industrial pretreatment permits of those, seven are currently billed for high strength BOD and TSS. Rock Tenn and Frito-Lay are billed based on contract rates. Additionally, as a result of recent Industrial Pretreatment Memorandum of Understanding with each of the surrounding counties, we will begin billing Barr Labs for high strength waste.

A comparison between the current rates and the actual cost of treating BOD and TSS is shown in *Table V-3 Pretreatment Cost Analysis*.

**Table V-3 Pretreatment Cost Analysis**

	<b>Current Rate</b>	<b>Actual Cost</b>	<b>% Difference</b>	<b>Proposed Rate (+5%)</b>
<b>BOD charge / 100 lbs.</b>	\$20.31	\$27.79	36.8%	<b>\$21.33</b>
<b>TSS charge / 100 lbs.</b>	\$22.97	\$25.47	10.9%	<b>\$24.12</b>

Note: Actual cost estimates are assumed to have increased by 3% per year since the last detailed cost study.

We recommend that the current BOD and TSS rates be increased 5% to more closely recover the actual cost of service. Additional 5% annual increases are recommended through FY 2015 and then 3% per year thereafter.

## F. Septic Hauler Charges

There are currently 22 permitted septic haulers that dispose of septic material at the Wastewater Treatment Plant plus approximately 40 large companies that have contracts with the City to dispose their septic material at the plant.

Revenues from septic haulers and customers with contracts that dispose of waste in the Wastewater Treatment Plant have averaged \$350,000 over the past five years. The current minimum septic hauler charge is \$185.85 and applies to all trucks that carry up to 2,500 gallons of septic material. The septic hauler charge increases by \$31.50 for every 500 gallon increase in the septic carrying capacity of a truck.

The septic hauler charges were increased two years ago. If the charges are based on the average concentrations of BOD and TSS in septic material that are treated in the wastewater plant, the charge for a 2,500 gallons truck load of septic material would be as follows in *Table V-4 Septic Hauler Charges*.

**Table V-4 Septic Hauler Charges**

	<b>Lbs.</b>	<b>Rate / lb.</b>	<b>Charge</b>
BOD	155	\$.2619	\$43.07
TSS	730	\$.2401	\$185.93
Administration			\$50.00
<b>Total for a 2,500 gallon truck load</b>			<b>\$279.00</b>
Charge for each additional 500 gallons			\$45.80

Administration includes approximately 4 hours of City time to register a septic hauler at the wastewater plant, take PH samples, and record information for billing purposes.

The BOD and TSS rates included in the above table are based on a cost of service analysis that was used to determine the rates charged to Frito-Lay and Rock Tenn Company then escalated by 3% per year.

In order to minimize impacts to current septic haulers, we recommend that current septic hauler charges be increased 5% per year until FY 2015 then 3% per year thereafter to more closely recover the actual cost of providing the service.

"Table V-5 Water and Sewer Rates – FY 2009 to FY 2013", provides a comparison of the current water and sewer rates and the rates proposed for City Council approval, effective July 1, 2012. A summary of all water and sewer rates in effect over the past four years is also included in this table.

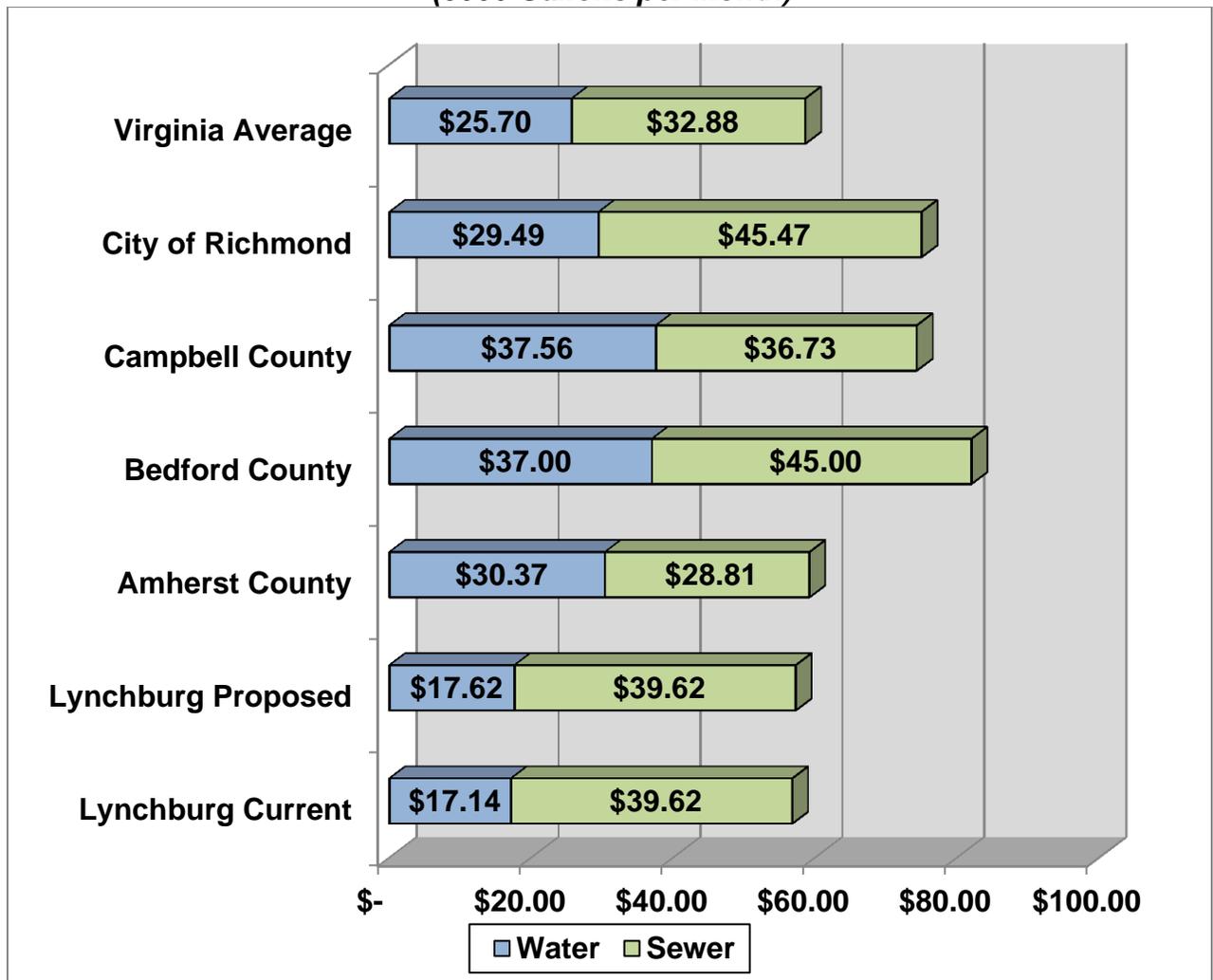
**Table V-5 Water and Sewer Rates – FY 2009 to FY 2013**

	FY 2009	FY 2010	FY 2011	FY 2012	Proposed FY 2013	% Increase
<b>Water</b>						
Volume charge / hcf	\$2.05	\$2.13	\$2.22	\$2.29	<b>\$2.36</b>	<b>3%</b>
<b>Sewer</b>						
Volume charge / hcf	5.38	5.54	5.54	5.65	<b>5.65</b>	<b>0%</b>
BOD charge / 100 lbs	18.46	18.46	20.31	20.31	<b>21.33</b>	<b>5%</b>
TSS charge / 100 lbs.	20.88	20.88	22.97	22.97	<b>24.12</b>	<b>5%</b>
Septic hauler charge	177.00	177.00	185.85	185.85	<b>195.14</b>	<b>5%</b>
Industrial permit fee	200.00	200.00	varies	varies	<b>varies</b>	<b>0%</b>
Sewer only	41.35	42.47	42.47	43.24	<b>43.24</b>	<b>0%</b>
<b>Stormwater</b>						
Rate per sfu per month					<b>\$4.00</b>	<b>-</b>
<b>Fire Protection</b>						
Hydrants & 8" or smaller fire lines	17.99	17.99	19.79	19.79	<b>19.79</b>	<b>0%</b>
10" fire lines	32.30	32.30	35.53	35.53	<b>35.53</b>	<b>0%</b>
12" fire lines	51.25	51.25	56.38	56.38	<b>56.38</b>	<b>0%</b>
<b>Availability Fees</b>						
Water	1,220.00	1,220.00	1220.00	1220.00	<b>1220.00</b>	<b>0%</b>
Sewer	1,950.00	1,950.00	1950.00	1950.00	<b>1950.00</b>	<b>0%</b>
<b>Water Connection Fees</b>						
3/4" & 5/8" meters	950.00	950.00	950.00	950.00	<b>950.00</b>	<b>0%</b>
1" service – 5/8" meter	1,000.00	1,000.00	1000.00	1000.00	<b>1000.00</b>	<b>0%</b>
1" service – 1" meter	1,150.00	1,150.00	1150.00	1150.00	<b>1150.00</b>	<b>0%</b>
Greater than 1"-minimum	1,150.00	1,150.00	1150.00	1150.00	<b>1150.00</b>	<b>0%</b>
<b>Sewer Connection Fees</b>						
4" sewer line	1,100.00	1,100.00	1100.00	1100.00	<b>1100.00</b>	<b>0%</b>
Greater than 4"-minimum	1,200.00	1,200.00	1200.00	1200.00	<b>1200.00</b>	<b>0%</b>
<b>Other Charges</b>						
Account charge	3.69	3.69	3.69	3.69	<b>3.69</b>	<b>0%</b>
Cut-on charge	15.00	15.00	15.00	15.00	<b>15.00</b>	<b>0%</b>
Cut-off charge	25.00	25.00	25.00	25.00	<b>25.00</b>	<b>0%</b>
Delinquent account fee	5%	5%	5%	5%	<b>5%</b>	<b>0%</b>

## VI. RATE COMPARISONS

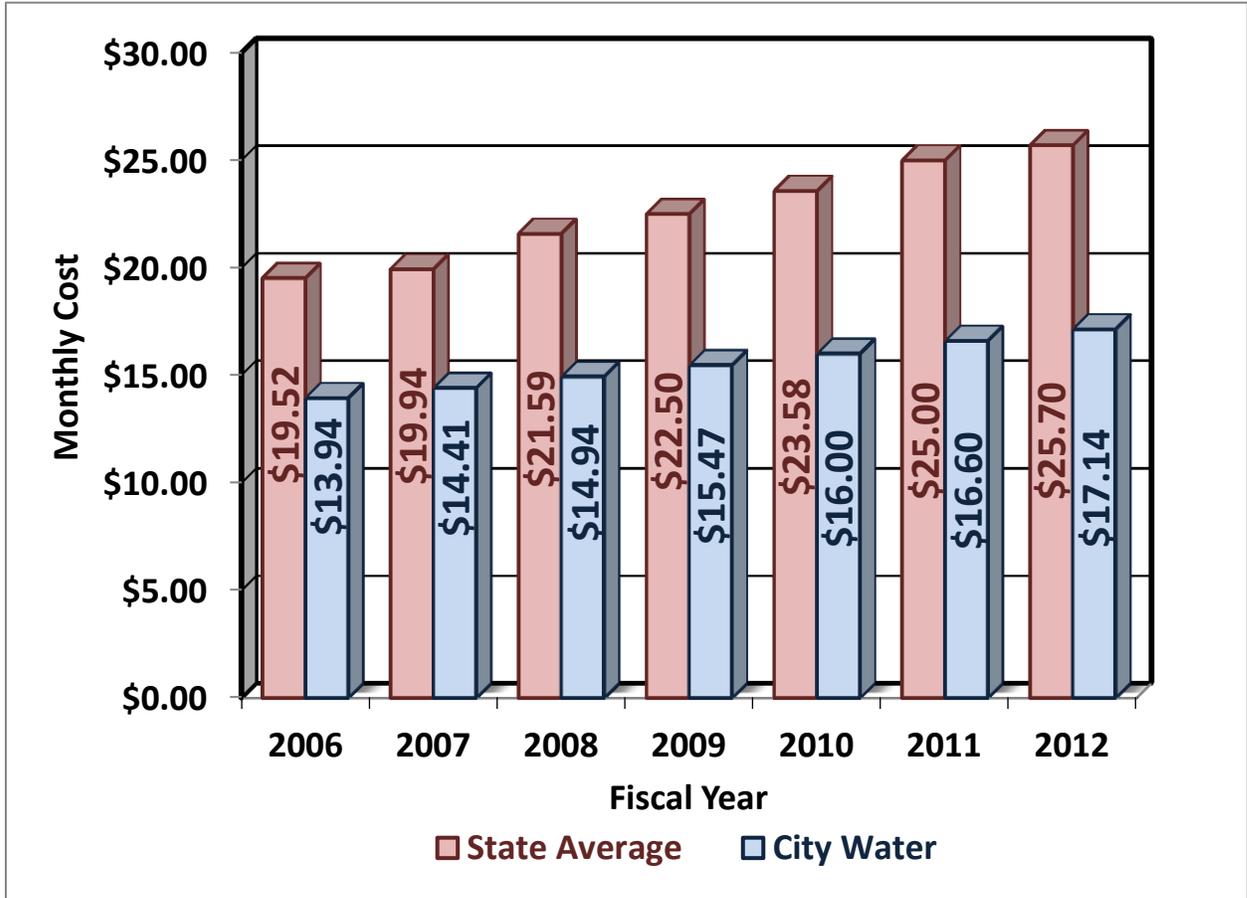
A comparison of the City's water and sewer bills for a customer using 5,000 gallons (6.68 hcf) of water per month to other communities is shown in "Figure VI-1 Bill Comparisons". (Information from other localities and the statewide average is based upon the "23rd Annual Virginia Water and Wastewater Report 2011", prepared by Draper Aden Associates.)

**Figure VI-1 Bill Comparisons  
(5000 Gallons per Month)**



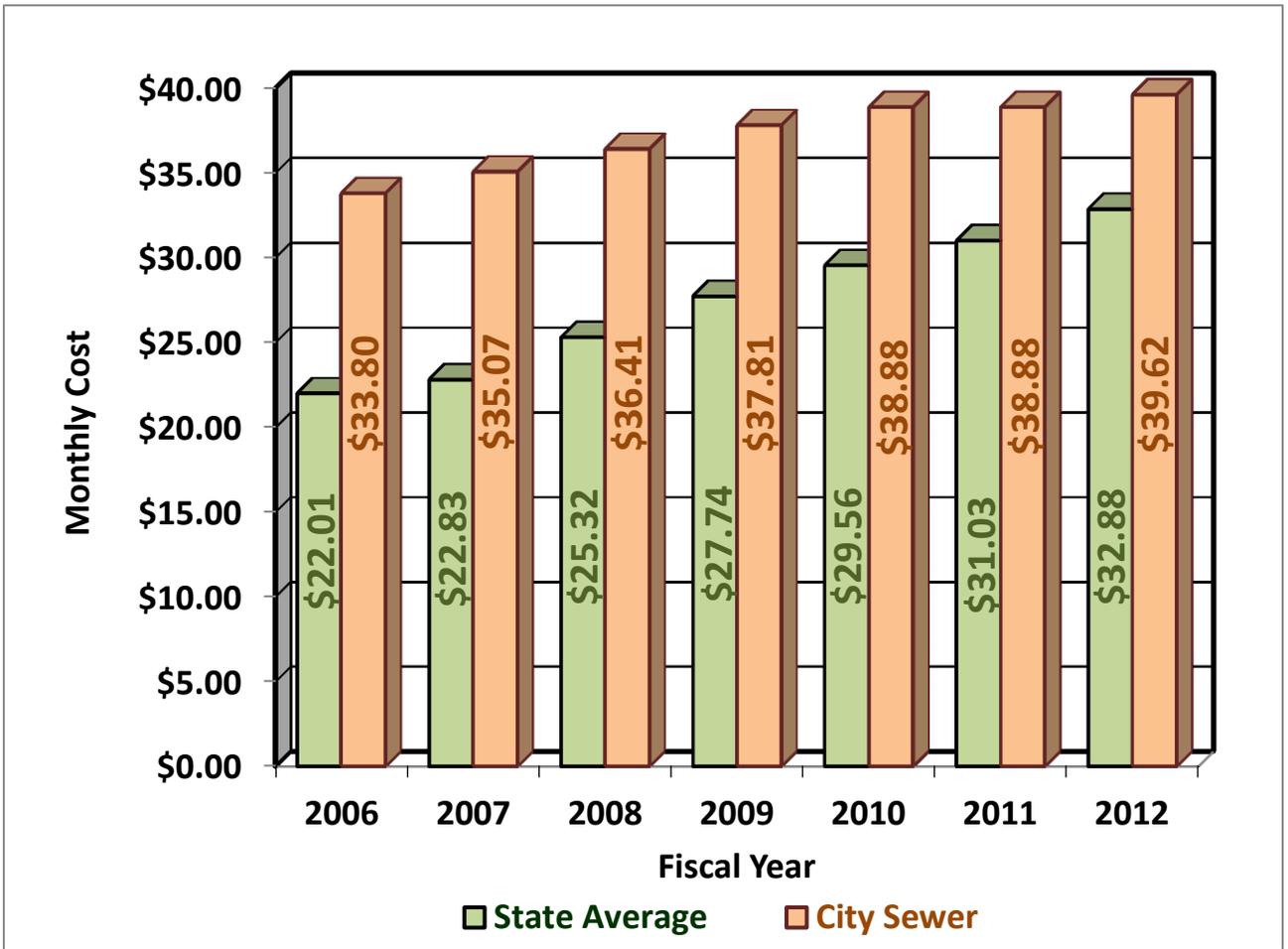
The City of Lynchburg's combined water and sewer rates are the lowest in the region including those of Amherst, Bedford, and Campbell Counties. Also, Lynchburg's rates are for water and sewer are lower than the City of Richmond, the State's other CSO city.

**Figure VI-2 Water Increases  
(5000 Gallons per Month)**



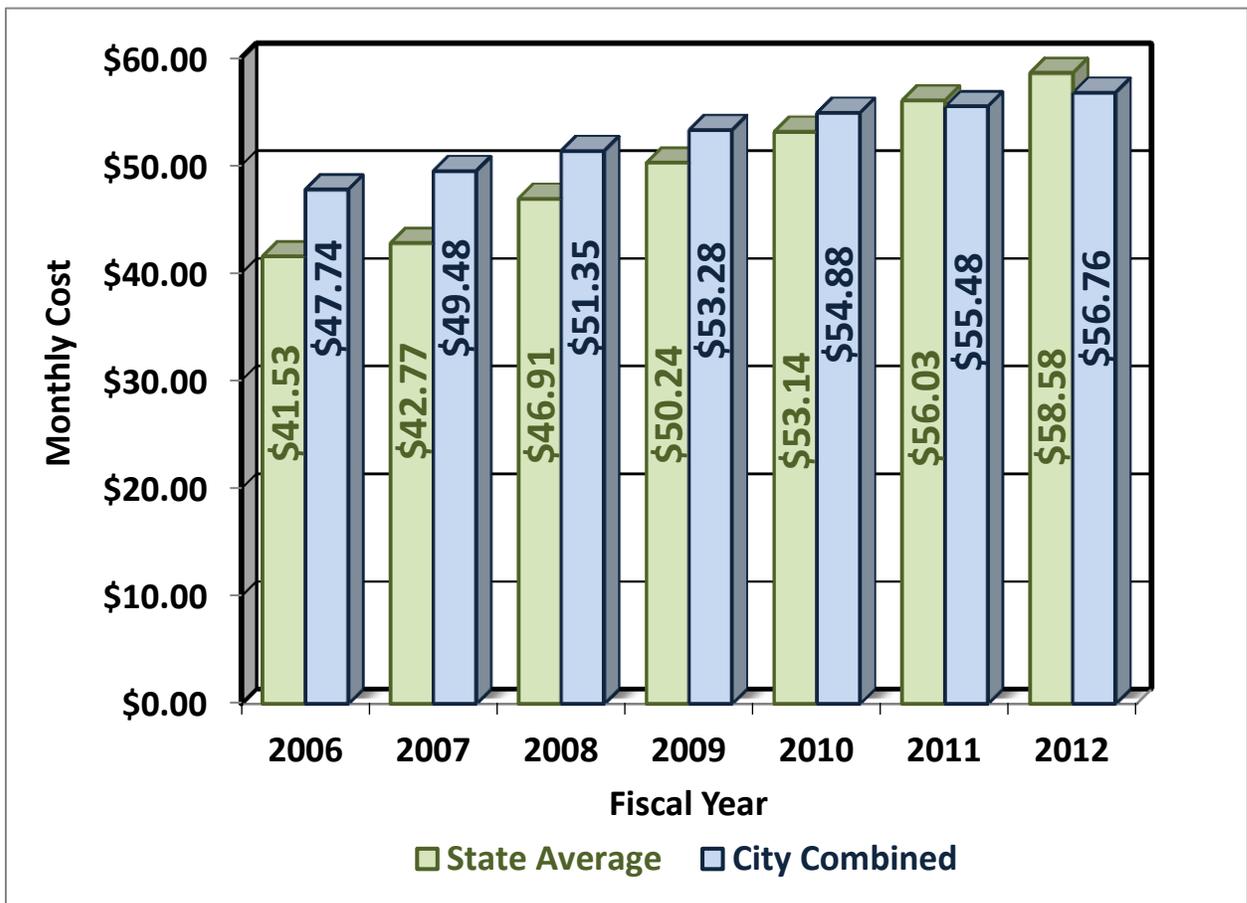
The City of Lynchburg's water rate is 33.4% below the statewide average when considering communities of all sizes and is 33.2% below those communities with the number of connections between 5,000 and 50,000. Since 2006 statewide water rates have increased by 31.7% while the City of Lynchburg water rates have increased by only 23.0%.

**Figure VI-3 Sewer Increases  
(5000 Gallons per Month)**



The City of Lynchburg's sewer rate is 20.5% above the statewide average when considering communities of all sizes and is 32.8% above those communities with the number of connection between 5,000 and 50,000. Statewide sewer rates have increased by 49.4% since 2006 while the City of Lynchburg sewer rates have increased by only 17.2%.

**Figure VI-4 Combined Water and Sewer Increases  
(5000 Gallons per Month)**



Last year the City of Lynchburg's water and sewer rates increased by 3% and 2% respectively, while average statewide water rates increased by 2.8% and sewer rates increased by 6.0%. For the second year in a row our combined rate has been below the statewide average. Overall our combined rate this year is over 3% below the state average. Since 2006 the average statewide combined rate has increased 41.1% while the City of Lynchburg combined rate has increased by only 18.9%.

## VI. RECOMMENDATIONS

The Department of Water Resources recommends the following: increase the water volume rate by 3% to 2.36 per hcf, increase the industrial surcharges for BOD and TSS and septic hauler fees by 5%; and set the stormwater fee at \$4.00 per sfu per month.



# Appendix I

# Financial Projections





**PJ Sun, LLC**  
Providing Services to the  
Water Industry

February 15, 2012

Mr. Tim Mitchell, Director  
Department of Water Resources  
City of Lynchburg  
525 Taylor Street  
Lynchburg, Virginia 24501

Dear Mr. Mitchell:

We have assembled, from information provided by management, the accompanying financial projections of the Water, Sewer and Stormwater Funds of the City of Lynchburg for each of the six years ending June 30, 2017. The accompanying projections were prepared to help management evaluate the need for rate adjustments and develop strategies for funding capital improvements.

The financial projections have been prepared based on the assumptions that are described in the notes to the financial projections. The key assumptions for each of the Funds are included below:

### **Water Fund Assumptions**

1. No major change in annual water production is anticipated. Over the past five years annual water production has averaged 11.27 MGD (million gallons per day) and has fluctuated from 10.74 to 11.55 MGD.
2. The annual volume of water billed to non-contract customers is estimated at 3.15 million HCF (hundred cubic feet) in FY 2012 and 3.18 million HCF thereafter. FY 2012 estimated annual volume is less due to the wet weather conditions experienced in early FY 2012. Over the past five years the annual volume of water billed to non-contract customers has averaged 3.22 million HCF and has fluctuated from 3.15 million HCF to 3.30 HCF. It is noteworthy that the water use per customer has been gradually declining over the past decade. This appears to be a national trend and reflects a combination of better plumbing fixtures, smaller families and increased water rates.
3. The annual volume of water billed to contract customers<sup>1</sup> is estimated at 1.44 million HCF in FY 2012. . Over the past five years the annual volume of water billed to contract customers has averaged 1.63 million HCF and has fluctuated from 1.47 million HCF to 1.79 million HCF. The decrease in water use from contract customers from historical levels is primarily due to reductions at Rock Tenn and Frito-Lay. No significant increase in billed water use is anticipated from

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<sup>1</sup> Contract customers include Amherst County, Bedford County, Campbell County, Rock Tenn and Frito-Lay.

- Amherst County, Campbell County, Rock Tenn or Frito-Lay. Water use from Bedford County is expected to increase 2% per year.
4. The water volume rate used to bill non-contract customers is assumed to increase 3% effective July 1, 2013 and 3% per year thereafter. The \$3.69 account charge is not expected to increase during the six year projection period.
  5. Contract customer rates for wholesale water service provided to Amherst, Bedford and Campbell Counties are estimated to increase 3% per year due to cost increases and changes in the volume of water used. Contract rates to Rock Tenn and Frito-Lay will increase at approximately 2.5% per year as provided by contract terms.
  6. Water charges related to new customers (availability and connections fees) are estimated at \$100,000 per year. Over the past five years these charges have averaged close to \$200,000. The decrease from historical levels is due to the decline in the real estate market which is not expected to improve substantially during the six year projection period.
  7. Operations and maintenance expenses in FY 2012 and FY 2013 will be consistent with amounts included in the preliminary FY 2013 budget submission. Operations and maintenance expenses in FY 2012 and FY 2013 are estimated at \$8.2 million and \$8.8 million respectively compared to \$8.1 million in FY 2011. The increase in operations and maintenance expenses from FY 2011 to FY 2013 is primarily due to increases in chemical costs and electricity rates. Additional explanations for changes in expense objects are included in the footnotes to the financial projections.
  8. After FY 2013 operations and maintenance expenses are assumed to increase at the rate of 3% per year.
  9. Capital expenditures in FY 2012 and FY 2013 are estimated at \$6.0 million and \$7.7 million respectively. Thereafter, capital expenditures will range from \$2.4 to \$3.0 million annually. Over the past five years capital expenditures have averaged \$5.0 million. During this time period both water treatment plants were renewed and upgraded and several water tanks were also rehabilitated. Going forward most of the water capital expenditures will be earmarked for distribution improvements.
  10. Long term debt financing for water capital expenditures will be available at 3.5%; 30 year repayment terms. Short term line of credit financing will be available at 2%. A \$10.0 million G.O. bond issue is anticipated in FY 2014 followed by a \$3.0 million G.O. bond issue in FY 2016.

### **Sewer Fund Assumptions**

1. No major change in annual wastewater flows and loadings are anticipated that will have a significant impact on operations and maintenance expenses.
2. The annual sewer flow billed to non-contract customers is estimated at 2.50 million HCF (hundred cubic feet) in FY 2012, 2.58 million HCF in FY 2013 and 2.60 million HCF in FY 2014 and years thereafter. FY 2012 estimated annual volume is less due the wet weather conditions experienced in early FY 2012.

Over the past five years the annual sewer flow billed to non-contract customers has averaged 2.65 million HCF and has fluctuated from 2.54 million HCF to 2.94 HCF.

3. No change in the sewer volume rate used to bill non-contract customers will occur in FY 2012. The sewer volume rate is assumed to increase 2% per year effective July 1, 2013 and every year thereafter. Charges to septic haulers and industrial pretreatment charges are expected to be increased 5% per year through FY 2015 and then 3% per year thereafter.
4. Amherst, Bedford and Campbell Counties will continue to pay approximately 8.3% of all wastewater treatment related operations and maintenance expenses (there share of total wastewater treatment plant flow) plus 20% of wastewater treatment plant capital expenditures.
5. Sewer revenues from Rock Tenn and Frito-Lay are assumed to increase approximately 4.0% per year primarily due to increases in contracted rates. No significant change in sewer flows or loadings from FY 2011 levels are anticipated from these two contract customers.
6. Sewer charges related to new customers (availability and connections fees are estimated at \$150,000 per year. Over the past five years these charges have averaged over \$300,000 and have been as high as \$530,000. The decrease from historical levels is due to the decline in the real estate market which is not expected to improve substantially during the six year projection period.
7. Operations and maintenance expenses in FY 2012 and FY 2013 will be consistent with amounts included in the preliminary FY 2013 budget submission. Operations and maintenance expenses in FY 2012 and FY 2013 are estimated at \$10.1 million and \$9.3 million respectively compared to \$9.1 million in FY 2011. It is important to note that the FY 2012 operating expenses include approximately \$500,000 of stormwater related expenses. In FY 2013 stormwater expenses will be charged to a Stormwater Fund. The increase in operations and maintenance expenses from FY 2011 to FY 2013 is primarily due to (a) closure of the regional landfill located in the City, (b) increases in chemical and electricity rates and (c) net payments to the Nutrient Exchange in order to comply with new regulatory requirements. The closure of the regional landfill later this year will cause the City to hire additional staff and purchase tractors to haul sludge from the wastewater plant to the new landfill in Campbell County. Additional explanations for changes in expense objects are included in the footnotes to the financial projections.
8. After FY 2013 operations and maintenance expenses will generally increase at the rate of 3% per year.
9. Capital expenditures in FY 2012 and FY 2013 are estimated at \$30.8 million and \$25.7 million respectively. Thereafter capital expenditures will range from \$3.6 to \$6.4 million annually. The downward trend in annual sewer capital expenditures is due to the likelihood that no State or Federal grants will be available in the future. Further, the poor economic environment precludes higher annual sewer rate increases. As further discussed in this letter these factors have resulted in a significant reduction in planned CSO capital expenditures.

10. Long term debt financing for sewer capital expenditures will be available at 0%; 30 year repayment terms through the Virginia Clean Water Revolving Loan Fund (VCWRLF). Short term line of credit financing will be available at 2%. No G.O. bond financing is anticipated for sewer projects. A loan of up to \$7.0 million from the VCWRLF is planned for June 2012 followed by \$2.0 million loans per year thereafter.

### **Stormwater Fund Assumption**

1. Historically stormwater operations have been accounted for in both the General Fund and Sewer Fund. A General Fund transfer of approximately \$688,000 has been included in the current year budget to cover stormwater operating and capital costs in FY 2012.
2. A Stormwater Fund will be initiated effective July 1, 2012 to account for all stormwater operations and maintenance expenses, capital rehabilitation and construction of new stormwater facilities.
3. Operations and maintenance expenses in FY 2013 will be consistent with amounts included in the preliminary FY 2013 budget submission. Operations and maintenance expenses in FY 2013 are estimated at \$3.0 million. In prior years, approximately \$1.7 million of these expenses were accounted for in the General Fund.
4. A monthly stormwater fee of \$4.00 per month is assumed to be approved effective July 1, 2012 that, together with General Fund transfers of approximately \$650,000, will fund annual stormwater costs.
5. Stormwater fee increases after FY 2013 will be dependent upon regulation and capital needs which are unclear at this time.

### **Water Rate Increases**

The 3% proposed increase to the water rate effective July 1, 2012 and 3% per year increases thereafter are needed to fund increasing operations and maintenance expenses plus needed capital improvements, particularly improvements to the water distribution system. These increases are also needed to maintain Council's criteria to maintain a debt coverage ratio of at least 1.2 and a year end cash reserve of at least 25% of operating expenses and debt service payments.

Previous rate reports had assumed an annual water rate increase of 4%. But, due to the poor economic environment only a 3% water rate increase is recommended effective July 1, 2012. Thereafter annual water rate increases of 3% are proposed. It is important to realize that 3% annual water rate increases only provide financing for approximately \$2.0 million per year in distribution improvements. Considering the age of the City's distribution system this should be viewed as a bare minimum. As economic conditions improve higher rate increase should be considered so that additional distribution improvements are possible.

### **Sewer Rate Increases**

As noted in the assumptions above, no increase is proposed in the sewer volume rate effective July 1, 2012. However, the industrial sur-charges and pretreatment charges are recommended to be increased 5% effective July 1, 2012.

No increase in the sewer volume rate is needed this year to achieve the Special Order requirement to increase the average annual sewer bill to at least 1.25% of MHI (Median Household Income). As shown below the average annual sewer bill was equal to 1.30% of MHI as of July 1, 2011

<b>Annual Sewer Bill</b>	
Sewer volume rate	\$5.65
Avg. monthly use in HCF	x 7
Volume charge	39.55
Meter charge	1.85
Total monthly sewer bill	41.40
	x12
Annual sewer bill	\$496.80
<b>MHI Calculation</b>	
MHI in 2009 per U.S. Census Bureau	\$37,070
Increase in CPI from 12/2009 to 7/2011 x 75%	3.46%
MHI @ 7/2011 (\$37,070 x 1.0346%)	\$38,353
Annual sewer Bill as a % of MHI (\$496.80 / \$38.353)	1.30%

Based on increases in CPI since July 1, 2011, we assume annual sewer rate increases of 2% will be needed effective July 1, 2013 to stay above the 1.25% threshold. However, it is important to note that changes in MHI are subject to a number of variables in addition to CPI. The next MHI estimate is expected to be released later this year. It is also important to note that the Department of Environmental Quality (DEQ) has argued that the average monthly sewer use for residential customers should be 6 HCF, not 7 HCF. If DEQ should prevail and the City is required to use the 6 HCF number, the annual sewer bill as a percent of MHI would be 1.12% as of July 1, 2011.

Previous rate reports had recommended an annual sewer volume rate increase of 3%. At the time this recommendation was made the economy was showing signs of improvement and inflation was estimated at about 3%. This unfortunately was not the case and the reality was periods of deflation and a near unprecedented reduction in MHI.

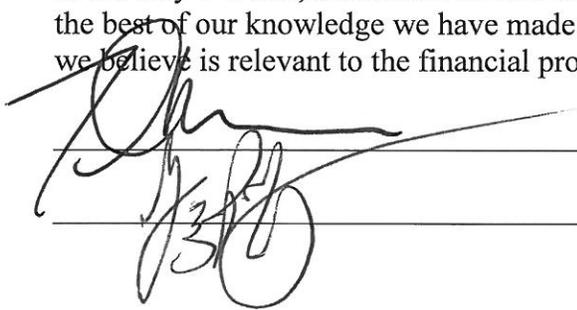
By assuming no sewer volume rate increase effective July 1, 2012 and annual increases of 2% rather than 3% thereafter, the planned expenditures for CSO control have been reduced substantially. It is noteworthy that the Special Order between the City and DEQ provides for changes in the amount of CSO capital expenditures based on changes in economic conditions. However, the cut-back in planned CSO expenditures will extend the timeline to complete the CSO program and will likely be a major concern to DEQ.

Please call me at (703) 242-3831 if you have any questions or need additional information.

Sincerely,

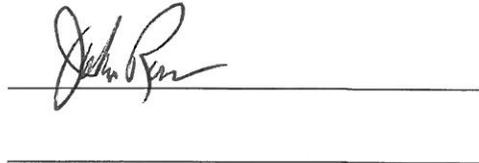
Paul J. Cumiskey

We the undersigned have participated in the preparation and review of the enclosed financial projections and to the best of our knowledge believe they reasonably present the expected capital expenditures, borrowings, revenues and expenses, and cash flows related to the City's Water, Sewer and Stormwater Funds for the projection period. Further, to the best of our knowledge we have made available to you all significant information that we believe is relevant to the financial projections.



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**CITY OF LYNCHBURG  
WATER CAPITAL FINANCING PLAN**

	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>BEGINNING FUNDS</b>	<b>\$5,058,448</b>	<b>\$713,095</b>	<b>\$831,597</b>	<b>\$578,597</b>	<b>\$353,597</b>	<b>\$228,597</b>
<b>RECEIPTS</b>						
Transfers	700,000	800,000	800,000	800,000	800,000	800,000
LOC borrowing	1,000,000	7,000,000	-	1,500,000	-	1,500,000
G.O. borrowings, net proceeds	-	-	2,000,000	-	1,500,000	-
total receipts	<b>1,700,000</b>	<b>7,800,000</b>	<b>2,800,000</b>	<b>2,300,000</b>	<b>2,300,000</b>	<b>2,300,000</b>
<b>EXPENDITURES</b>						
Unexpended appropriations @ 6/30/10	5,238,103	2,508,043	278,000	125,585	-	-
FY 2012 appropriation	807,250	3,048,455	500,000	74,415	100,000	40,000
FY 2013 to FY 2017 CIP						
Annual water petitions	-	-	0	50,000	50,000	50,000
Distribution system improvements	-	1,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Annual facility improvements	-	200,000	200,000	200,000	200,000	200,000
Water main replacements (CSO)	-	75,000	75,000	75,000	75,000	75,000
Water tank rehabilitation	-	0	0	0	0	0
Wingate Water Tank #2	-	850,000	0	0	0	0
total expenditures	<b>6,045,353</b>	<b>7,681,498</b>	<b>3,053,000</b>	<b>2,525,000</b>	<b>2,425,000</b>	<b>2,365,000</b>
<b>ENDING FUNDS</b>	<b>\$713,095</b>	<b>\$831,597</b>	<b>\$578,597</b>	<b>\$353,597</b>	<b>\$228,597</b>	<b>\$163,597</b>

**Notes:**

1. Beginning funds in FY 2011 equals cash and investments in the Water Capital Fund plus SNAP investments.

**CITY OF LYNCHBURG  
PROJECTED STATEMENT OF WATER FUND DEBT COVERAGE**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Revenues:</b>							
Charges for services	\$9,792,358	\$9,786,293	\$10,442,179	\$10,724,110	\$11,014,409	\$11,313,326	\$11,621,116
Water contracts	2,670,236	2,526,408	2,637,791	2,754,084	2,879,448	3,010,735	3,148,232
Interest and other	176,058	284,211	284,211	284,211	284,211	284,211	284,211
total revenues	12,638,652	12,596,913	13,364,182	13,762,405	14,178,068	14,608,271	15,053,559
<b>Expenses:</b>							
Water treatment	2,766,593	2,997,630	3,247,093	3,344,506	3,444,841	3,548,186	3,654,632
Water line maintenance	1,626,774	1,516,653	1,620,732	1,669,354	1,719,435	1,771,018	1,824,148
Meter reading	836,002	875,709	878,189	904,535	931,671	959,621	988,409
Administration / engineering	2,793,496	2,715,294	2,971,946	3,061,104	3,152,938	3,247,526	3,344,951
Non-departmental	178,107	228,482	231,496	237,691	244,072	250,644	257,414
Capitalizable cost (1)	(110,000)	(130,000)	(130,000)	(133,900)	(137,917)	(142,055)	(146,316)
total expenses	8,090,972	8,203,768	8,819,456	9,083,290	9,355,039	9,634,940	9,923,238
<b>Operating income</b>	4,547,680	4,393,145	4,544,725	4,679,115	4,823,029	4,973,331	5,130,321
<b>Debt Service</b>	3,604,931	3,649,653	3,658,188	3,808,991	3,899,201	3,967,469	3,915,222
<b>Net Revenue</b>	<b>\$942,749</b>	<b>\$743,492</b>	<b>\$886,537</b>	<b>\$870,124</b>	<b>\$923,828</b>	<b>\$1,005,862</b>	<b>\$1,215,099</b>
<b>Debt Coverage Ratio</b>	1.26	1.20	1.24	1.23	1.24	1.25	1.31

**Notes:**

1. Capitalizable cost includes internal labor charges applicable to time spent on capital project activities.

**CITY OF LYNCHBURG  
PROJECTED STATEMENT OF WATER FUND SOURCES & USES OF CASH**

	Actual	Est.	Budget	Proj.	Proj.	Proj.	Proj.
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
<b>Sources of Cash:</b>							
Beginning cash balance	\$14,819,762	\$10,328,127	\$5,846,266	\$5,871,305	\$5,504,529	\$5,215,440	\$5,104,248
Net revenue plus capitalized costs	832,749	613,492	756,537	736,224	785,911	863,808	1,068,783
LOC borrowing	0	1,000,000	7,000,000	0	1,500,000	0	1,500,000
G.O. bond proceeds (1)	0	0	0	10,000,000	0	3,000,000	0
total sources of cash	<b>15,652,511</b>	<b>11,941,619</b>	<b>13,602,803</b>	<b>16,607,529</b>	<b>7,790,440</b>	<b>9,079,248</b>	<b>7,673,030</b>
<b>Uses of Cash:</b>							
Capital Fund expenditures	5,459,212	6,045,353	7,681,498	3,053,000	2,525,000	2,425,000	2,365,000
Other capital expenditures	0	50,000	50,000	50,000	50,000	50,000	50,000
Repayment of LOC borrowing	0	0	0	8,000,000	0	1,500,000	0
Payments to other organizations	0	0	0	0	0	0	0
Change in working capital items	(134,828)	0	0	0	0	0	0
total uses of cash	<b>5,324,384</b>	<b>6,095,353</b>	<b>7,731,498</b>	<b>11,103,000</b>	<b>2,575,000</b>	<b>3,975,000</b>	<b>2,415,000</b>
<b>Ending Cash</b>	<b>\$10,328,127</b>	<b>\$5,846,266</b>	<b>\$5,871,305</b>	<b>\$5,504,529</b>	<b>\$5,215,440</b>	<b>\$5,104,248</b>	<b>\$5,258,030</b>

Cash in Capital Fund	\$5,058,448	\$713,095	\$831,597	\$578,597	\$353,597	\$228,597	\$163,597
Customer deposits	432,000	440,640	449,453	458,442	467,611	476,963	486,502
Unrestricted cash	4,837,679	4,692,531	4,590,255	4,467,490	4,394,232	4,398,688	4,607,931
Total cash	<b>\$10,328,127</b>	<b>\$5,846,266</b>	<b>\$5,871,305</b>	<b>\$5,504,529</b>	<b>\$5,215,440</b>	<b>\$5,104,248</b>	<b>\$5,258,030</b>
Unrestricted cash as a % of budget	41%	40%	37%	35%	33%	32%	33%

**Notes:**

1. G.O. Bond proceeds in FY 2013, FY 2015 and FY 2017 include funds to repay LOC borrowing.

**CITY OF LYNCHBURG  
CHARGES FOR SERVICES**

	Actual	Est.	Budget	Proj.	Proj.	Proj.	Proj.
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
<b>Water Sales</b>							
HCF of use	3,187,335	3,150,000	3,175,000	3,175,000	3,175,000	3,175,000	3,175,000
Actual water rate	2.22	2.29	2.36	2.43	2.50	2.57	2.65
	\$7,041,823	\$7,202,790	\$7,477,754	\$7,702,086	\$7,933,149	\$8,171,143	\$8,416,278
% increase in revenues	3.68%	2.29%	3.82%	3.00%	3.00%	3.00%	3.00%
<b>All Other:</b>							
Account charge	593,280	600,000	600,000	600,000	600,000	600,000	600,000
Sewer Fund charge	1,381,000	1,241,000	1,620,000	1,668,600	1,718,658	1,770,218	1,823,324
Hydrant rentals-water	20,341	3,000	3,000	3,000	3,000	3,000	3,000
Hydrant rentals-equip.	9,780	2,000	2,000	2,000	2,000	2,000	2,000
General Fund hydrants	351,900	351,900	351,900	358,938	366,117	373,439	380,908
Cut-on/off-late fees	97,132	92,000	92,000	92,000	92,000	92,000	92,000
Meter removal	8,159	7,500	7,500	7,500	7,500	7,500	7,500
Delinquent account fee	82,106	85,000	85,000	85,000	85,000	85,000	85,000
Fire protection	94,219	96,103	98,025	99,986	101,986	104,025	106,106
Connection fee	52,563	50,000	50,000	50,000	50,000	50,000	50,000
Availability fee	25,690	25,000	25,000	25,000	25,000	25,000	25,000
Water cost plus & other	34,365	30,000	30,000	30,000	30,000	30,000	30,000
	2,750,535	2,583,503	2,964,425	3,022,024	3,081,260	3,142,182	3,204,838
	<b>\$9,792,358</b>	<b>\$9,786,293</b>	<b>\$10,442,179</b>	<b>\$10,724,110</b>	<b>\$11,014,409</b>	<b>\$11,313,326</b>	<b>\$11,621,116</b>

**Notes:**

1. HCF estimated and projected average use is based on the past five year billable use of 3,216,040.
2. Sewer Fund charge increase in FY 2013 due to additional staff being assigned to Engineering / Adm. division.
3. Fire protection fees assumed to increase 2% per year until the fees approximate cost of service levels.
4. Connection fees, availability fees and water cost plus charges are all lower than historical average due to slow-down in real estate development.

**CITY OF LYNCHBURG  
WATER CONTRACTS**

	Actual	Est.	Budget	Proj.	Proj.	Proj.	Proj.
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
<b>AMHERST</b>							
HCF of use	54,080	55,000	55,000	55,000	55,000	55,000	55,000
Rate	1.99	1.95	2.01	2.07	2.13	2.19	2.26
	\$107,457	\$107,250	\$110,468	\$113,782	\$117,195	\$120,711	\$124,332
<b>BEDFORD</b>							
HCF of use	748,310	763,276	778,542	794,113	809,995	826,195	842,719
Rate	1.99	1.95	2.01	2.07	2.13	2.19	2.26
	\$1,487,373	\$1,488,389	\$1,563,701	\$1,642,824	\$1,725,951	\$1,813,284	\$1,905,037
<b>CAMPBELL</b>							
HCF of use	196,767	200,702	204,716	208,811	212,987	217,247	221,592
Rate	2.59	1.95	2.01	2.07	2.13	2.19	2.26
	\$509,214	\$391,370	\$411,173	\$431,978	\$453,836	\$476,800	\$500,927
<b>ROCK TENN</b>							
HCF of use	332,564	300,000	300,000	300,000	300,000	300,000	300,000
Rate	1.19	1.24	1.27	1.30	1.34	1.38	1.42
	\$396,321	\$372,000	\$381,000	\$390,000	\$401,700	\$413,751	\$426,164
<b>FRITO-LAY</b>							
HCF of use	139,112	135,000	135,000	135,000	135,000	135,000	135,000
Rate	1.22	1.24	1.27	1.30	1.34	1.38	1.42
	\$169,871	\$167,400	\$171,450	\$175,500	\$180,765	\$186,188	\$191,774
	<b>\$2,670,236</b>	<b>\$2,526,408</b>	<b>\$2,637,791</b>	<b>\$2,754,084</b>	<b>\$2,879,448</b>	<b>\$3,010,735</b>	<b>\$3,148,232</b>

**Notes:**

1. County rates in FY 2011 include year end settlement adjustments.
2. County rates in FY 2012 based on FY preliminary settlement rate of \$1.90 + 2.5% increase.
3. FY 2013 to FY 2017 County rates assumed to increase 3% per year.
4. Rock Tenn and Frito-Lay rates are based on contract rates up to FY 2014 and 3% per increases thereafter.
5. Rock Tenn use is projected to be lower in FY 2011 due to economic conditions.

**CITY OF LYNCHBURG  
INTEREST & OTHER WATER REVENUES**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Interest revenues</b>	30,674	30,000	30,000	30,000	30,000	30,000	30,000
<b>IRS interest rebate</b>	125,799	243,211	243,211	243,211	243,211	243,211	243,211
<b>All other</b>	19,585	11,000	11,000	11,000	11,000	11,000	11,000
	<b>\$176,058</b>	<b>\$284,211</b>	<b>\$284,211</b>	<b>\$284,211</b>	<b>\$284,211</b>	<b>\$284,211</b>	<b>\$284,211</b>

**Note:**

1. Interest revenues based on estimated average cash balance at .05% interest earnings rate.

**CITY OF LYNCHBURG  
ADMIN. / ENGINEERING**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Personal services	\$1,172,917	\$1,053,997	\$1,206,156	\$1,242,341	\$1,279,611	\$1,317,999	\$1,357,539
Fringe benefits	435,902	412,109	518,340	533,890	549,907	566,404	583,396
Supplies & materials	38,596	51,221	33,660	34,670	35,710	36,781	37,885
Gasoline / fuel	7,520	7,000	6,000	6,180	6,365	6,556	6,753
Internal service charges	18,365	18,664	16,100	16,583	17,080	17,593	18,121
Rentals & leases	4,130	4,130	3,500	3,605	3,713	3,825	3,939
Communication charges	11,153	10,800	12,800	13,184	13,580	13,987	14,407
Contractual services	66,761	95,173	114,540	117,976	121,515	125,161	128,916
Training & travel	18,648	17,250	16,500	16,995	17,505	18,030	18,571
Indirect costs	856,622	807,321	807,321	831,541	856,487	882,181	908,647
City engineering charges	0	75,000	75,000	77,250	79,568	81,955	84,413
Self - insurance	148,191	146,529	146,529	150,925	155,453	160,116	164,920
Miscellaneous	14,691	16,100	15,500	15,965	16,444	16,937	17,445
	<b>\$2,793,496</b>	<b>\$2,715,294</b>	<b>\$2,971,946</b>	<b>\$3,061,104</b>	<b>\$3,152,938</b>	<b>\$3,247,526</b>	<b>\$3,344,951</b>

**Notes:**

1. FY 2012 and FY 2013 amounts are based on budget worksheets submitted as part of the FY 2013 budget process.
2. Personal services in FY 2013 assumes 22.6 staff positions will be filled throughout the year.
3. Personal services in FY 2012 and FY 2013 assume no general pay rate increases.
4. Indirect costs in FY 2012 and FY 2013 based on agreed upon amounts between Finance and Utilities.
5. City engineering charges represent a best estimate of the fully loaded cost of staff time in the PW Engineering Department that work on water projects.
6. After FY 2013, all costs assumed to increase 3% per year unless noted otherwise.

**CITY OF LYNCHBURG  
WATER TREATMENT**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Personal services	\$917,749	\$922,066	\$951,479	\$980,023	\$1,009,424	\$1,039,707	\$1,070,898
Fringe benefits	371,560	398,946	440,057	453,259	466,856	480,862	495,288
Supplies & materials	166,609	147,500	143,200	147,496	151,921	156,479	161,173
Chemicals	419,264	428,199	531,400	547,342	563,762	580,675	598,095
Gasoline / fuel	10,664	12,000	12,000	12,360	12,731	13,113	13,506
Internal service charges	26,878	24,898	27,700	28,531	29,387	30,269	31,177
Rentals & leases	2,947	3,500	3,500	3,605	3,713	3,825	3,939
Communication charges	10,265	10,450	11,050	11,382	11,723	12,075	12,437
Utilities	608,538	644,548	768,141	791,185	814,921	839,368	864,549
Contractual services	174,836	343,726	294,066	302,888	311,975	321,334	330,974
Training & travel	8,362	10,000	10,000	10,300	10,609	10,927	11,255
Misc., incl. operations fee	48,921	51,797	54,500	56,135	57,819	59,554	61,340
	<b>\$2,766,593</b>	<b>\$2,997,630</b>	<b>\$3,247,093</b>	<b>\$3,344,506</b>	<b>\$3,444,841</b>	<b>\$3,548,186</b>	<b>\$3,654,632</b>

**Notes:**

1. FY 2012 and FY 2013 amounts are based on budget worksheets submitted as part of the FY 2013 budget process.
2. Personal services in FY 2013 assumes 24 staff positions will be filled throughout the year.
3. Personal services in FY 2012 and FY 2013 assume no general pay rate increases.
4. Contractual service increase due to planned increase in equipment maintenance.
5. After FY 2013, all costs assumed to increase 3% per year.

**CITY OF LYNCHBURG  
WATER LINE MAINTENANCE**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Personal services	\$633,124	\$586,046	\$589,783	\$607,476	\$625,701	\$644,472	\$663,806
Fringe benefits	240,255	235,707	254,057	261,679	269,529	277,615	285,943
Supplies & materials	455,173	420,391	468,600	482,658	497,138	512,052	527,413
Gasoline / fuel	36,846	40,000	40,000	41,200	42,436	43,709	45,020
Internal service charges	109,744	110,124	116,700	120,201	123,807	127,521	131,347
Rentals & leases	1,612	4,780	3,000	3,090	3,183	3,278	3,377
Communication charges	3,101	3,025	4,400	4,532	4,668	4,808	4,952
Contractual services	145,005	113,513	140,374	144,585	148,923	153,390	157,992
Training & travel	1,846	3,000	3,250	3,348	3,448	3,551	3,658
Miscellaneous	68	67	568	585	603	621	639
	<b>\$1,626,774</b>	<b>\$1,516,653</b>	<b>\$1,620,732</b>	<b>\$1,669,354</b>	<b>\$1,719,435</b>	<b>\$1,771,018</b>	<b>\$1,824,148</b>

**Notes:**

1. FY 2012 and FY 2013 amounts are based on budget worksheets submitted as part of the FY 2013 budget process.
2. Personal services in FY 2013 assumes 16 staff positions will be filled throughout the year.
3. Personal services in FY 2012 and FY 2013 assume no general pay rate increases.

**CITY OF LYNCHBURG  
METER READING**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Personal services	\$252,666	\$250,330	\$246,176	\$253,561	\$261,168	\$269,003	\$277,073
Fringe benefits	103,299	102,714	112,247	115,614	119,083	122,655	126,335
Supplies & materials	391,439	429,200	429,050	441,922	455,179	468,835	482,900
Gasoline / fuel	17,965	19,000	18,000	18,540	19,096	19,669	20,259
Internal service charges	32,750	36,849	35,600	36,668	37,768	38,901	40,068
Rentals & leases	63	100	100	103	106	109	113
Communication charges	3,105	3,450	3,450	3,554	3,660	3,770	3,883
Contractual services	32,465	33,566	31,566	32,513	33,488	34,493	35,528
Training & travel	2,250	500	2,000	2,060	2,122	2,185	2,251
Miscellaneous	0	0	0	0	0	0	0
	<b>\$836,002</b>	<b>\$875,709</b>	<b>\$878,189</b>	<b>\$904,535</b>	<b>\$931,671</b>	<b>\$959,621</b>	<b>\$988,409</b>

**Notes:**

1. FY 2012 and FY 2013 amounts are based on budget worksheets submitted as part of the FY 2013 budget process.
2. Personal services in FY 2013 assumes 7.8 staff positions will be filled throughout the year.
3. Personal services in FY 2012 and FY 2013 assume no general pay rate increases.

**CITY OF LYNCHBURG  
WATER NON-DEPARTMENTAL**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Financial audit	\$17,513	\$22,000	\$22,660	\$23,340	\$24,040	\$24,761	\$25,504
Interest on customer deposits	4,457	10,000	10,300	10,609	10,927	11,255	11,593
OPEB/Retirees health/WC insurance	125,646	148,482	152,936	157,525	162,250	167,118	172,131
Utility billing upgrades & other	0	3,000	0	0	0	0	0
Allowance for doubtful accounts	16,377	20,000	20,600	21,218	21,855	22,510	23,185
Project costs charged to operations	14,114	25,000	25,000	25,000	25,000	25,000	25,000
	<b>\$178,107</b>	<b>\$228,482</b>	<b>\$231,496</b>	<b>\$237,691</b>	<b>\$244,072</b>	<b>\$250,644</b>	<b>\$257,414</b>

**Notes:**

1. FY 2012 and FY 2013 amounts are based on budget worksheets submitted as part of the FY 2013 budget process.
2. After FY 2013, all costs assumed to increase 3% per year.

**CITY OF LYNCHBURG  
WATER FUND BONDS PAYABLE AND DEBT SERVICE**

	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>P&amp;I on borrowings o/s @ 6/30/10 (1)</b>	\$3,639,653	\$3,578,188	\$3,458,991	\$3,329,747	\$3,308,015	\$3,194,432
<b>Interest on LOC borrowing</b>	10,000	80,000	0	15,000	0	0
<b>Interest only payments on G.O. Bonds</b>						
\$10.0 million issued in FY 2014	0	0	350,000	0	0	0
\$3.0 million issued in FY 2016				0	105,000	0
<b>Level debt service payments on G.O. Bonds</b>						
Level P&I on \$11million				554,454	554,454	554,454
Level P&I on \$2.5 million						166,336
	<b>\$3,649,653</b>	<b>\$3,658,188</b>	<b>\$3,808,991</b>	<b>\$3,899,201</b>	<b>\$3,967,469</b>	<b>\$3,915,222</b>

**Notes:**

1. Based on bond refunding schedules.
2. Interest on LOC based on a 2.0% annual rate.
3. New debt issues assumed to occur in the first quarter of years shown; interest assumed at 3.5%.
4. Level debt service assumed on all new G.O issues starting two years after year of issue.

**CITY OF LYNCHBURG  
SEWER LOCAL CAPITAL FINANCING PLAN**

	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>BEGINNING FUNDS (1)</b>	<b>\$7,898,453</b>	<b>\$4,217,731</b>	<b>\$770,097</b>	<b>\$525,717</b>	<b>\$905,965</b>	<b>\$779,965</b>
<b>RECEIPTS</b>						
Transfers	2,000,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
LOC borrowing	0	0	0	0	0	0
G.O. borrowings	0	0	0	0	0	0
<b>Total Receipts</b>	<b>2,000,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	<b>1,500,000</b>
<b>EXPENDITURES</b>						
Unexpended Appropriations (2)	5,597,722	4,434,634	1,111,380	236,752	43,000	44,799
FY 2012 appropriation	83,000	333,000	333,000	833,000	833,000	833,000
FY 2013 to FY 2017 CIP						
Sewer extensions	0	0	0	0	0	0
CSO local	0	0	0	0	0	0
WWTP improvements	0	0	0	0	0	0
SSES	0	0	0	0	250,000	250,000
WWTP Control Building	0	0	0	0	0	150,000
RDP	0	0	0	0	0	0
Blue Ridge Farms	0	30,000	300,000	50,000	500,000	60,000
CH 2nd floor renovation	0	150,000	0	0	0	0
<b>Total Expenditures</b>	<b>5,680,722</b>	<b>4,947,634</b>	<b>1,744,380</b>	<b>1,119,752</b>	<b>1,626,000</b>	<b>1,337,799</b>
<b>ENDING FUNDS</b>	<b>\$4,217,731</b>	<b>\$770,097</b>	<b>\$525,717</b>	<b>\$905,965</b>	<b>\$779,965</b>	<b>\$942,166</b>

**Notes:**

1. Beginning funds in FY 2012 equals cash and investment accounts in the Sewer Capital Fund.
2. Unexpended appropriations represents unspent funds applicable to FY 2011 and prior year appropriations.

**CITY OF LYNCHBURG  
SEWER VCWRLF & GRANT FINANCING PLAN**

	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>BEGINNING FUNDS</b>	<b>\$40,983,441</b>	<b>\$21,851,542</b>	<b>\$3,126,205</b>	<b>\$470,205</b>	<b>\$470,205</b>	<b>\$470,205</b>
Receipts						
VCWRLF loan approvals - 0%	6,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
<b>Total Receipts</b>	<b>6,000,000</b>	<b>2,000,000</b>	<b>2,000,000</b>	<b>2,000,000</b>	<b>2,000,000</b>	<b>2,000,000</b>
<b>EXPENDITURES</b>						
Unexpended appropriations	25,131,899	14,725,337	900,000	0	0	0
FY 2012 appropriations:				0	0	0
JRI 3A	0	4,000,000	1,756,000	0	0	0
JRI 3B	0	0	0	0	0	0
CSO designs	0	0	0	0	0	0
FY 2013 appropriations:	0	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Savoy interceptor	0	0	0	0	0	0
Belfield interceptor	0	0	0	0	0	0
College Lake interceptor	0	0	0	0	0	0
CSO projects	0	0	0	0	0	0
<b>Total Expenditures</b>	<b>25,131,899</b>	<b>20,725,337</b>	<b>4,656,000</b>	<b>2,000,000</b>	<b>2,000,000</b>	<b>2,000,000</b>
<b>ENDING FUNDS</b>	<b>\$21,851,542</b>	<b>\$3,126,205</b>	<b>\$470,205</b>	<b>\$470,205</b>	<b>\$470,205</b>	<b>\$470,205</b>

**Notes:**

1. Beginning funds and VCWRLF loan approvals are funds held by DEQ on behalf of the City. No interest is earned on funds.
2. Beginning Funds based on July Schedule 1 remaining balances.

**CITY OF LYNCHBURG  
PROJECTED STATEMENT OF SEWER FUND DEBT COVERAGE**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Revenues:							
Charges for services	\$15,757,140	\$16,537,824	\$16,324,331	\$16,810,452	\$17,163,590	\$17,508,653	\$17,861,011
Sewer contracts	2,814,308	3,071,276	3,053,114	3,232,203	3,335,235	3,425,804	3,534,858
Interest and other	199,213	183,421	70,421	60,421	60,421	60,421	60,421
<b>Total Revenues</b>	<b>18,770,661</b>	<b>19,792,521</b>	<b>19,447,866</b>	<b>20,103,076</b>	<b>20,559,246</b>	<b>20,994,878</b>	<b>21,456,290</b>
Expenses:							
WWTP	6,310,030	6,971,479	6,769,526	6,986,342	7,198,932	7,417,900	7,643,437
Sewer line maintenance	2,526,497	2,293,480	2,307,776	2,377,009	2,448,320	2,521,769	2,597,422
Stormwater	139,006	528,804	0	0	0	0	0
Non-departmental	385,422	514,276	371,454	360,394	373,002	380,442	388,105
Capitalizable cost (1)	(239,662)	(190,000)	(190,000)	(195,700)	(201,571)	(207,618)	(213,847)
<b>Total Expenses</b>	<b>9,121,293</b>	<b>10,118,039</b>	<b>9,258,756</b>	<b>9,528,045</b>	<b>9,818,682</b>	<b>10,112,493</b>	<b>10,415,117</b>
Operating Income	9,649,368	9,674,482	10,189,109	10,575,032	10,740,564	10,882,385	11,041,173
Debt service	7,472,504	8,057,889	8,411,416	8,711,155	8,845,703	9,028,762	8,916,034
Net Revenue	\$2,176,864	\$1,616,593	\$1,777,693	\$1,863,877	\$1,894,861	\$1,853,623	\$2,125,138
Debt Coverage	1.29	1.20	1.21	1.21	1.21	1.21	1.24

**Notes:**

1. Capitalizable cost includes internal labor charges applicable to time spent on capital project activities.
2. Stormwater accounted for as a separate fund stating in FY 2013.

**CITY OF LYNCHBURG  
PROJECTED STATEMENT OF SEWER FUND SOURCES & USES of CASH**

	<b>Actual</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Sources of Cash:</b>							
Beginning cash balance	\$14,091,371	\$11,719,859	\$7,050,731	\$3,590,790	\$3,414,587	\$3,888,124	\$3,808,130
Net revenue plus capitalized costs	1,937,202	1,426,593	1,587,693	1,668,177	1,693,290	1,646,005	1,911,292
LOC Borrowing	0	0	0	0	0	0	0
G.O. bond proceeds, net	0	0	0	0	0	0	0
VCWRLF loan draw downs	11,953,957	25,131,899	20,725,337	4,656,000	2,000,000	2,000,000	2,000,000
ARRA & other capital contributions	11,176,278	0	0	0	0	0	0
Proceeds from other organizations	0	0	0	0	0	0	0
Other capital grants	0	0	0	0	0	0	0
<b>Total Sources of Cash</b>	<b>39,158,808</b>	<b>38,278,352</b>	<b>29,363,761</b>	<b>9,914,967</b>	<b>7,107,876</b>	<b>7,534,130</b>	<b>7,719,421</b>
<b>Uses of Cash:</b>							
Capital & VCWRLF expenditures	27,043,855	30,812,621	25,672,971	6,400,380	3,119,752	3,626,000	3,337,799
Other capital expenditures (1)	285,000	415,000	100,000	100,000	100,000	100,000	100,000
Repayment of LOC borrowing	0	0	0	0	0	0	0
Change in working capital items	110,094	0	0	0	0	0	0
<b>Total Uses of Cash</b>	<b>27,438,949</b>	<b>31,227,621</b>	<b>25,772,971</b>	<b>6,500,380</b>	<b>3,219,752</b>	<b>3,726,000</b>	<b>3,437,799</b>
<b>Ending Cash</b>	<b>\$11,719,859</b>	<b>\$7,050,731</b>	<b>\$3,590,790</b>	<b>\$3,414,587</b>	<b>\$3,888,124</b>	<b>\$3,808,130</b>	<b>\$4,281,622</b>

Cash in capital fund	\$7,898,453	\$4,217,731	\$770,097	\$525,717	\$905,965	\$779,965	\$942,166
Unrestricted cash	3,821,406	2,833,000	2,820,693	2,888,870	2,982,159	3,028,165	3,339,456
<b>Total cash</b>	<b>\$11,719,859</b>	<b>\$7,050,731</b>	<b>\$3,590,790</b>	<b>\$3,414,587</b>	<b>\$3,888,124</b>	<b>\$3,808,130</b>	<b>\$4,281,622</b>
Unrestricted cash as a % of budget (2)	23%	16%	16%	16%	16%	16%	17%

**Notes:**

1. Other capital expenditures in FY 2012 includes capital outlays for vehicles and equipment needed for sludge hauling.

**CITY OF LYNCHBURG  
CHARGES FOR SERVICES**

	Actual	Budget	Proj.	Proj.	Proj.	Proj.	Proj.
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
<b>CITY CUSTOMERS</b>							
HCF of use	2,536,205	2,500,000	2,575,000	2,600,000	2,600,000	2,600,000	2,600,000
Rate	5.54	5.65	5.65	5.76	5.88	6.00	6.12
	\$14,050,576	\$14,127,000	\$14,548,750	\$14,983,800	\$15,283,476	\$15,589,146	\$15,900,928
% increase in revenues	-1.8%	0.5%	3.0%	3.0%	2.0%	2.0%	2.0%
<b>ALL OTHER:</b>							
Account charge	417,987	420,000	420,000	420,000	420,000	420,000	420,000
VDOT reimbursement	0	688,036	0	0	0	0	0
College Hill backwash	115,978	119,457	123,041	126,732	130,534	134,450	138,484
Leachate treatment	62,285	64,154	66,078	68,061	70,102	72,206	74,372
Septic hauler charges	374,709	393,444	413,117	433,773	455,461	469,125	483,199
Industrial pre-treatment	5,670	4,500	4,500	4,500	4,500	4,635	4,774
Industrial surcharges	430,698	452,233	474,845	498,587	523,516	539,222	555,398
Industrial monitoring	49,779	30,000	35,000	35,000	35,000	36,050	37,132
Cut-on penalties	88,884	82,000	82,000	83,000	84,000	86,520	89,116
Connection charges	74,800	75,000	75,000	75,000	75,000	75,000	75,000
Availability charges	57,850	60,000	60,000	60,000	60,000	60,000	60,000
Sewer cost plus	18,899	12,000	12,000	12,000	12,000	12,000	12,000
Collection & Tax Lien Fees	9,025	10,000	10,000	10,000	10,000	10,300	10,609
All other	0	0	0	0	0	0	0
	1,706,564	2,410,824	1,775,581	1,826,652	1,880,114	1,919,507	1,960,083
	<b>\$15,757,140</b>	<b>\$16,537,824</b>	<b>\$16,324,331</b>	<b>\$16,810,452</b>	<b>\$17,163,590</b>	<b>\$17,508,653</b>	<b>\$17,861,011</b>

**Notes:**

1. No rate increase in FY 2011;
2. No increase in account charges;
3. VDOT reimbursement based on agreed upon amount in FY 2012 with Finance. After FY 2012 reimbursement is accounted for in a Stormwater Fund.
4. Septic hauler and industrial sur-charged charges assumed to increase 5% per year to FY 2015; thereafter 3% per year.
5. Connection fees and availability fees are less than historical average due to slow down in real estate development.

**CITY OF LYNCHBURG  
SEWER CONTRACTS**

	Actual	Est.	Budget	Proj.	Proj.	Proj.	Proj.
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
<b>AMHERST</b>							
Operating	\$151,534	\$160,344	\$155,699	\$160,686	\$165,575	\$170,612	\$175,799
Existing capital amort.	212,978	220,614	217,203	213,791	210,380	197,118	196,524
FY 2011 operating settlement	0	8,917	0	0	0	0	0
Future capital. - WWTP	0	0	7,899	70,540	74,719	78,898	84,332
Future capital -Interceptor	0	0	0	0	0	0	0
	<b>364,512</b>	<b>389,875</b>	<b>380,801</b>	<b>445,017</b>	<b>450,674</b>	<b>446,628</b>	<b>456,655</b>
<b>BEDFORD</b>							
Operating	163,172	230,059	223,394	230,549	237,565	244,791	252,233
Existing capital amort.	225,246	221,116	218,598	196,700	194,183	186,362	184,019
FY 2011 operating settlement	0	12,981	0	0	0	0	0
Future capital. - WWTP	0	0	3,164	28,253	29,927	31,601	33,777
Future capital -Interceptor	0	0	0	0	4,989	11,953	11,953
	<b>388,418</b>	<b>464,156</b>	<b>445,156</b>	<b>455,502</b>	<b>466,664</b>	<b>474,707</b>	<b>481,982</b>
<b>CAMPBELL</b>							
Operating	160,000	188,230	182,777	188,631	194,371	200,283	206,373
Existing capital amort.	109,234	109,234	107,769	106,303	104,837	99,484	98,194
FY 2011 operating settlement	0	58,411	0	0	0	0	0
Future capital. - WWTP	0	0	3,164	28,253	29,927	31,601	33,777
Future capital -Interceptor	0	0	0	0	2,111	5,057	5,057
	<b>269,234</b>	<b>355,875</b>	<b>293,710</b>	<b>323,187</b>	<b>331,246</b>	<b>336,425</b>	<b>343,401</b>
<b>INDUSTRIAL</b>							
Rock Tenn	1,019,044	1,049,615	1,081,104	1,113,537	1,146,943	1,181,351	1,216,792
Frito-lay	773,100	811,755	852,343	894,960	939,708	986,693	1,036,028
	<b>1,792,144</b>	<b>1,861,370</b>	<b>1,933,447</b>	<b>2,008,497</b>	<b>2,086,651</b>	<b>2,168,045</b>	<b>2,252,820</b>
	<b>\$2,814,308</b>	<b>\$3,071,276</b>	<b>\$3,053,114</b>	<b>\$3,232,203</b>	<b>\$3,335,235</b>	<b>\$3,425,804</b>	<b>\$3,534,858</b>

**Notes:**

1. County operating revenues based on % of WWTP expenses (Amherst-2.3%, Bedford-3.3%, Campbell-2.7%.
2. Rock Tenn revenues are assumed to increase 3% per year.
3. Frito-Lay revenues are assumed to increase 5% per year.

**CITY OF LYNCHBURG  
OTHER SEWER REVENUES**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
<b>Other Revenues</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Interest Revenue	67,300	40,000	20,000	10,000	10,000	10,000	10,000
State highway maintenance	93,000	93,000	0	0	0	0	0
Miscellaneous Revenue	15,936	6,000	6,000	6,000	6,000	6,000	6,000
IRS interest rebate	22,977	44,421	44,421	44,421	44,421	44,421	44,421
	<b>\$199,213</b>	<b>\$183,421</b>	<b>\$70,421</b>	<b>\$60,421</b>	<b>\$60,421</b>	<b>\$60,421</b>	<b>\$60,421</b>

**Notes:**

1. State highway maintenance revenue is an allocation of funds received by the City from the State. Starting in FY 2013 this revenue is all transferred to the Stormwater Fund.

**CITY OF LYNCHBURG  
WASTEWATER TREATMENT**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Personal services	\$1,301,115	\$1,362,032	\$1,404,731	\$1,446,873	\$1,490,279	\$1,534,987	\$1,581,037
Fringe benefits	491,728	540,565	627,614	646,442	665,836	685,811	706,385
Supplies & materials	410,127	410,930	386,500	398,095	410,038	422,339	435,009
Sludge disposal - landfill	575,208	600,000	600,000	618,000	636,540	655,636	675,305
Chemicals	518,055	692,850	706,000	727,180	748,995	771,465	794,609
Gasoline / fuel	19,112	36,000	50,000	51,500	53,045	54,636	56,275
Internal service charges	109,930	172,700	179,580	184,967	190,516	196,232	202,119
Rentals & leases	4,293	7,000	10,000	10,300	10,609	10,927	11,255
Communication charges	8,405	8,750	7,800	8,034	8,275	8,523	8,779
Electricity	621,675	650,000	690,000	710,700	732,021	753,982	776,601
Other utilities	82,770	128,300	150,300	154,809	159,453	164,237	169,164
Contractual services	799,140	928,071	731,171	753,106	775,699	798,970	822,939
Training & meetings	15,168	15,751	15,300	15,759	16,232	16,719	17,220
Indirect costs	342,291	352,560	352,560	363,137	374,031	385,252	396,809
Self-insurance	73,047	48,470	48,470	49,924	51,422	52,964	54,553
Admin/OH Pmts to Water Fund	911,460	782,000	875,000	901,250	928,288	956,136	984,820
Nutrient payments	0	175,000	9,000	20,000	20,600	21,218	21,855
Nutrient sales	0	0	(100,000)	(100,000)	(100,000)	(100,000)	(100,000)
Misc.	26,506	60,500	25,500	26,265	27,053	27,865	28,700
	<b>\$6,310,030</b>	<b>\$6,971,479</b>	<b>\$6,769,526</b>	<b>\$6,986,342</b>	<b>\$7,198,932</b>	<b>\$7,417,900</b>	<b>\$7,643,437</b>

**Notes:**

1. FY 2012 and FY 2013 amounts are based on budget worksheets submitted as part of the FY 2013 budget process.
2. Personal services in FY 2013 assumes 34.7 staff positions will be filled throughout the year.
3. Personal services in FY 2012 and FY 2013 assumes no general pay rate increases.
4. Chemicals increase in FY 2012 is due to additional amounts for sludge stabilization and effluent deformer.
5. Gasoline / fuel increases in FY 2012 due to closing of landfill and need to haul to Campbell County landfill or Maplewood.
6. Other utilities increase in FY 2012 due to increase in natural gas needs.
7. Contractual services are higher in FY 2012 due to higher than normal equipment and grounds maintenance.
8. Indirect costs in FY 2012 and FY 2013 based on agreed upon amounts between Finance and Utilities.
9. Nutrient payments and credits based on best available information as of date of projections.
10. Unless noted otherwise, all expenses after FY 2013 are assumed to increase 3% per year.

**CITY OF LYNCHBURG  
SEWER LINE MAINTENANCE**

	Actual	Est.	Budget	Proj.	Proj.	Proj.	Proj.
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Personal services	\$584,601	\$541,572	\$477,732	\$492,064	\$506,826	\$522,031	\$537,692
Fringe benefits	236,847	228,000	218,022	224,563	231,300	238,239	245,386
Supplies & materials	158,860	128,830	166,700	171,701	176,852	182,158	187,622
Gasoline / fuel	57,785	58,000	35,000	36,050	37,132	38,245	39,393
Internal service charges	265,770	209,122	209,000	215,270	221,728	228,380	235,231
Rentals & leases	3,797	3,500	1,500	1,545	1,591	1,639	1,688
Communication charges	3,549	3,800	5,300	5,459	5,623	5,791	5,965
Contractual services	179,025	123,276	205,349	211,509	217,855	224,390	231,122
Training & meetings	2,774	4,407	5,250	5,408	5,570	5,737	5,909
Indirect costs	442,928	231,216	231,216	238,152	245,297	252,656	260,236
Self-insurance	120,839	152,257	152,257	156,825	161,529	166,375	171,367
City engineering charges	0	225,000	225,000	231,750	238,703	245,864	253,239
Admin/OH Pmts to Water Fund	469,540	384,000	375,000	386,250	397,838	409,773	422,066
Miscellaneous Expenses	182	500	450	464	477	492	506
	<b>\$2,526,497</b>	<b>\$2,293,480</b>	<b>\$2,307,776</b>	<b>\$2,377,009</b>	<b>\$2,448,320</b>	<b>\$2,521,769</b>	<b>\$2,597,422</b>

**Notes:**

1. FY 2012 and FY 2013 amounts are based on budget worksheets submitted as part of the FY 2013 budget process.
2. Personal services in FY 2013 assumes 15 staff positions will be filled throughout the year.
3. Personal services in FY 2012 and FY 2013 assumes no general pay rate increases.
4. Indirect costs in FY 2012 and FY 2013 based on agreed upon amounts between Finance and Utilities.
5. City engineering charges represent a best estimate of the fully loaded cost of staff time in the PW Engineering Department that work on water projects.
6. Unless noted otherwise, all expenses after FY 2013 are assumed to increase 3% per year.

**CITY OF LYNCHBURG  
STORMWATER**

	<b>Actual</b>	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Personal services	\$296	\$198,974	\$0	\$0	\$0	\$0	\$0
Fringe benefits	32	78,207	0	0	0	0	0
Supplies & materials	55,791	24,000	0	0	0	0	0
Gasoline / fuel	0	6,000	0	0	0	0	0
Internal service charges	0	28,900	0	0	0	0	0
Rentals & leases	627		0	0	0	0	0
Communication charges	510	650	0	0	0	0	0
Contractual services	80,956	113,073	0	0	0	0	0
Training & meetings	794	1,000	0	0	0	0	0
Start-up project	0		0	0	0	0	0
Indirect costs	0		0	0	0	0	0
Self-insurance	0		0	0	0	0	0
City engineering charges	0		0	0	0	0	0
Adm./OH Pmts to Water Fund	0	75,000	0	0	0	0	0
Miscellaneous Expenses	0	3,000	0	0	0	0	0
	<b>\$139,006</b>	<b>\$528,804</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

Notes:

1. Stormwater to be accounted for in a separate fund in FY 2013.
2. FY 2012 personal services assumes 3 full time positions.
3. Adm. / OH payments to Water Fund include allocation of staff salaries and benefits applicable to stormwater.

**CITY OF LYNCHBURG  
NON-DEPARTMENTAL-SEWER**

	<b>Actual</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Financial audit	\$13,392	\$17,000	\$17,510	\$18,035	\$18,576	\$19,134	\$19,708
Allowance for doubtful accounts	12,959	25,000	25,750	26,523	27,318	28,138	28,982
OPEB/Retirees health/WC insurance	194,500	182,276	187,744	174,922	185,716	191,288	197,026
Legal & professional (CSO)	0	15,000	15,450	15,914	16,391	16,883	17,389
Major sewer line cleaning	28,941	250,000	100,000	100,000	100,000	100,000	100,000
Project costs charged to operations	135,630	25,000	25,000	25,000	25,000	25,000	25,000
	<b>\$385,422</b>	<b>\$514,276</b>	<b>\$371,454</b>	<b>\$360,394</b>	<b>\$373,002</b>	<b>\$380,442</b>	<b>\$388,105</b>

**Notes:**

1. Retirees health insurance for FY 2011 and FY 2012 based on information provided by Human Resources Dept.

**CITY OF LYNCHBURG  
SEWER FUND BONDS PAYABLE**

	<b>Est.</b>	<b>Budget</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>P&amp;I on debt o/s @ 6/30/11 (1)</b>	8,057,889	8,411,416	8,611,155	8,612,370	8,728,762	8,582,701
Interest on LOC borrowing	0	0	0	0	0	0
<b>Interest only payments on G.O. Bonds</b>						
No issues	0	0	0	0	0	0
No issues					0	0
<b>Principal payments on VCWRLF</b>						
\$6.0 million loan closed 6/12 - 0%			100,000	200,000	200,000	200,000
\$2.0 million loan closed 6/13 -0%				33,333	66,667	66,667
\$2.0 million loan closed 6/14 -0%					33,333	66,667
<b>Level debt service payments on G.O. Bonds</b>						
No issues				0	0	0
No issues						0
	<b>\$8,057,889</b>	<b>\$8,411,416</b>	<b>\$8,711,155</b>	<b>\$8,845,703</b>	<b>\$9,028,762</b>	<b>\$8,916,034</b>

**NOTES:**

1. Based on Debt book as of June 30, 2011.
2. All VCWRLF loans are at 0% interest; 30 year repayment terms. G. O. bonds are at 3.5% interest, 30 year repayment terms.
3. Principal payments on VCWRLF loans starts 2 years after date loans are closed.
4. Level debt service on G.O issues starting two years after issue date.
5. Interest on LOC borrowing based on 2% annual rate.

**CITY OF LYNCHBURG  
STORMWATER OPERATING FUND**

	Proj. FY 2012	Proj. FY 2013	Proj. FY 2014	Proj. FY 2015	Proj. FY 2016	Proj. FY 2017
<b>Beginning Funds</b>	\$0	\$0	\$250,234	\$309,244	\$490,639	482,926
<b>Revenues:</b>						
Stormwater fees, net	0	2,599,200	2,688,975	2,694,789	2,775,633	2,858,902
General Fund transfer	0	650,000	650,000	650,000	650,000	650,000
Other	0	1,000	1,000	1,000	1,000	1,000
total revenues	0	3,250,200	3,339,975	3,345,789	3,426,633	3,509,902
<b>Expenses &amp; Transfers:</b>						
Departmental expenses	0	\$1,007,412	\$1,037,634	\$1,068,763	\$1,100,826	\$1,133,851
G.F. charges - PW	0	1,394,146	1,435,970	1,479,049	1,523,421	1,569,124
G.F. charges - CD	0	298,408	307,360	316,581	326,078	335,861
Indirect cost	0	0	0	0	100,000	103,000
Transfers to Capital Fund	0	300,000	500,000	300,000	300,000	300,000
Debt service	0	0	0	0	84,020	168,039
total expenses & transfers	0	2,999,966	3,280,965	3,164,394	3,434,345	3,609,875
<b>Ending Funds</b>	\$0	\$250,234	\$309,244	\$490,639	\$482,926	\$382,953
<b>Ending funds as % of revenues</b>		7.7%	9.3%	14.7%	14.1%	10.9%

Notes:

1. Stormwater accounted for as part of Sewer Fund in FY 2012.
2. Stormwater fees start July 1, 2012.
3. Indirect cost assumed to start in FY 2016 per agreement with Finance. Amount is a placeholder.

**CITY OF LYNCHBURG  
STORMWATER CAPITAL FUND**

	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
<b>Beginning Funds</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Receipts:</b>						
Transfer from Operations	0	300,000	500,000	300,000	300,000	300,000
Bond proceeds	0	0	0	1,250,000	1,250,000	1,250,000
total receipts	0	300,000	500,000	1,550,000	1,550,000	1,550,000
<b>Expenditures:</b>						
Master planning & design	0	0	200,000	250,000	250,000	250,000
Infrastructure renewal	0	300,000	300,000	300,000	300,000	300,000
Water quality related projects	0	0	0	1,000,000	1,000,000	1,000,000
total expenditures	0	300,000	500,000	1,550,000	1,550,000	1,550,000
<b>Ending Funds</b>	\$0	\$0	\$0	\$0	\$0	\$0

Notes:

1. Watershed implementation plan calls for \$110 to \$120 million to be spent on water quality by 2025
2. First permit cycle is likely to call for a 5% reduction to water quality goals by 2018 (~\$1.0 million CAPEX / year).
3. Second permit cycle is likely to call for a 35% reduction to water quality goals by 2023 (~\$7.0 million CAPEX / year).
4. Third permit cycle is likely to call for a 60 % reduction to water quality goals by 2028 (~\$12.0 million CAPEX / year)
5. Trading may reduce CAPEX amounts or extend compliance date.

**CITY OF LYNCHBURG  
STORMWATER OPERATING REVENUES Departmental Expenses & Debt Service**

	Proj. FY 2012	Proj. FY 2013	Proj. FY 2014	Proj. FY 2015	Proj. FY 2016	Proj. FY 2017
<b>Stormwater Fees:</b>						
SFU's	\$0	57,000	57,000	57,000	57,000	57,000
Annual bill	0	\$48.00	\$51.00	\$52.53	\$54.11	\$55.73
Annual billed revenue	0	2,736,000	2,907,000	2,994,210	3,084,036	3,176,557
Credits & uncollectible	0	-136,800	-218,025	-299,421	-308,404	-317,656
	<b>0</b>	<b>2,599,200</b>	<b>2,688,975</b>	<b>2,694,789</b>	<b>2,775,633</b>	<b>2,858,902</b>
<b>Departmental Expenses:</b>						
Personal services	\$0	198,669	204,629	210,768	217,091	223,604
Fringe benefits	0	96,813	99,717	102,709	105,790	108,964
M&R supplies & materials	0	64,150	66,075	68,057	70,098	72,201
Contractual charges	0	202,837	208,922	215,190	221,645	228,295
Internal service charged	0	64,943	66,891	68,898	70,965	73,094
Admin/OH payments	0	370,000	381,100	392,533	404,309	416,438
Travel & training	0	5,000	5,150	5,305	5,464	5,628
Communications	0	2,000	2,060	2,122	2,185	2,251
Miscellaneous	0	3,000	3,090	3,183	3,278	3,377
	<b>0</b>	<b>1,007,412</b>	<b>1,037,634</b>	<b>1,068,763</b>	<b>1,100,826</b>	<b>1,133,851</b>
<b>Debt Service:</b>						
FY 2014 borrowing	0	0	0	0	0	0
FY 2015 borrowing	0	0	0	0	84,020	84,020
FY 2016 borrowing	0	0	0	0	0	84,020
	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>84,020</b>	<b>168,039</b>

**Notes:**

1. Stormwater fee assumed to start at \$4.00 / month, effective July 1, 2012.
2. Credits & uncollectible equal 5% in FY 2013 and increase to 10% by FY 2015.
3. Personal services based on budget submission documents.
4. Internal service charges based on fuel, maintenance and depreciation for a Vactor, dump truck, utility truck.
5. Adm. / OH payments based on Water Fund Engineering / Adm cost allocations.
6. All borrowing (see capital fund) assumes level debt service at 3%, 20 year repayment terms. There is a possibility for VCWRLF financing at 0%.

# **Appendix II**

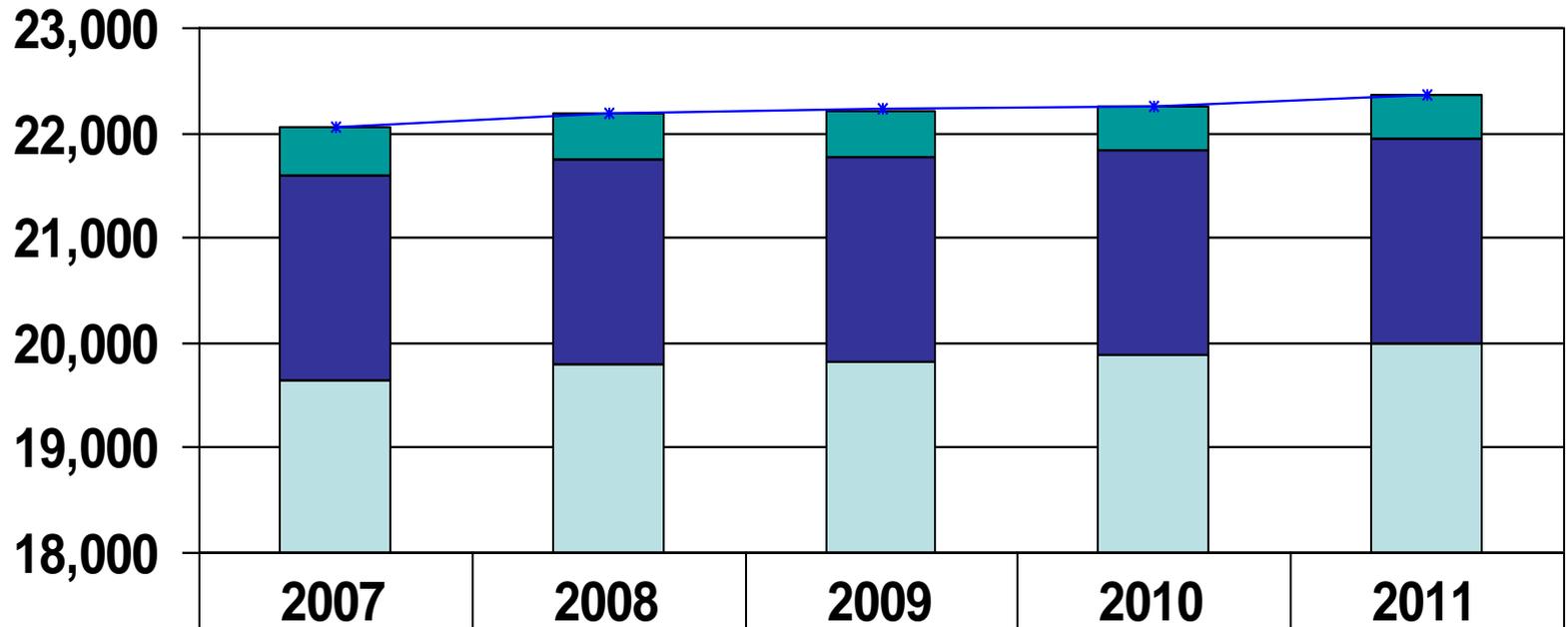
# **Statistical and Financial**

# **Data**



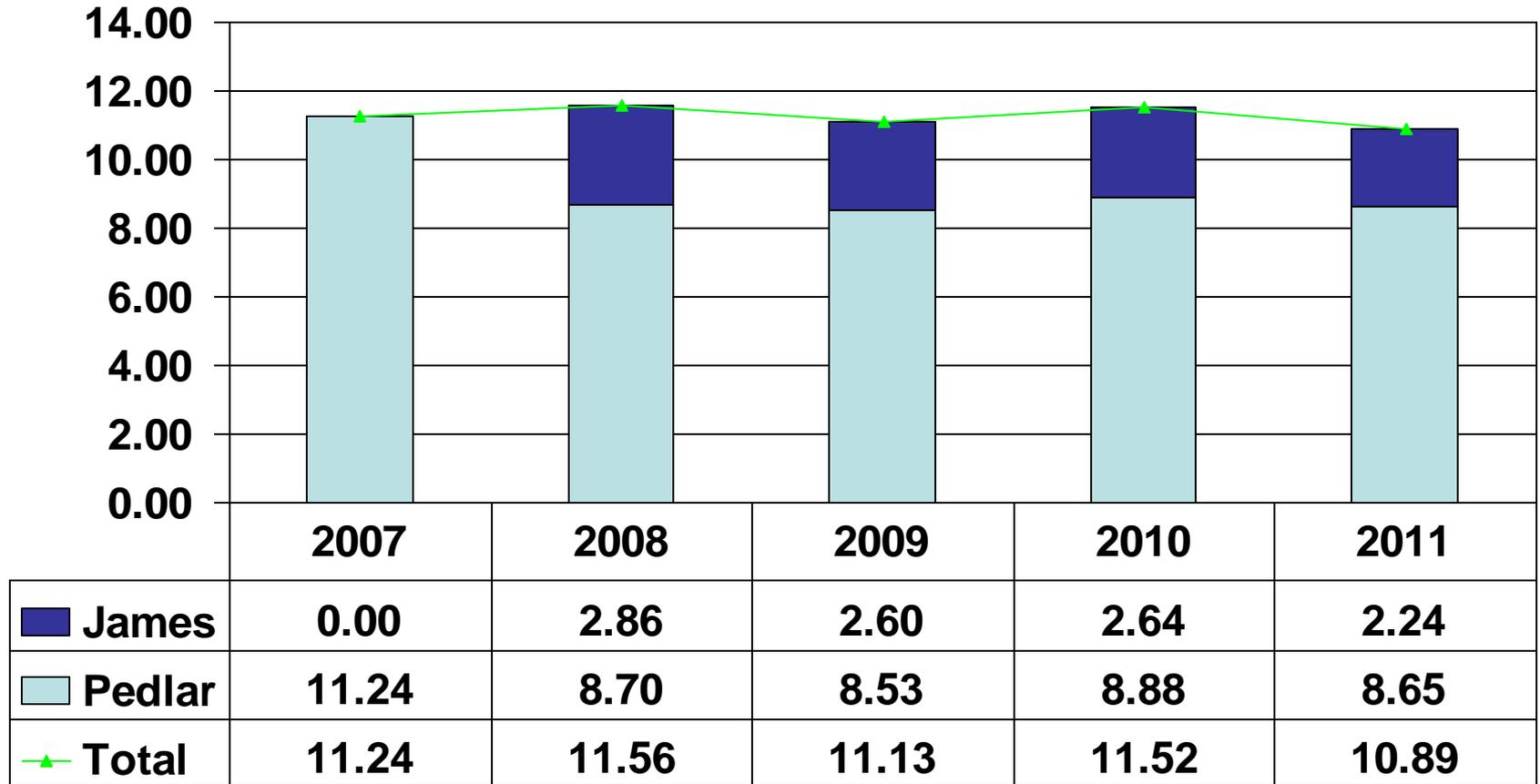
# Water Fund Statistics

# Number of Water Customers

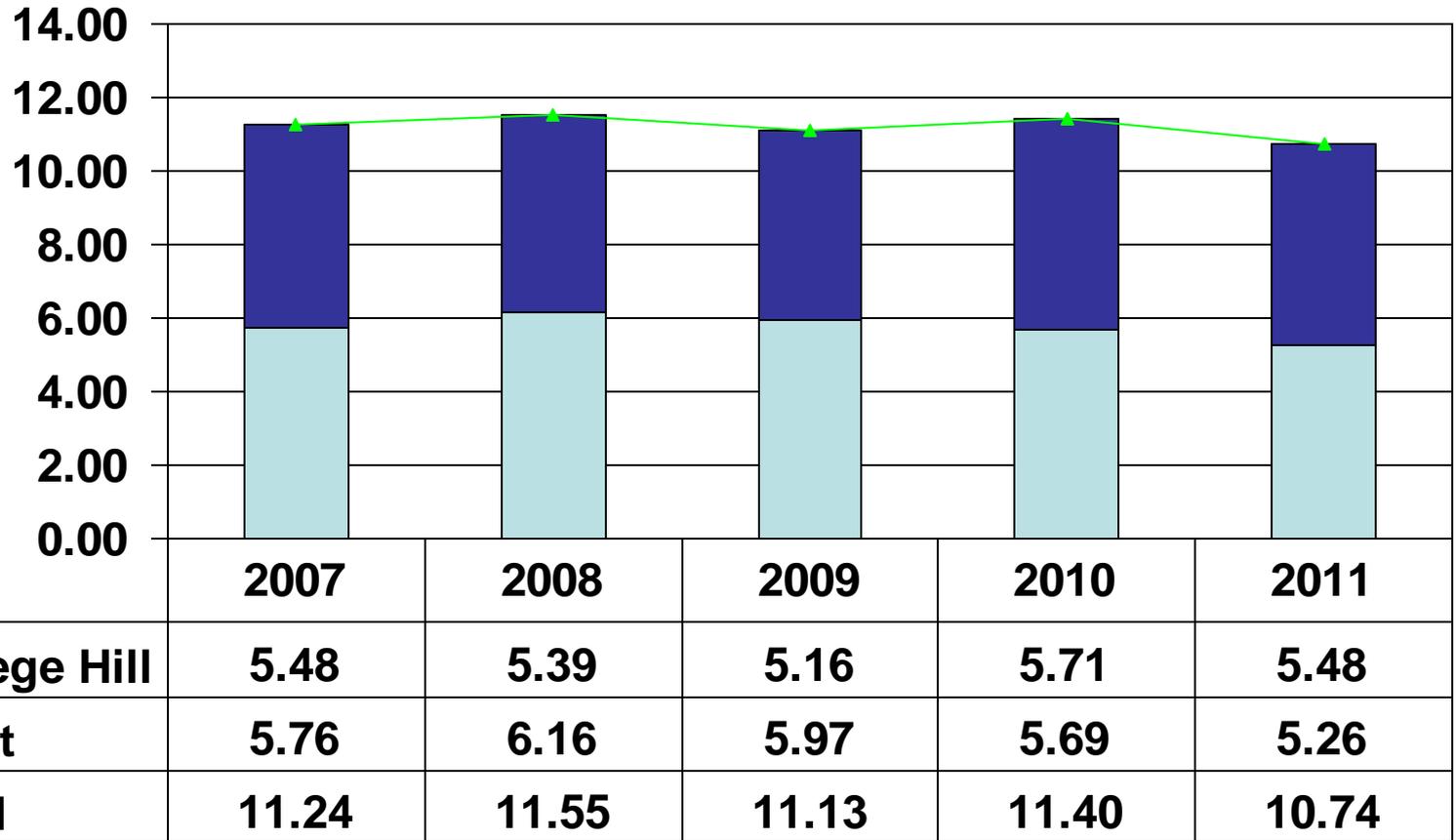


	2007	2008	2009	2010	2011
<b>Other</b>	<b>456</b>	<b>430</b>	<b>430</b>	<b>431</b>	<b>436</b>
<b>Business</b>	<b>1,951</b>	<b>1,950</b>	<b>1,950</b>	<b>1,951</b>	<b>1,945</b>
<b>Domestic</b>	<b>19,653</b>	<b>19,807</b>	<b>19,830</b>	<b>19,883</b>	<b>19,993</b>
<b>* Total</b>	<b>22,060</b>	<b>22,187</b>	<b>22,240</b>	<b>22,265</b>	<b>22,374</b>

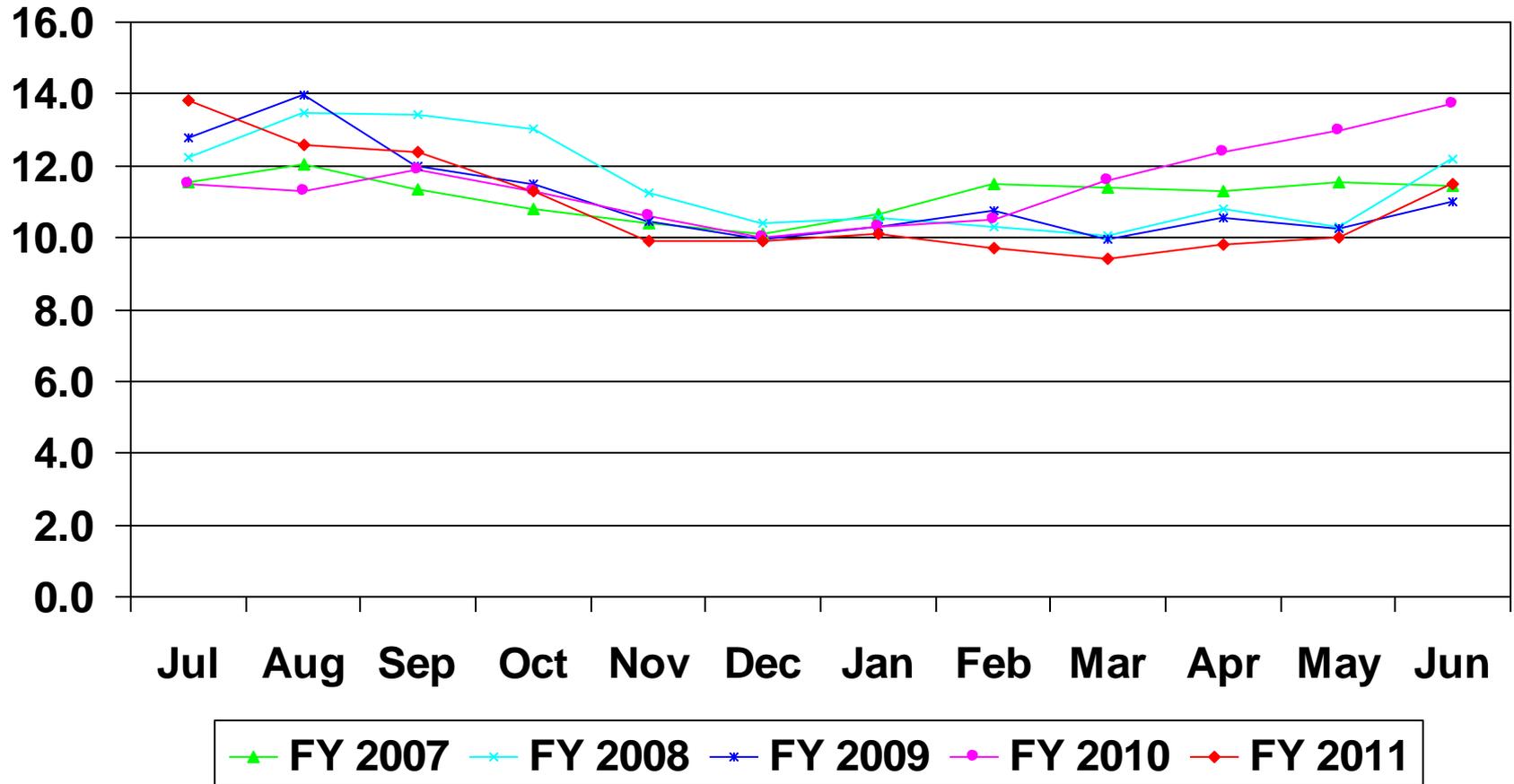
# Water Withdrawals in MGD



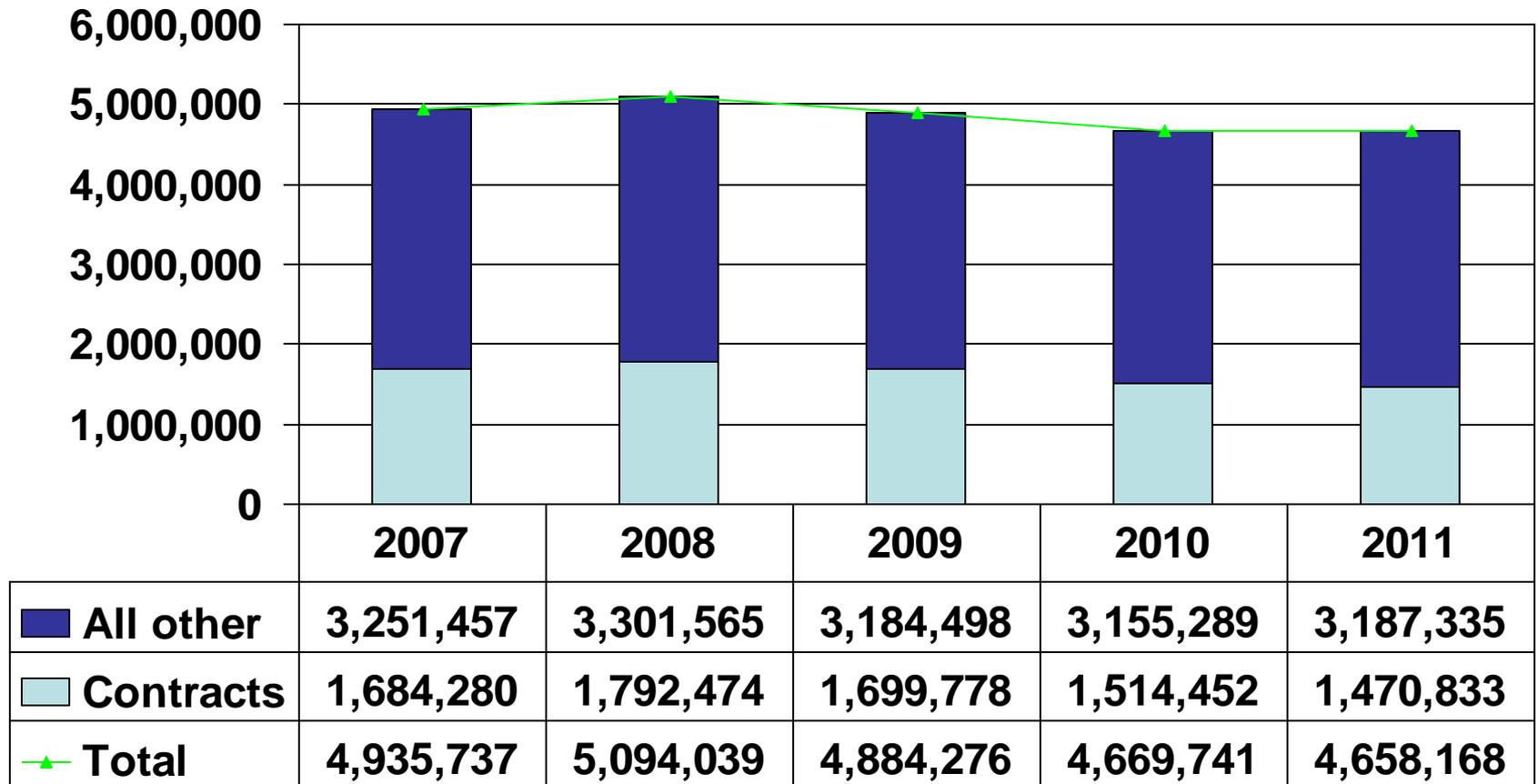
# Water Production in MGD



# Monthly Production in MGD



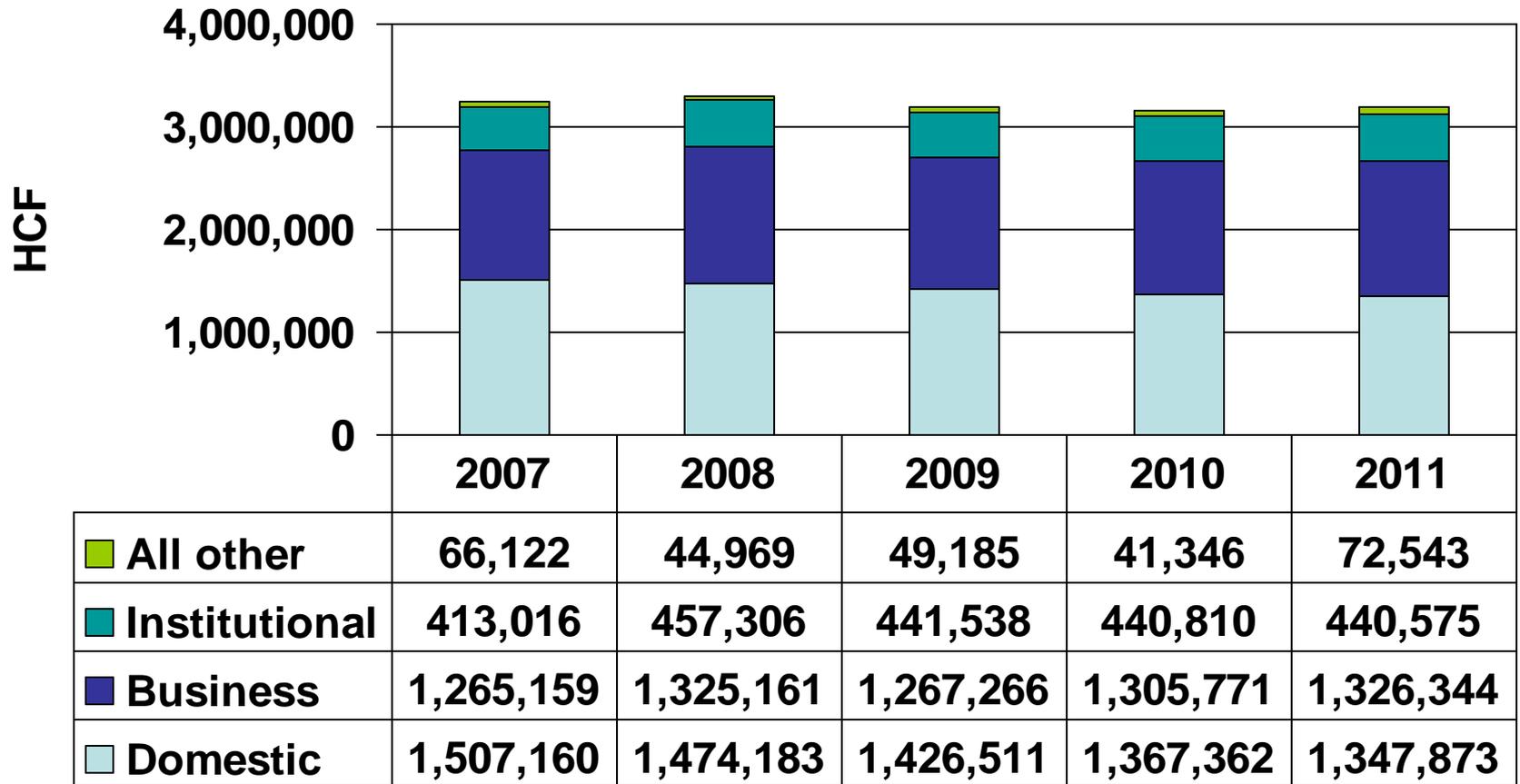
# Water Sold in HCF



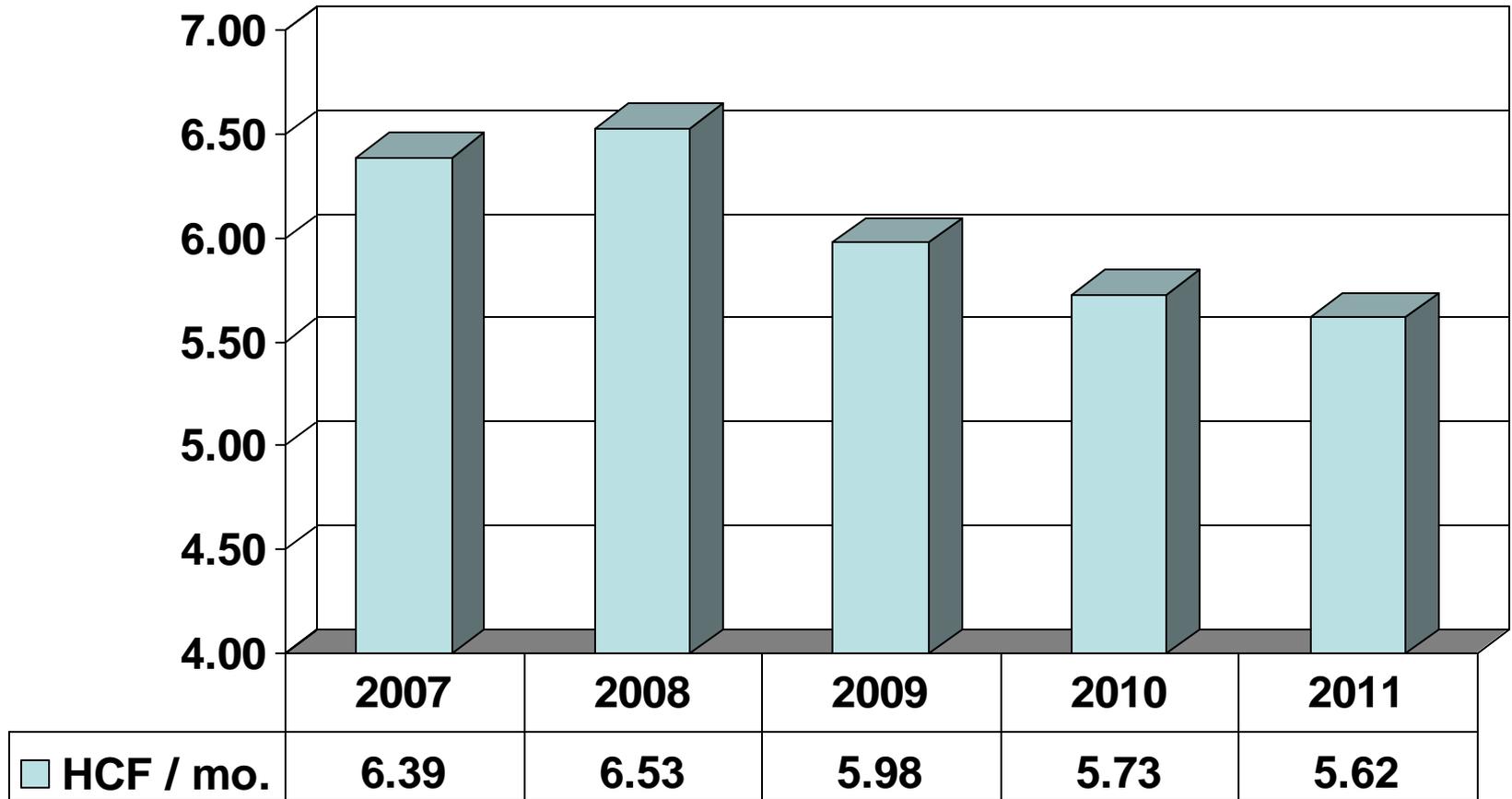
# Contract Water Use in HCF

Water Customers	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Amherst	62,125	54,410	55,355	49,805	54,080
Bedford	722,722	806,541	798,263	725,571	748,310
CCUSA	287,918	268,788	250,826	215,854	196,767
Frito-Lay	174,554	181,668	155,245	125,509	139,112
Rock Tenn	436,961	481,067	440,087	397,713	332,564
Total contract use	1,684,280	1,792,474	1,699,776	1,514,452	1,470,833
Non-contract use	3,251,457	3,301,619	3,184,500	3,155,289	3,187,335
Total use	4,935,737	5,094,093	4,884,276	4,669,741	4,658,168
Contract % of use	34%	35%	35%	32%	32%

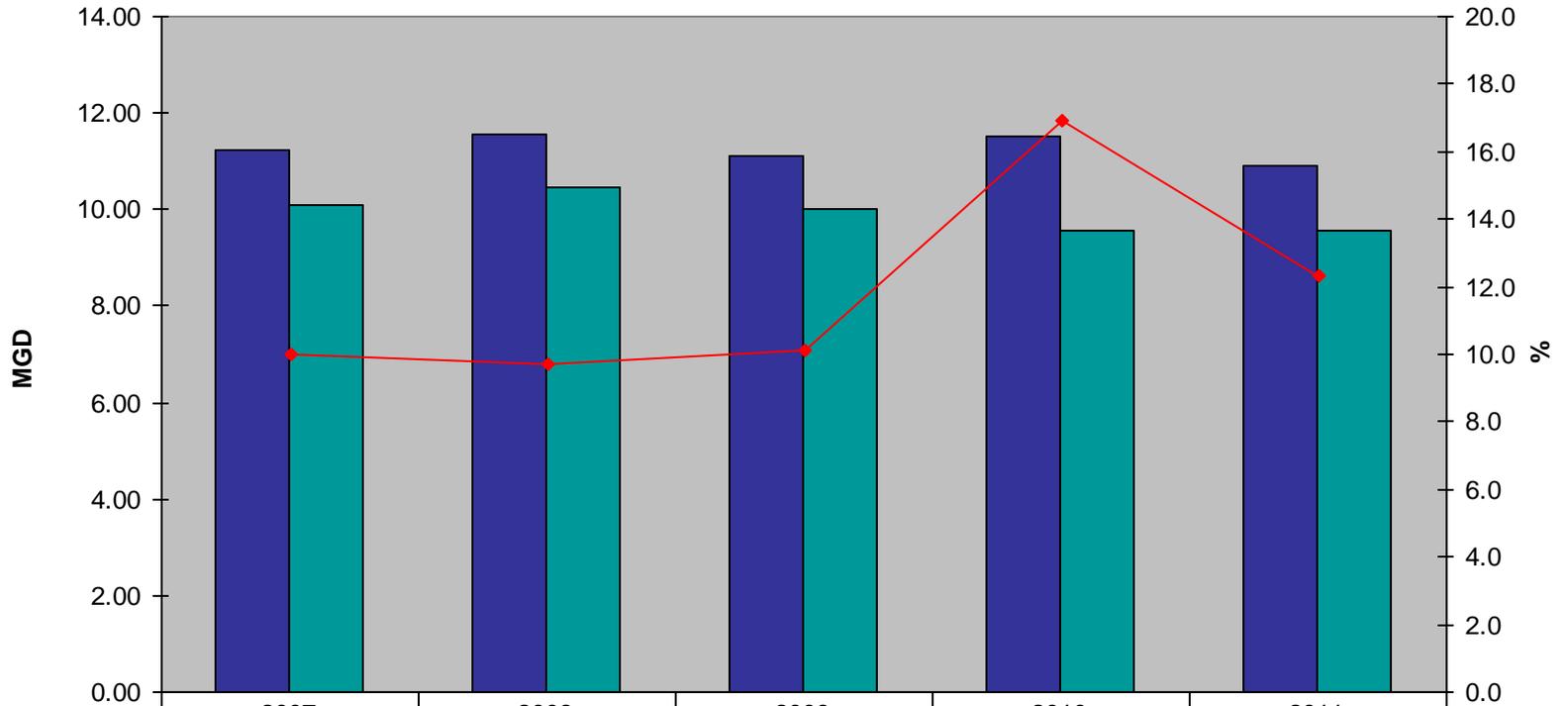
# Non-Contract Water Sales in HCF



# Avg. Monthly Water Sold Domestic Customers



# Non Revenue Water



	2007	2008	2009	2010	2011
Production	11.24	11.56	11.13	11.52	10.89
Sales	10.11	10.44	10.01	9.57	9.55
NRW %	10.0	9.7	10.1	16.9	12.3

# Water Complaints

Type of Complaint	FY 2007	FY 2008	FY2009	FY 2010	FY 2011
1. Discolored water	100	171	131	140	123
2. Odor / taste	3	4	8	2	11
3. No water	-	-	28	40	15
4. High / low pressure	126	141	94	86	95
5. Service line leaks	152	135	211	133	98
6. Main breaks	-	-	39	46	30
7. Meter related	83	81	134	75	75
8. Unclassified	-	-	-	-	255
Total complaints	464	532	645	522	702
Number of water customers	22,060	21,158	22,240	22,265	22,374
Complaints / 1,000 customers	21	25	29	23	31

# Water Fund Financial Data

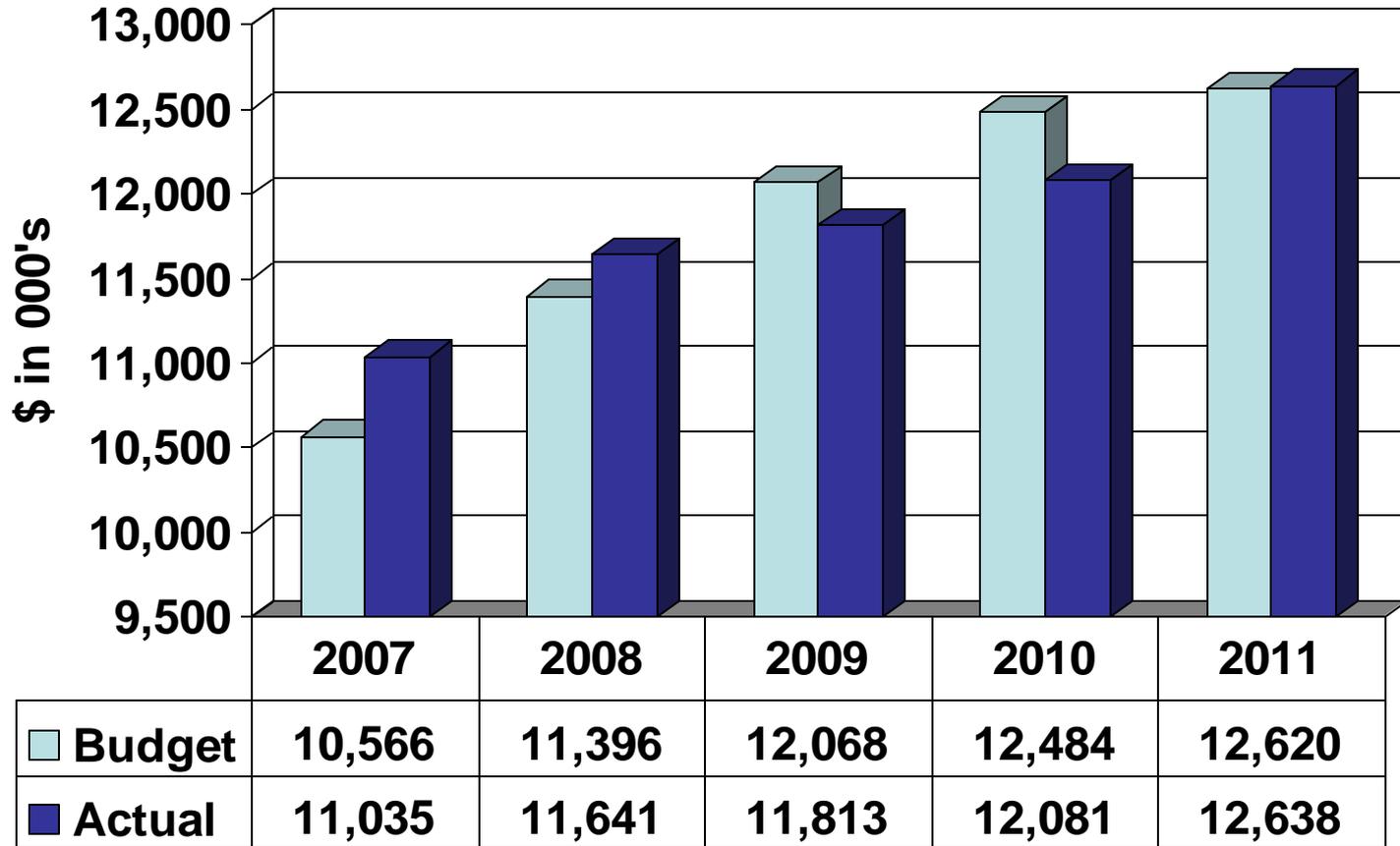
# Water Fund Debt Coverage

(\$ in 000's)

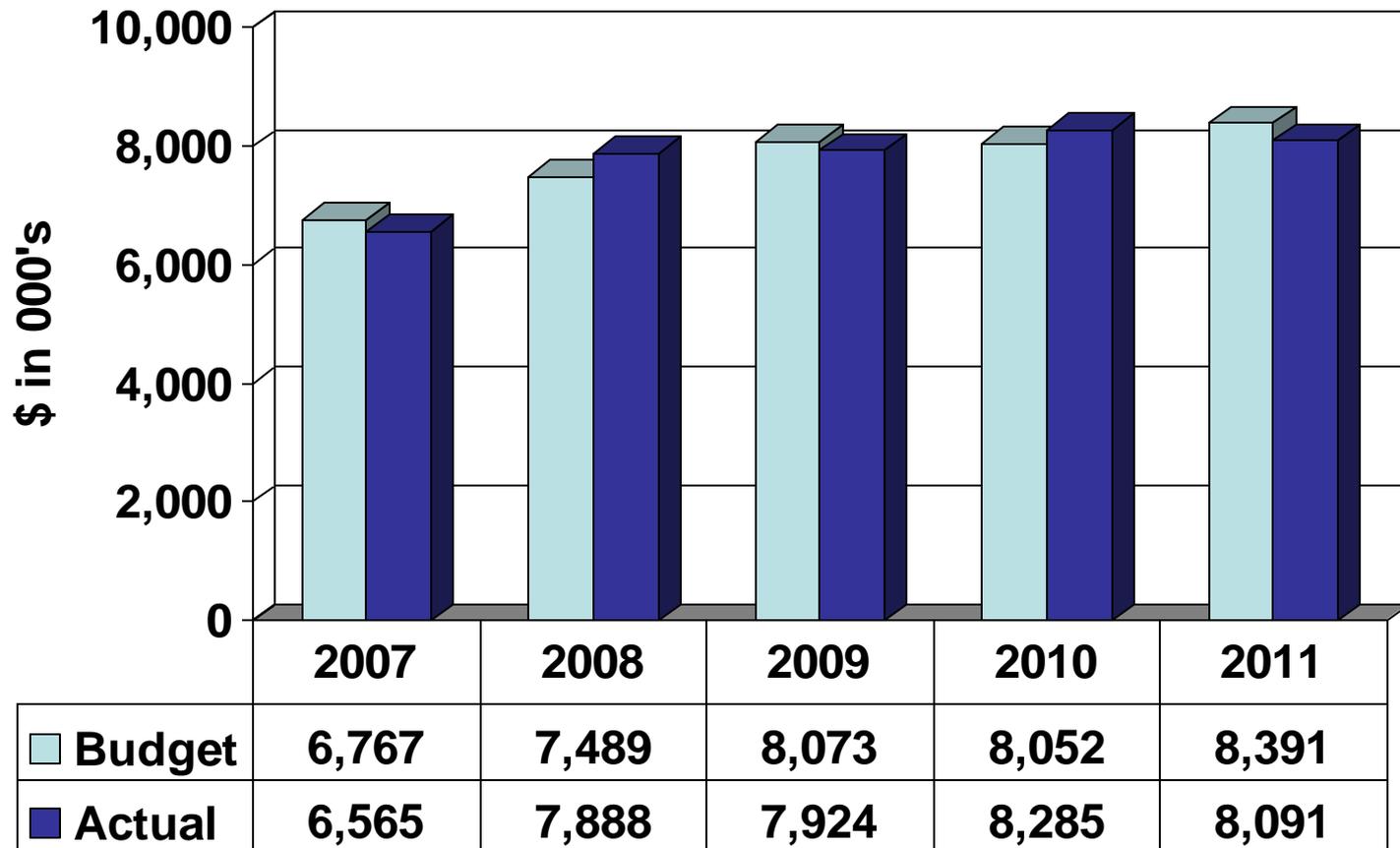
	FY 2007	FY 2008	FY2009	FY 2010	FY 2011
Revenues:					
Charges for services	\$7,985	\$8,763	\$9,034	\$9,309	9,792
Water contracts	2,412	2,502	2,690	2,720	2,670
Interest & other	638	376	89	52	176
	11,035	11,641	11,813	12,081	12,638
Expenses:					
Water treatment	2,260	2,683	2,954	2,863	2,767
Water line maintenance	1,205	1,400	1,548	1,603	1,627
Meter reading	646	879	821	861	836
Administration	2,170	2,478	2,440	2,448	2,793
Non-departmental	147	133	128	168	164
Project expenses	137	315	33	397	14
Capitalized expenses	0	0	0	0	-110
	6,565	7,888	7,924	8,340	8,091
Operating income	4,470	3,753	3,889	3,741	4,547
Debt service	2,980	2,877	2,703	2,999	3,677
Debt coverage	1.50	1.30	1.44	1.25	1.24

# Water Revenues

## Adopted Budget vs. Actual



# Water Operating Expenses Adopted Budget vs. Actual



# Largest Water Customers

(\$ in 000's)

Customer	FY 2007	FY 2008	FY2009	FY 2010	FY 2011
1. Bedford County	\$1,195	\$1,326	\$1,501	\$1,537	\$1,487
2. CCUSA	527	432	473	465	509
3. Rock Tenn	431	472	436	460	396
4. Liberty University	184	217	215	233	269
5. Frito-Lay	156	179	169	149	170
6. Azdel	50	91	56	143	150
7. Central Health	163	213	173	124	137
8. Griffin Pipe	110	106	120	115	135
9. Amherst County	102	93	97	110	107
10 .Kroger / Westover	102	122	105	108	105
11. Tri-Tech	32	64	67	106	133
12. RR Donelly	93	111	115	102	135
Total top 12	3,145	3,426	3,527	3,652	3,733
Total water revenues	11,035	11,641	11,813	12,081	12,479
Top 12 % of total	29%	29%	30%	30%	30%

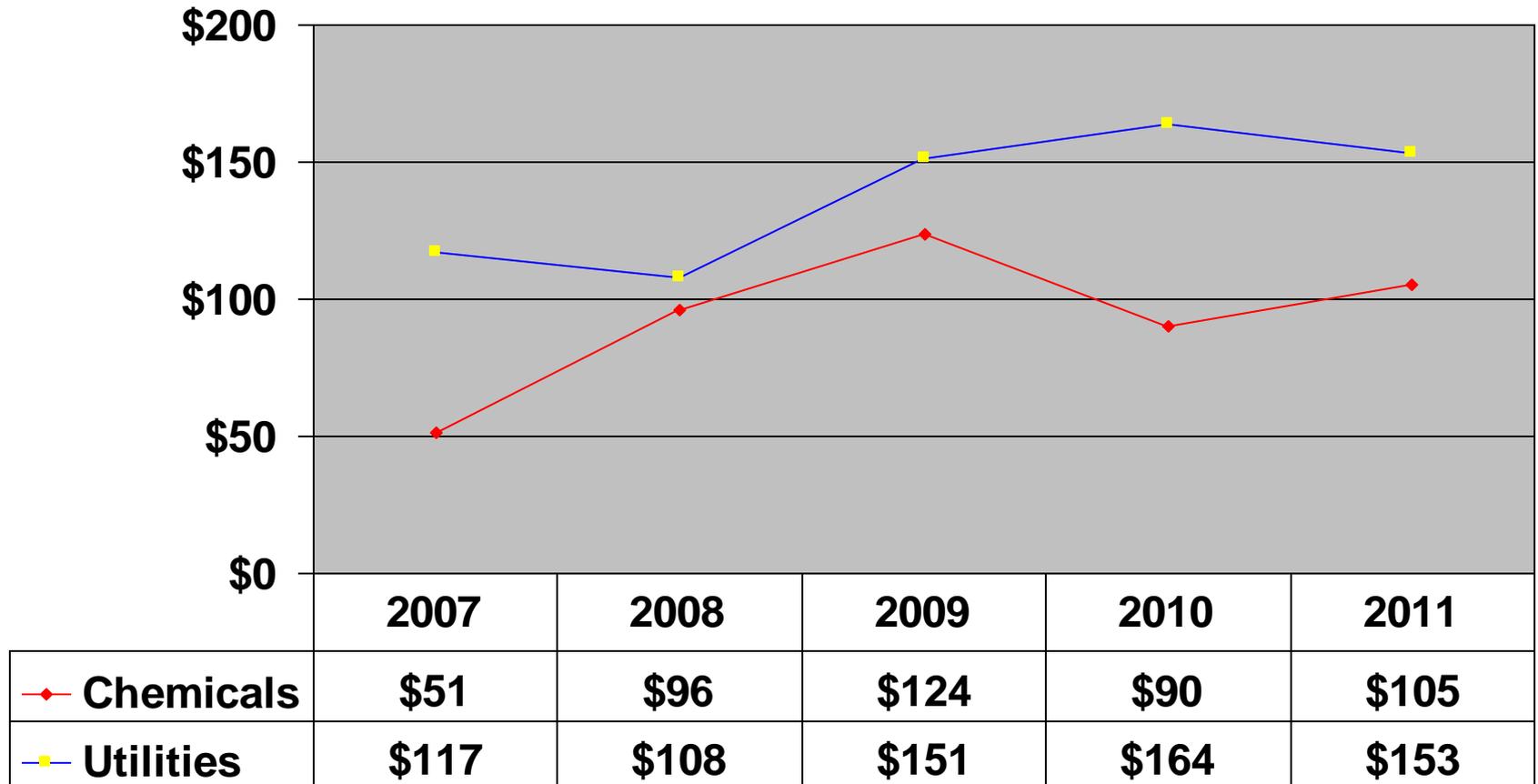
Customers with total billings in excess of \$100,000 / year.

# Water Expenses by Object

(\$ in 000's)

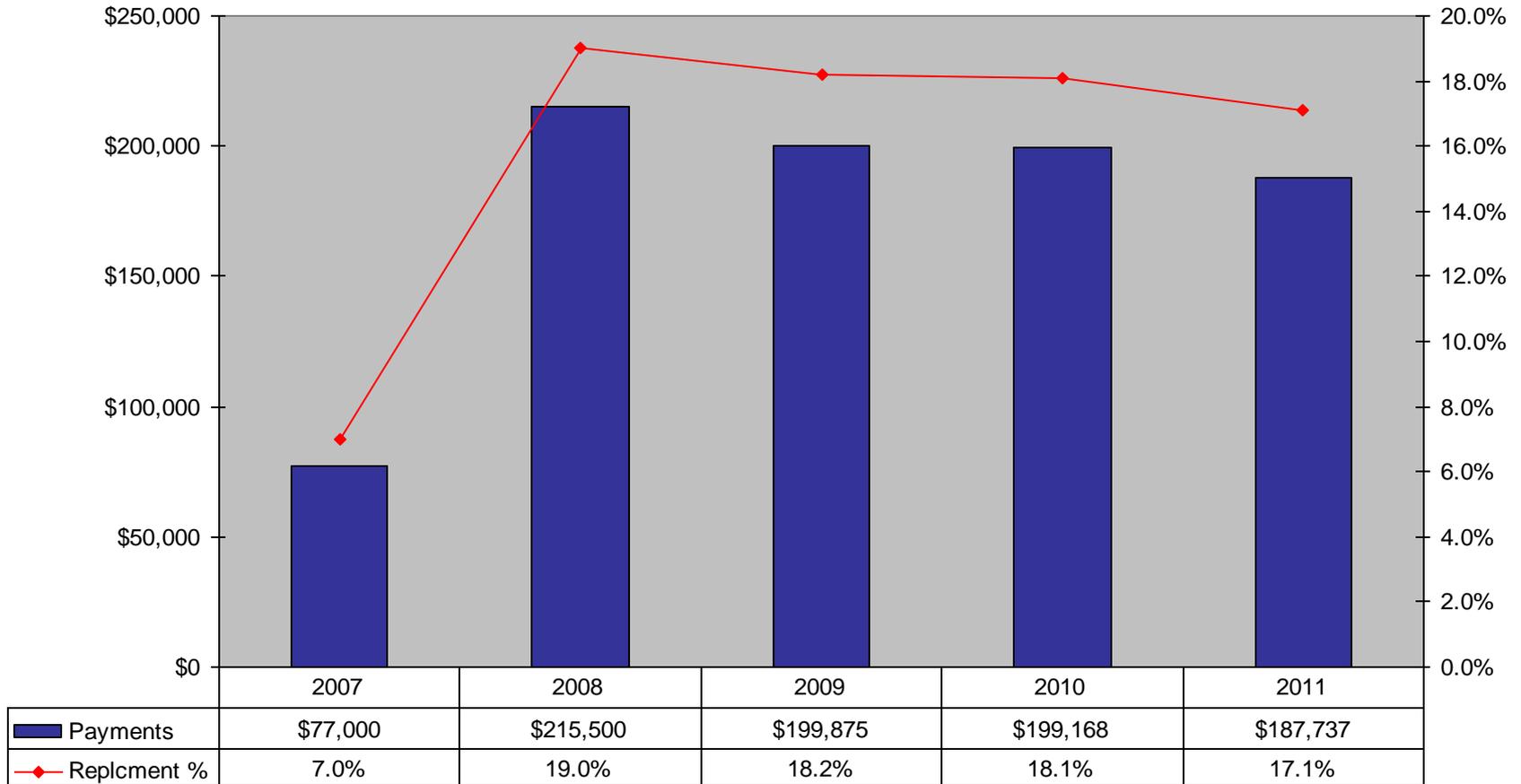
<b>Expenses by object</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Personal services	\$2,208	\$2,636	\$2,764	\$2,828	2,976
Fringe benefits	862	969	1,023	1,052	1,151
Supplies & materials	705	994	959	974	1,052
Contractual services	454	603	479	582	419
Utilities, including natural gas	480	455	614	687	609
Chemicals	210	404	504	378	419
General Fund allocations	1,100	1,105	1,026	905	1,004
All other, including project expenses	546	722	540	879	571
Total excluding capitalized expenses	\$6,565	\$7,888	\$7,909	\$8,285	\$8,201
% increase	4.7%	20.2%	0.3%	4.8%	-1.0%

# Water Variable Expenses / MG



# Water Vehicle Costs

Total cost of all vehicles (\$1.1 million)

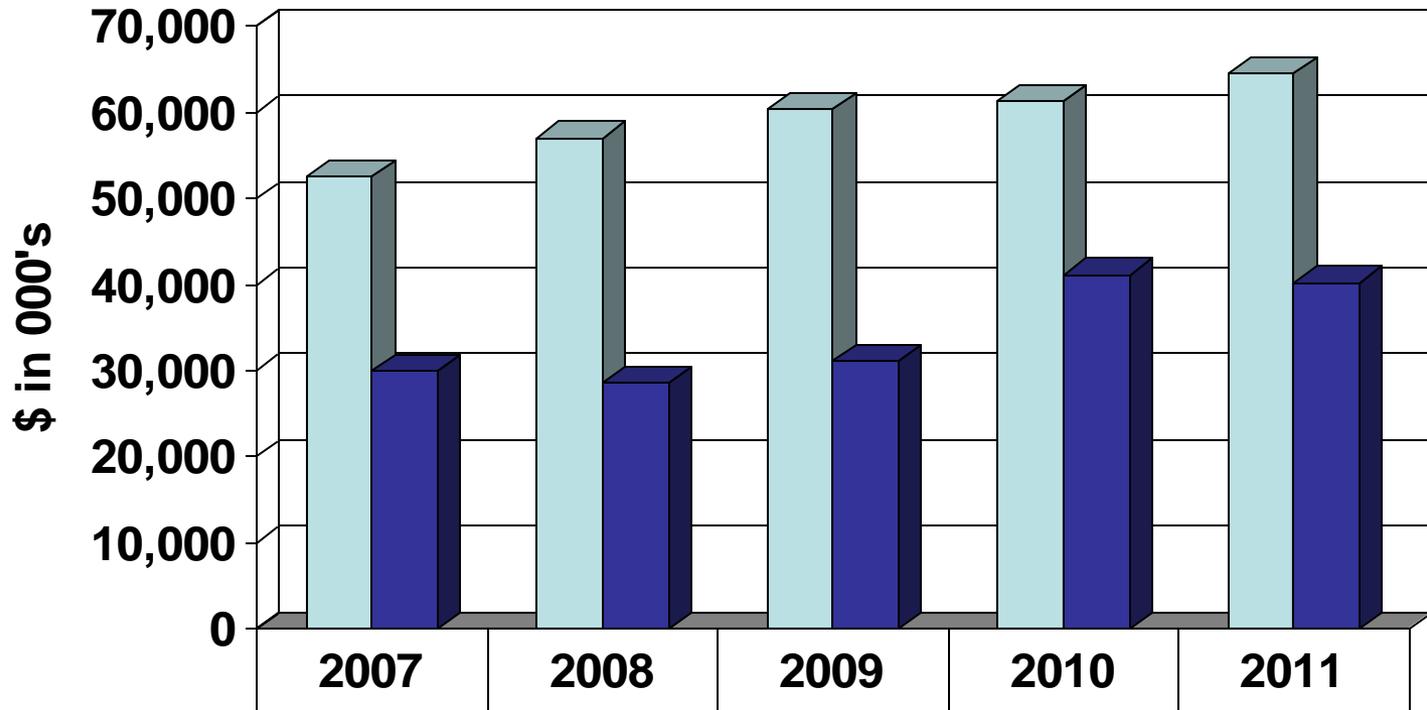


# Water Capital Expenditures

## \$ in 000's

<b>Capital Expenditures</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Source of supply	0	45	220	463	1,202
Treatment plants	1,114	4,347	2,349	83	494
Storage tanks	1,424	683	733	98	603
Petitions & extensions	439	840	211	239	304
Distribution & CSO improvements	1,087	804	1,765	1,795	2,435
Other	0	0	182	778	364
<b>Total</b>	<b>4,064</b>	<b>6,719</b>	<b>5,460</b>	<b>3,456</b>	<b>5,402</b>

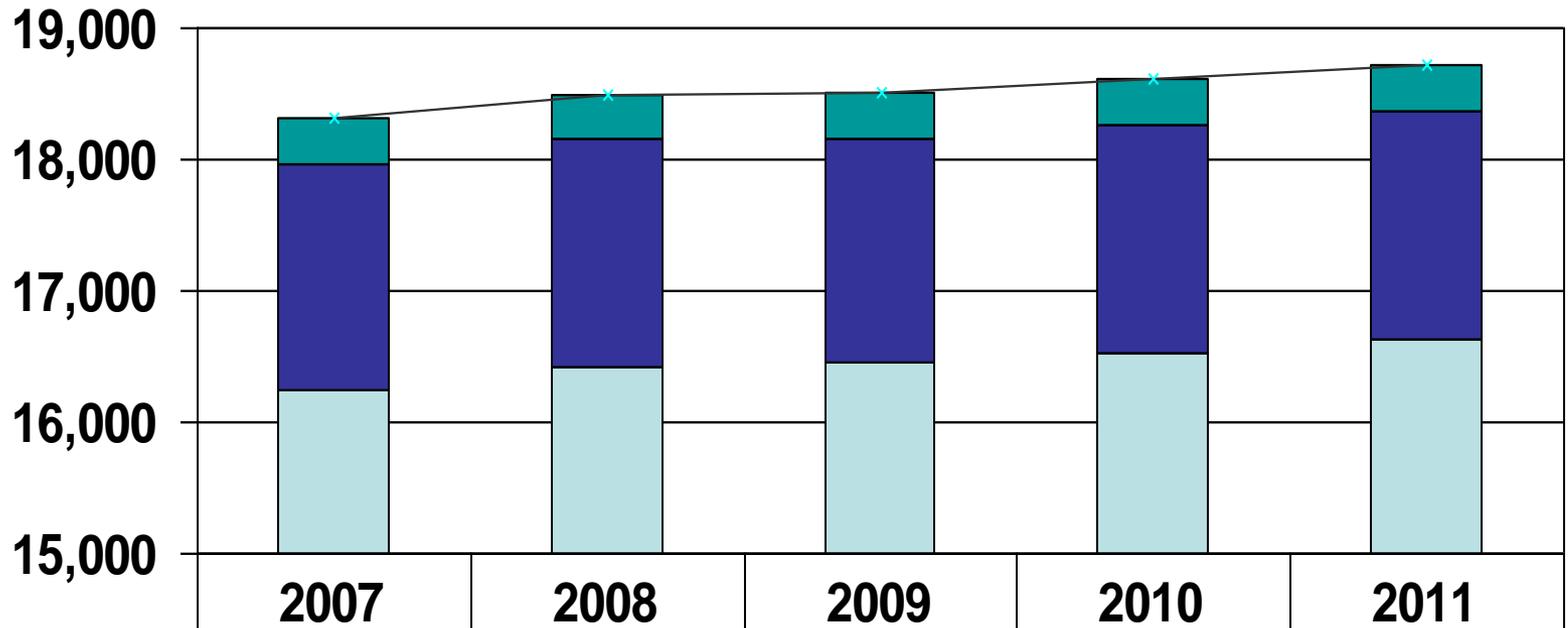
# Net Water Capital Assets



Net fixed assets	52,562	57,028	60,391	61,294	64,545
Bonds & notes	29,942	28,572	31,138	41,164	40,166

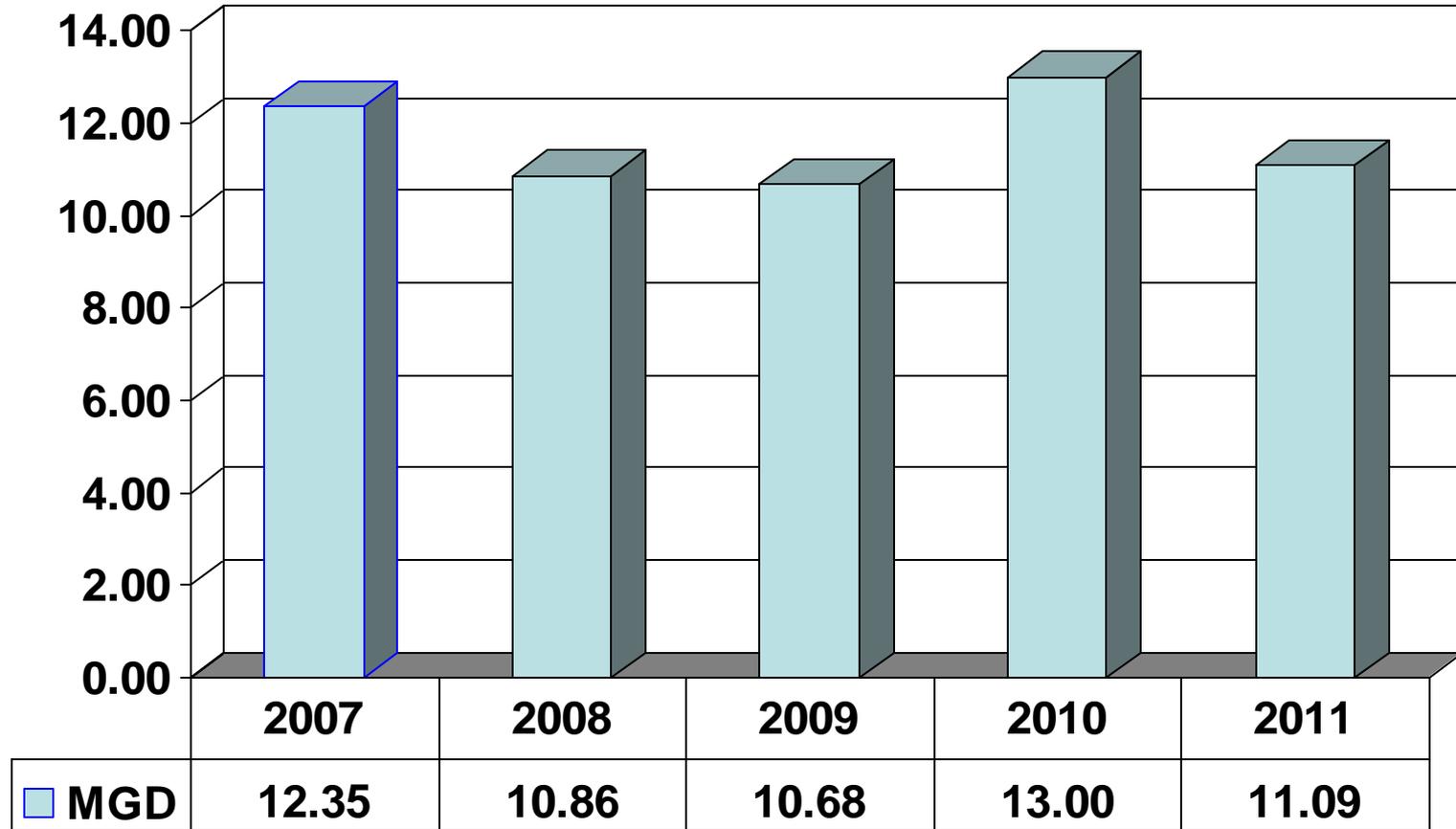
# Wastewater Statistics

# Number of Sewer Customers

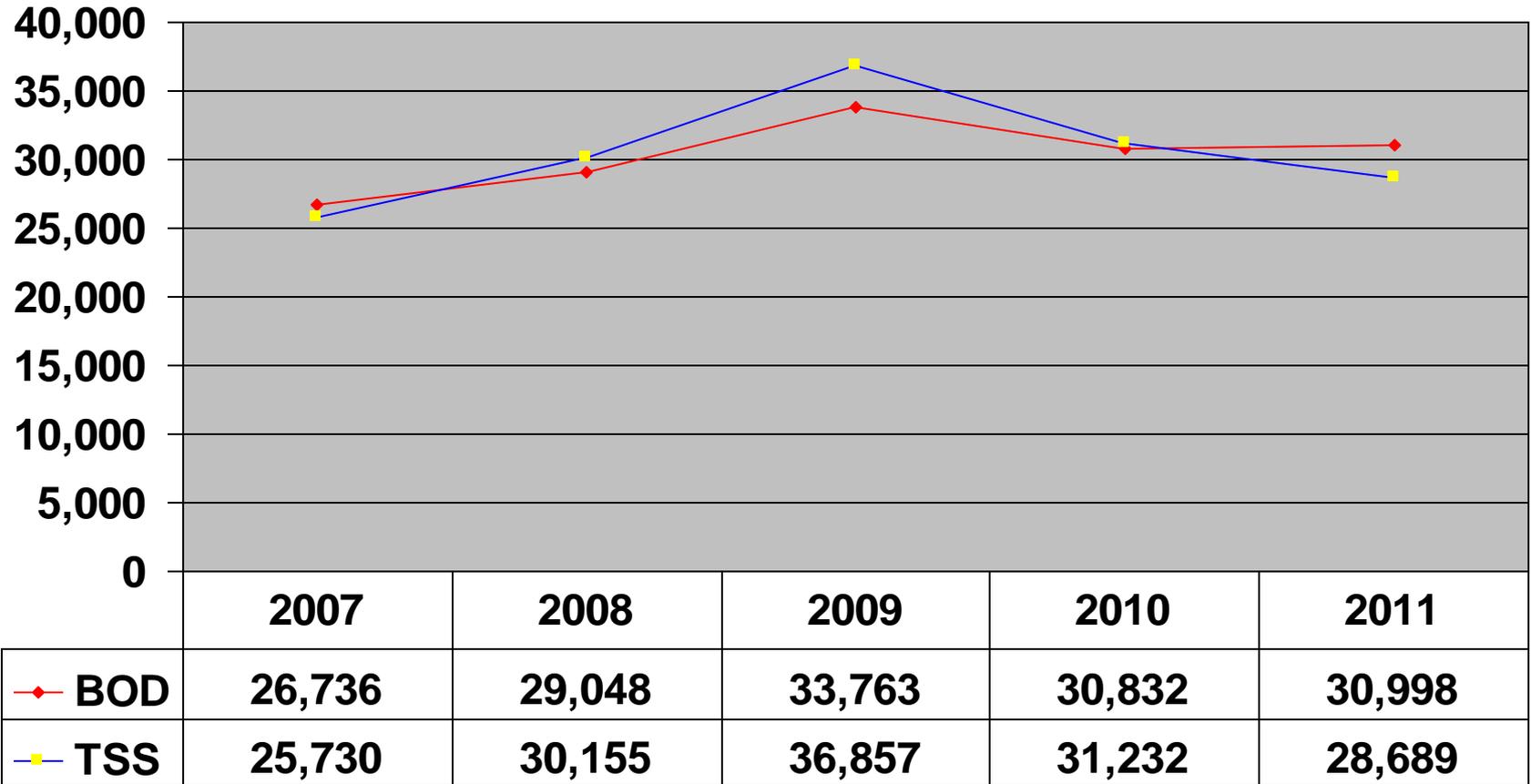


Other	338	336	340	345	350
Business	1,721	1,734	1,715	1,743	1,736
Domestic	16,251	16,416	16,450	16,518	16,632
Total	18,310	18,486	18,505	18,606	18,718

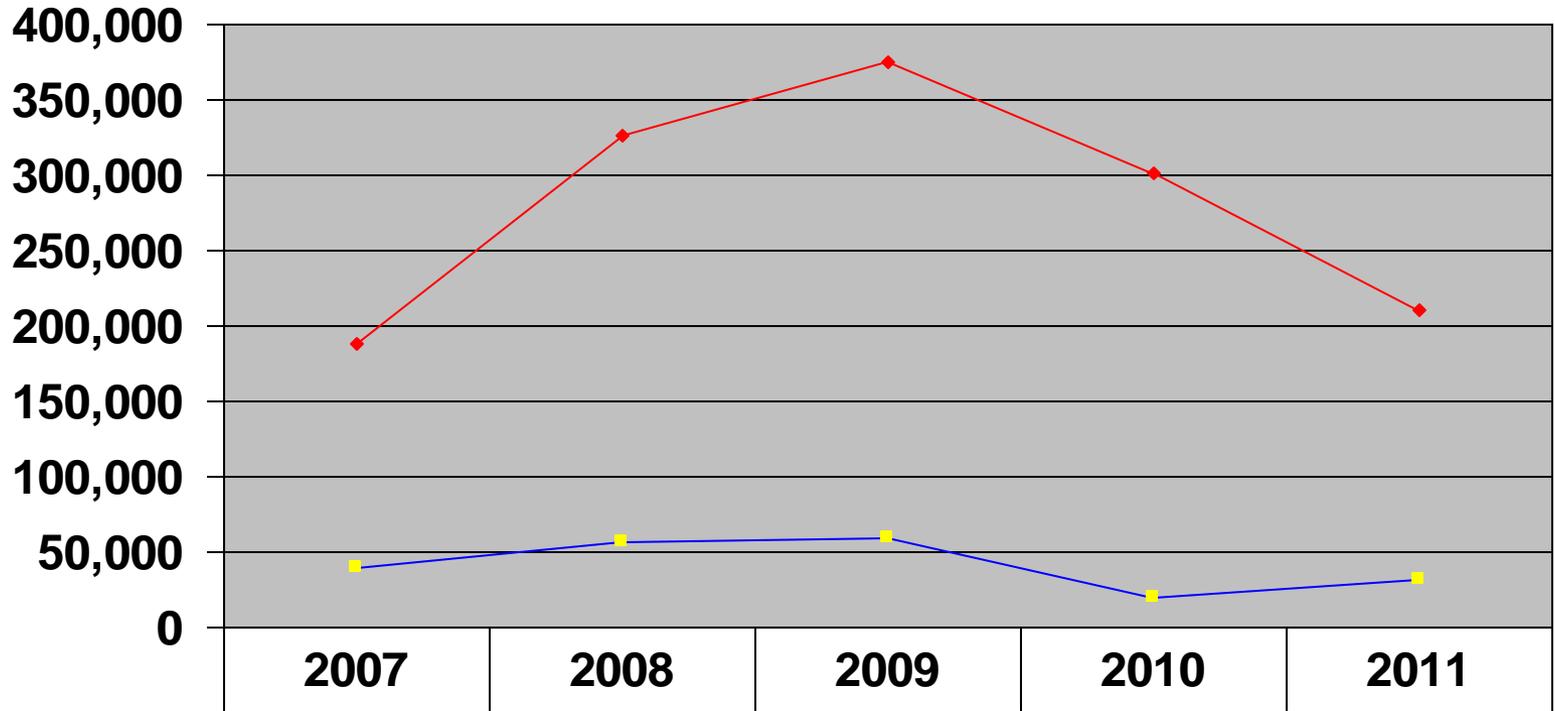
# Wastewater Effluent in MGD



# BOD / TSS Loadings in lbs. / Day

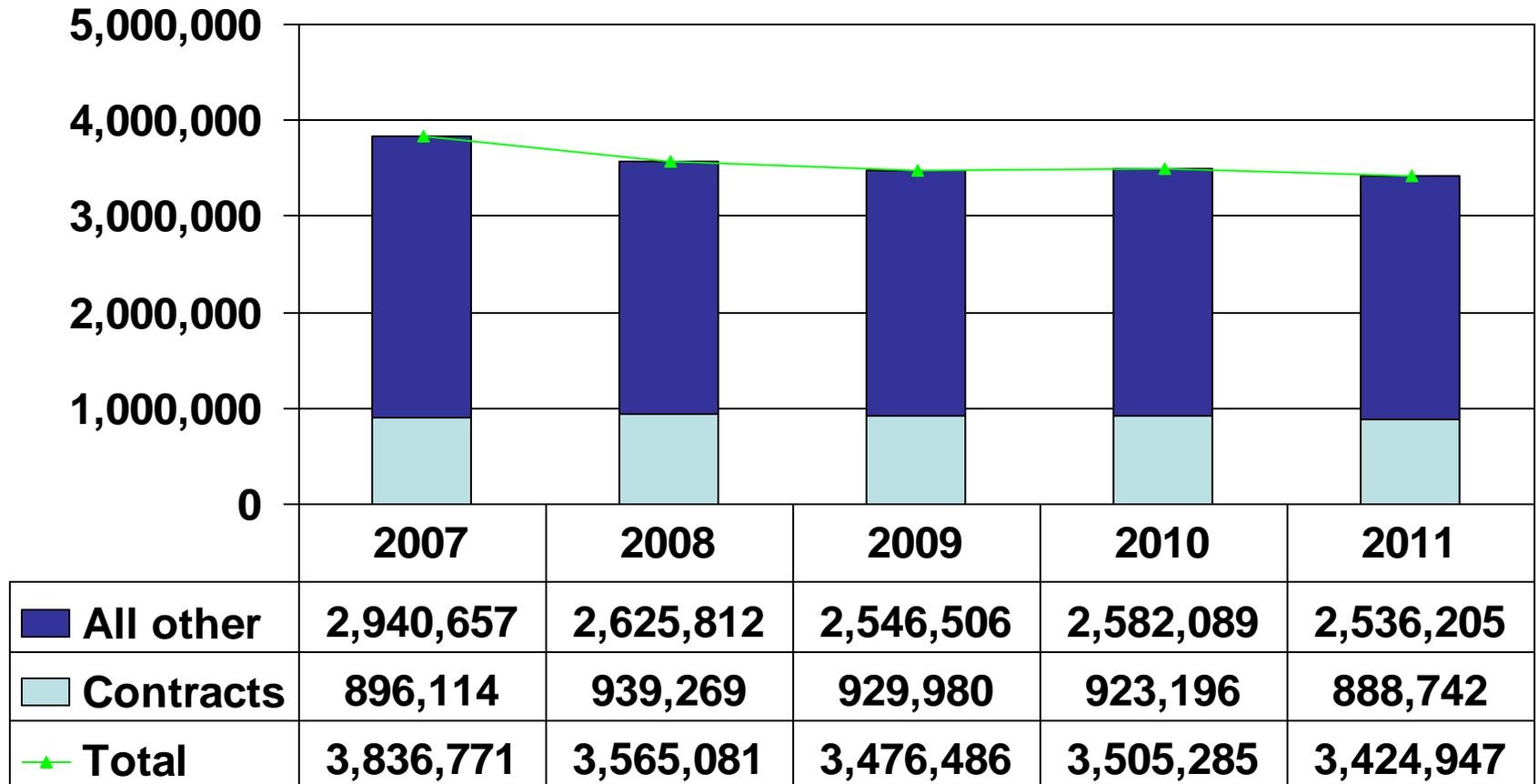


# Nitrogen / Phosphorus Annual Discharge in lbs

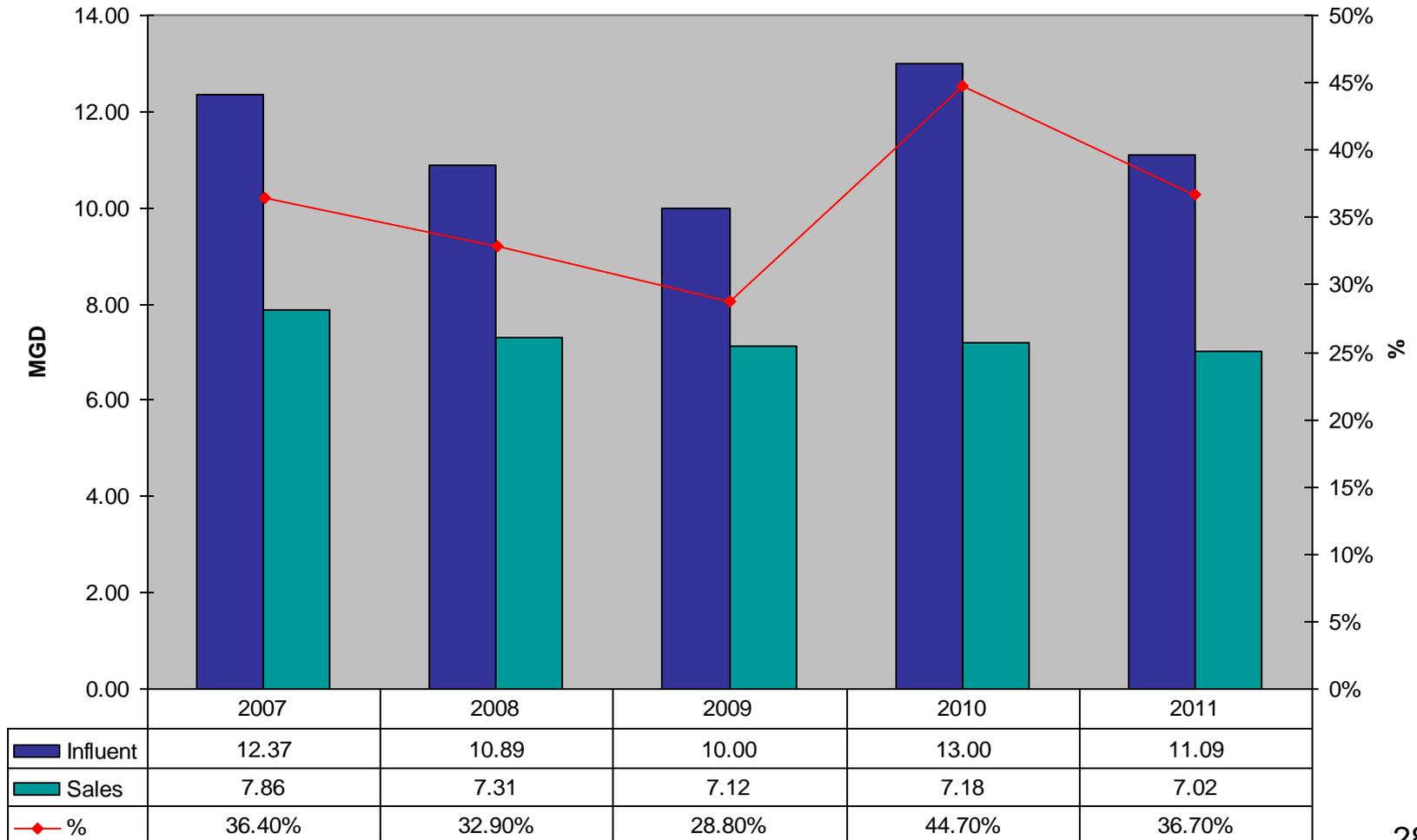


<b>◆ Nitrogen</b>	<b>187,987</b>	<b>326,623</b>	<b>375,106</b>	<b>301,208</b>	<b>210,024</b>
<b>■ Phosphorus</b>	<b>39,709</b>	<b>56,539</b>	<b>59,343</b>	<b>19,597</b>	<b>31,706</b>

# Sewer Sold in HCF



# Sewer Sales to Influent



# Sewer Complaints

Type of Complaint	FY 2007	FY 2008	FY2009	FY 2010	FY 2011
1. Cave-in / broken sewer line	7	21	29	25	-
2. Sewer odor	31	45	76	45	72
3. Sewer overflow / backups	30	27	58	183	138
4. Stormwater related	133	167	228	203	219
5. All other	64	64	66	78	122
Total complaints	265	324	457	534	551
Number of sewer customers	18,310	18,486	18,505	18,606	18,718
Complaints / 1,000 customers	14	18	25	29	29

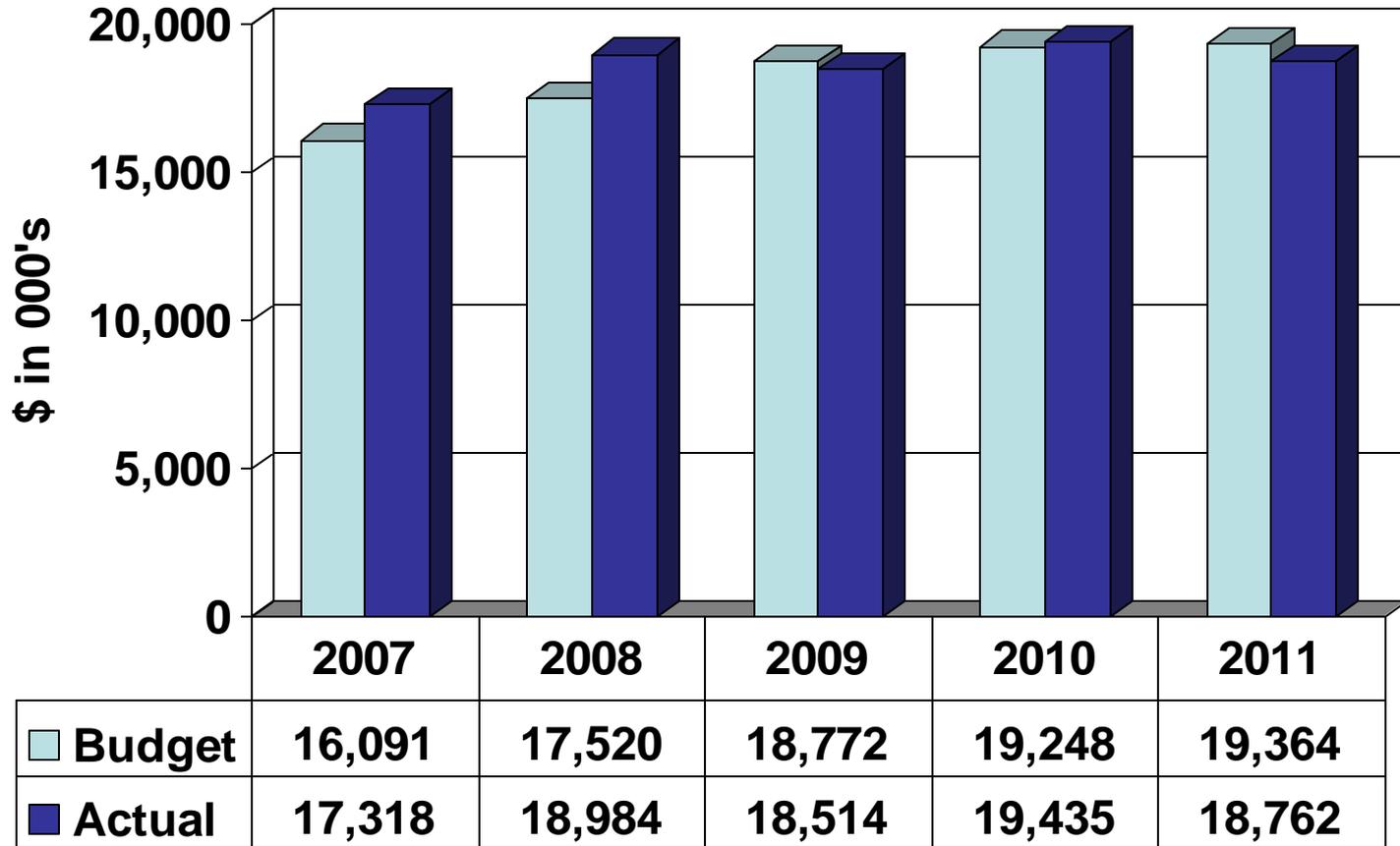
# Sewer Fund Financial Data

# Sewer Fund Debt Coverage

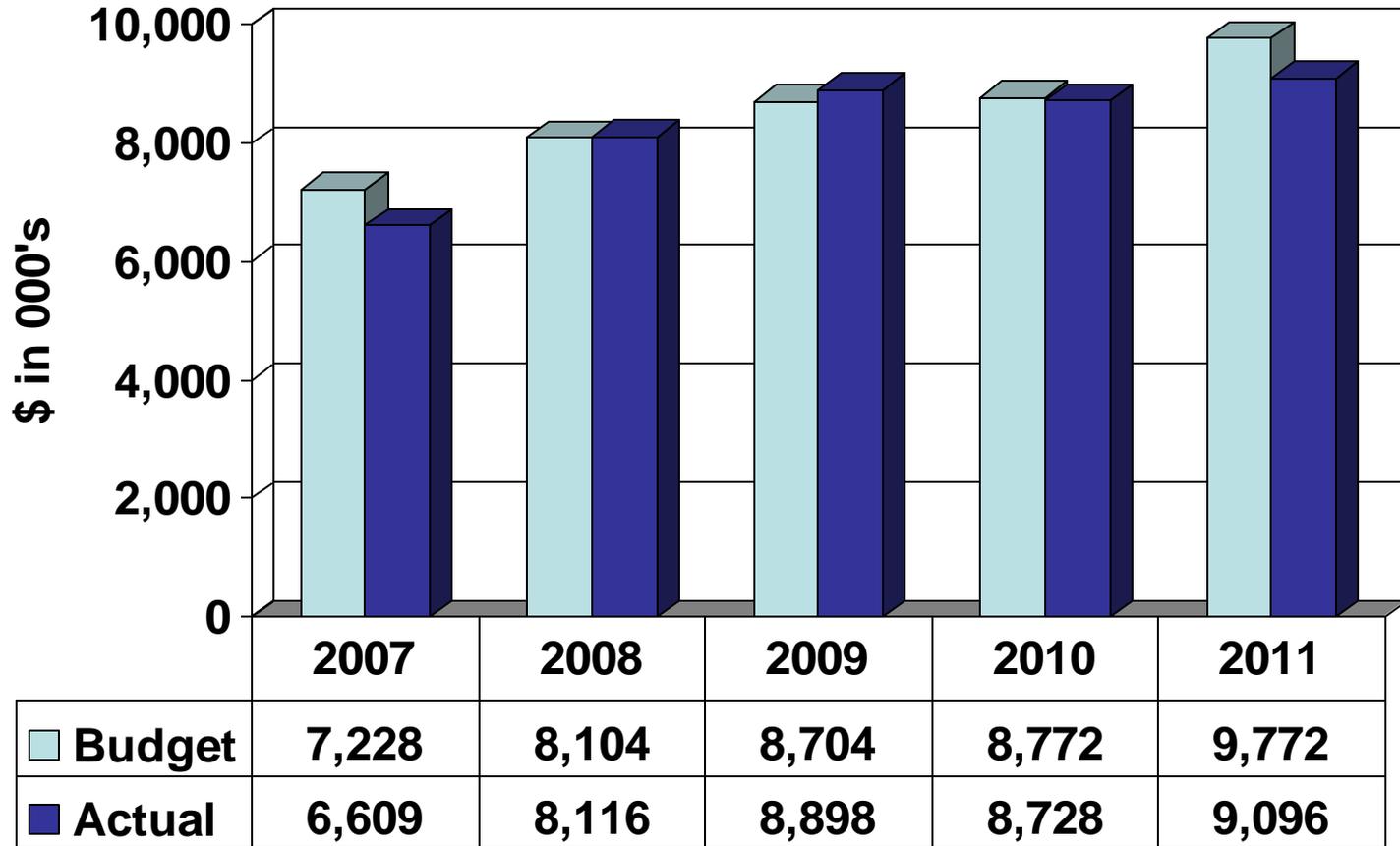
	FY 2007	FY 2008	FY2009	FY 2010	FY 2011
Revenues:					
Charges for services	14,187	15,525	15,542	16,085	15,757
Water contracts	2,342	2,836	2,562	2,991	2,806
Interest & other	789	623	410	359	199
	17,318	18,984	18,514	19,435	18,762
Expenses:					
WWTP	4,230	4,721	5,052	6,007	6,310
Sewer line maintenance + sw	1,546	1,687	1,921	2,305	2,665
Non-departmental	747	1,283	1,278	250	250
Project expenses	86	425	647	166	135
Capitalized expenses	0	0	0	0	-230
	6,609	8,116	8,898	8,728	9,130
Operating income	10,709	10,868	9,616	10,707	9,632
Debt service, net of IRS rebate	6,846	6,959	6,569	7,107	7,573
Debt coverage	1.56	1.56	1.46	1.51	1.27

# Sewer Revenues

## Adopted Budget vs. Actual



# Sewer Operating Expenses Adopted Budget vs. Actual



# Ten Largest Sewer Customers

(\$ in 000)

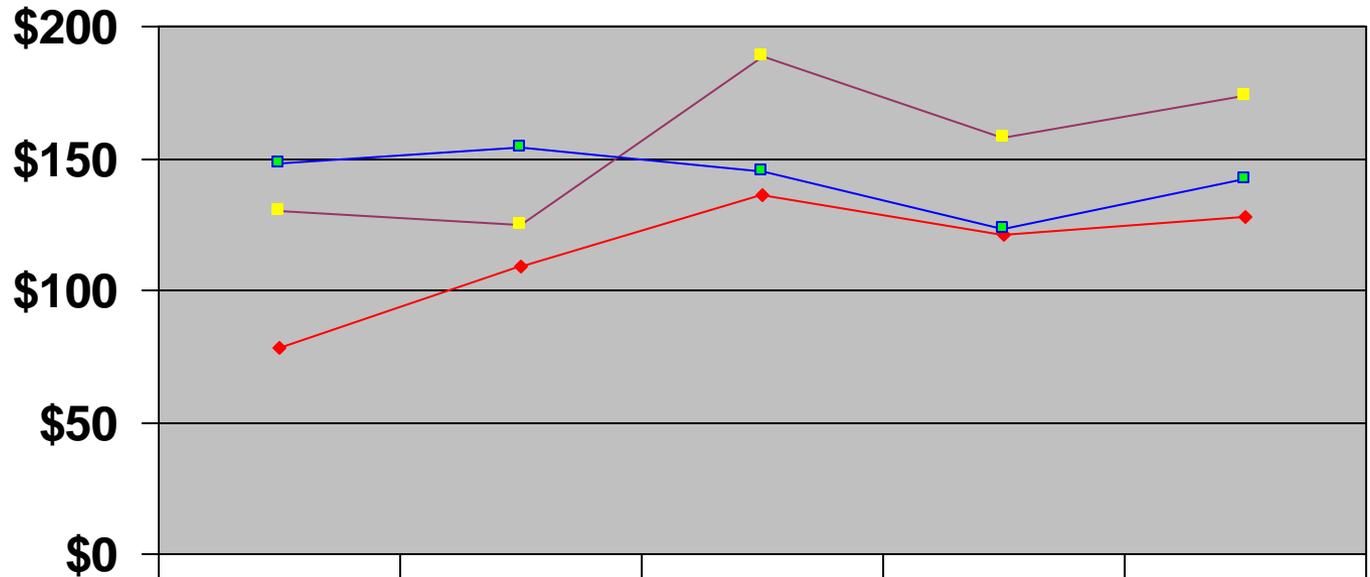
Customers	FY 2007	FY 2008	FY2009	FY 2010	FY 2011
1. Rock Tenn	\$1,015	\$1,431	\$1,139	\$1,154	\$1,019
2. Frito-Lay	499	578	613	692	778
3. Central Health	381	278	382	450	537
4. Liberty University	212	262	469	476	518
5. Azdel	162	312	175	519	417
6. Bedford County	323	320	365	484	388
7. Amherst County	302	303	337	396	365
8. Griffin Pipe	314	298	295	280	316
9. Kroger / Westover Dairy	387	443	276	203	308
10. CCUSA	202	205	246	264	262
Total top 10	3,797	4,430	4,297	4,918	4,908
Total sewer revenues	17,318	18,984	18,514	19,435	18,762
Top ten % of total	22%	23%	23%	25%	26%

# Sewer Expenses by Object

## \$ in 000's

<b>Expenses by object</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Personal services	1,439	1,660	1,761	1,844	1,886
Fringe benefits	475	630	674	699	729
Supplies & materials	484	464	493	544	624
Contractual expenses	412	826	807	888	1,059
Sludge disposal	669	614	531	582	575
Utilities	586	498	690	751	703
Chemicals	352	434	496	575	518
General & Water Fund Allocations	1,663	1,815	2,112	1,979	2,360
All other	529	1,175	1,304	866	906
<b>Total excluding capitalized expense</b>	<b>\$6,609</b>	<b>\$8,116</b>	<b>\$8,868</b>	<b>\$8,728</b>	<b>\$9,360</b>
<b>% Increase -total</b>	<b>1.1%</b>	<b>22.8%</b>	<b>9.3%</b>	<b>-1.6%</b>	<b>7.2%</b>

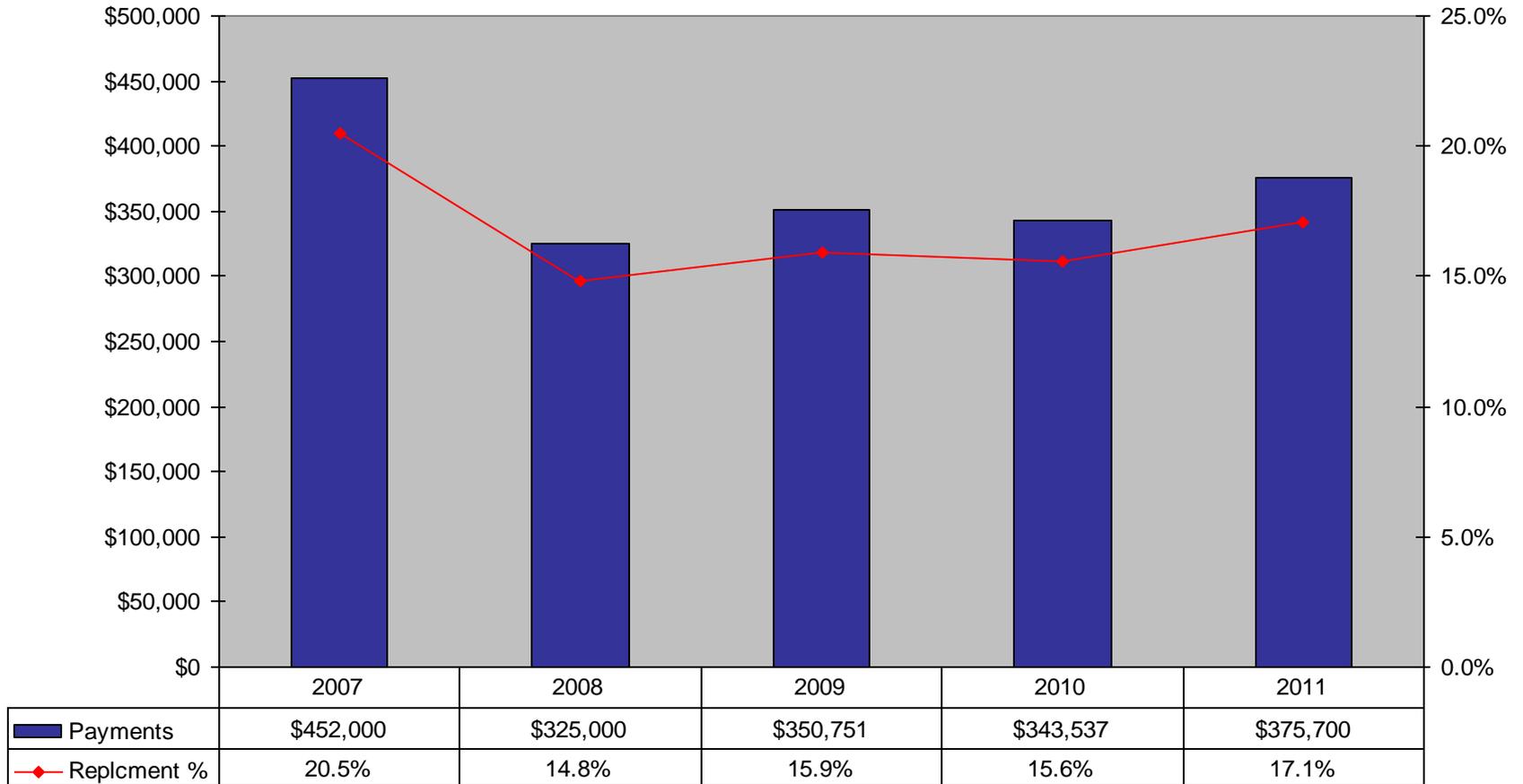
# Sewer Variable Expenses / MG



	2007	2008	2009	2010	2011
◆ Chemicals	\$78	\$109	\$136	\$121	\$128
■ Utilities	\$130	\$125	\$189	\$158	\$174
■ Sludge disposal	\$148	\$154	\$145	\$123	\$142

# Sewer Vehicle Costs

Total cost of all vehicles (\$2.2 million)

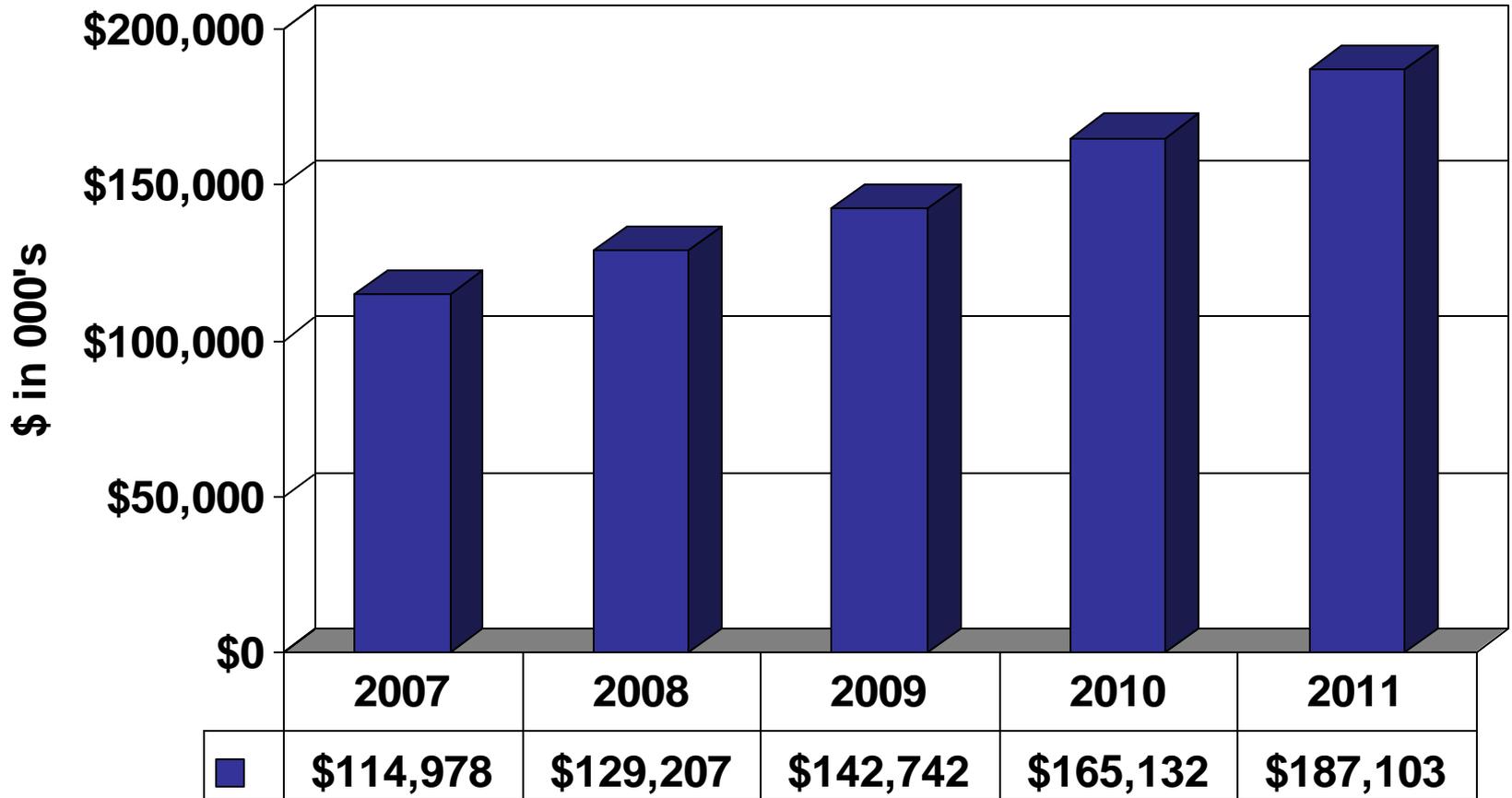


# Sewer Capital Expenditures

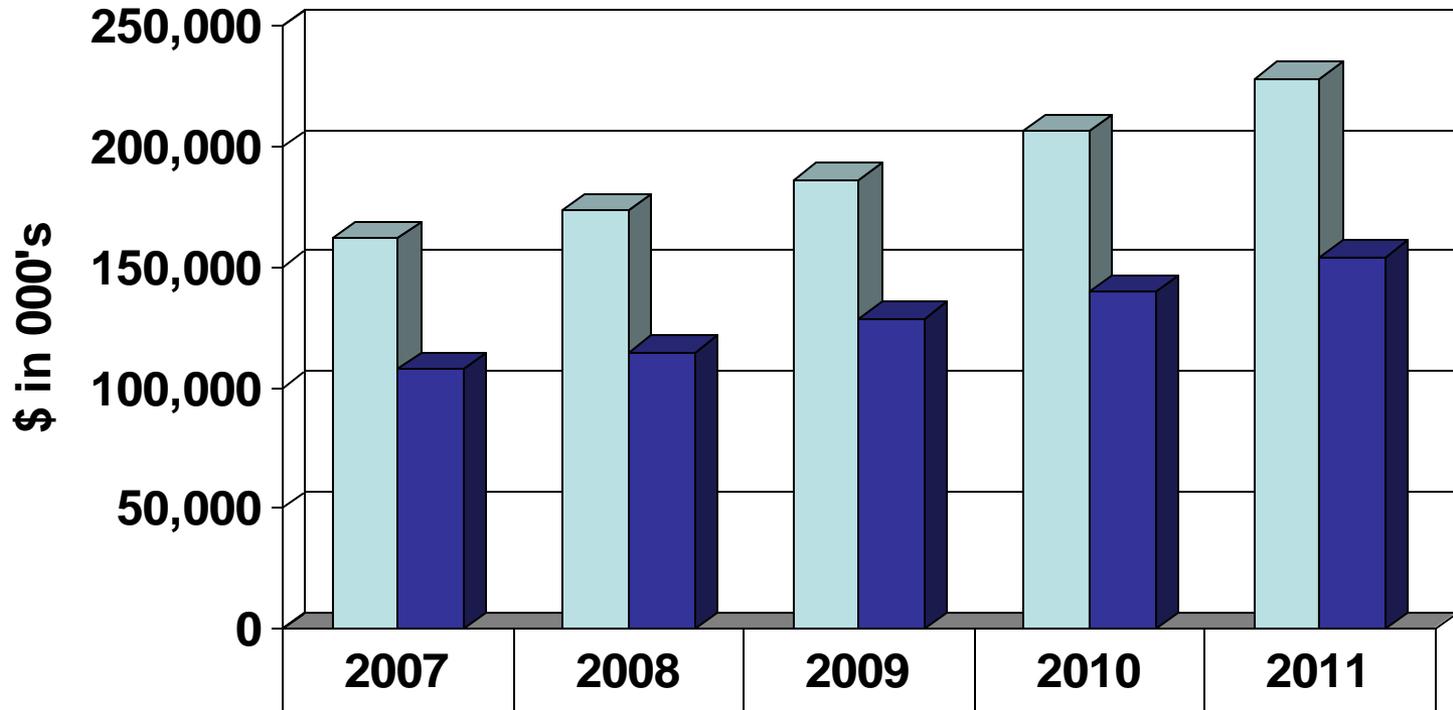
## \$ in 000's

<b>Capital Expenditures</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Sewer extensions	401	829	572	596	193
Treatment plant	276	630	2,564	1,612	1,164
Collection system repairs	299	103	309	464	997
CSO - separation & RDP	7,996	7,703	8,007	7,387	9,423
Interceptors	371	6,530	6,060	14,003	12,549
Stormwater	0	0	0	0	284
Other	115	102	218	1,092	1,177
<b>Total</b>	<b>9,458</b>	<b>15,897</b>	<b>17,730</b>	<b>25,154</b>	<b>25,787</b>

# Cumulative CSO Expenditures



# Net Sewer Capital Assets



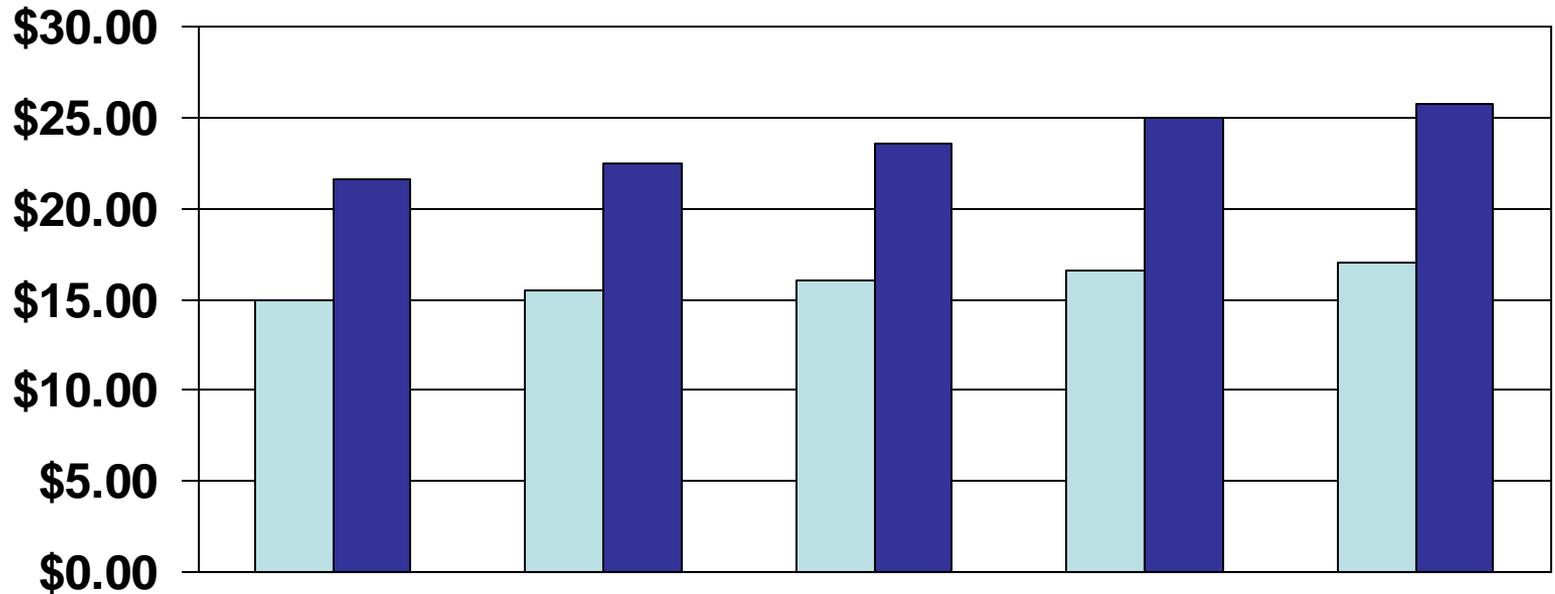
Net fixed assets	162,064	173,491	186,190	206,611	\$228,252
Bonds & notes	107,769	114,694	128,757	139,951	\$154,132

# Rate & Bill Data

# Water & Sewer Rates

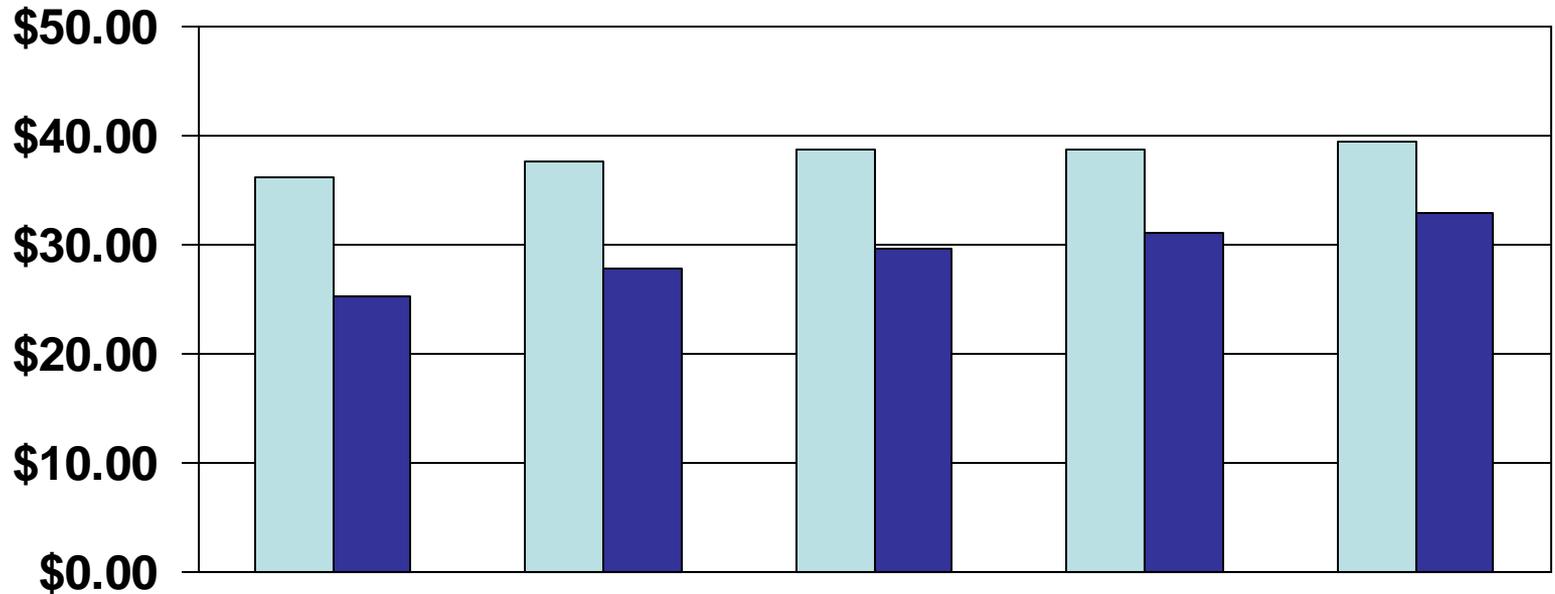
	7/1/2007	7/1/2008	7/1/2009	7/1/2010	7/1/2011
Water volume charge / hcf	\$1.97	\$2.05	\$2.13	\$2.22	\$2.29
Sewer					
Volume charge / hcf	5.17	5.38	5.54	5.54	5.65
BOD / 100 lbs	18.46	18.46	18.46	20.31	20.31
TSS / 100 lbs.	20.88	20.88	20.88	22.97	22.97
Septic hauler charge	177.00	177.00	177.00	185.50	185.50
Avg. industrial pre-treatment / permit fee	1,460	1,460	1,460	1,606	1,606
Sewer only	39.88	41.35	42.47	42.27	43.24
Account charge	3.69	3.69	3.69	3.69	3.69
Water Connection fees					
3/4" & 5/8" meters	850	950	950	950	950
1" service - 5/8" meter	870	1,000	1,000	1,000	1,000
1" service - 1" meter	1,030	1,150	1,150	1,150	1,150
Greater than 1" minimum	1,030	1,150	1,150	1,150	1,150
Sewer Connection Fees					
4" line	965	1,100	1,100	1,100	1,100
Greater than 4" - minimum	1,045	1,200	1,200	1,200	1,200
Availability fee					
Water	1,220	1,220	1,220	1,220	1,220
Sewer	1,950	1,950	1,950	1,950	1,950
Fire protection fees					
Hydrants & 8" fire lines	17.99	17.99	17.99	19.79	19.79
10" fire line	32.30	32.30	32.30	35.53	35.53
12" fire line	51.25	51.25	51.25	56.38	56.38
Cut-on charge	15	15	15	15	15
Cut-off charge	25	25	25	25	25

# Water Bill Comparison @ 5,000 gallons / month



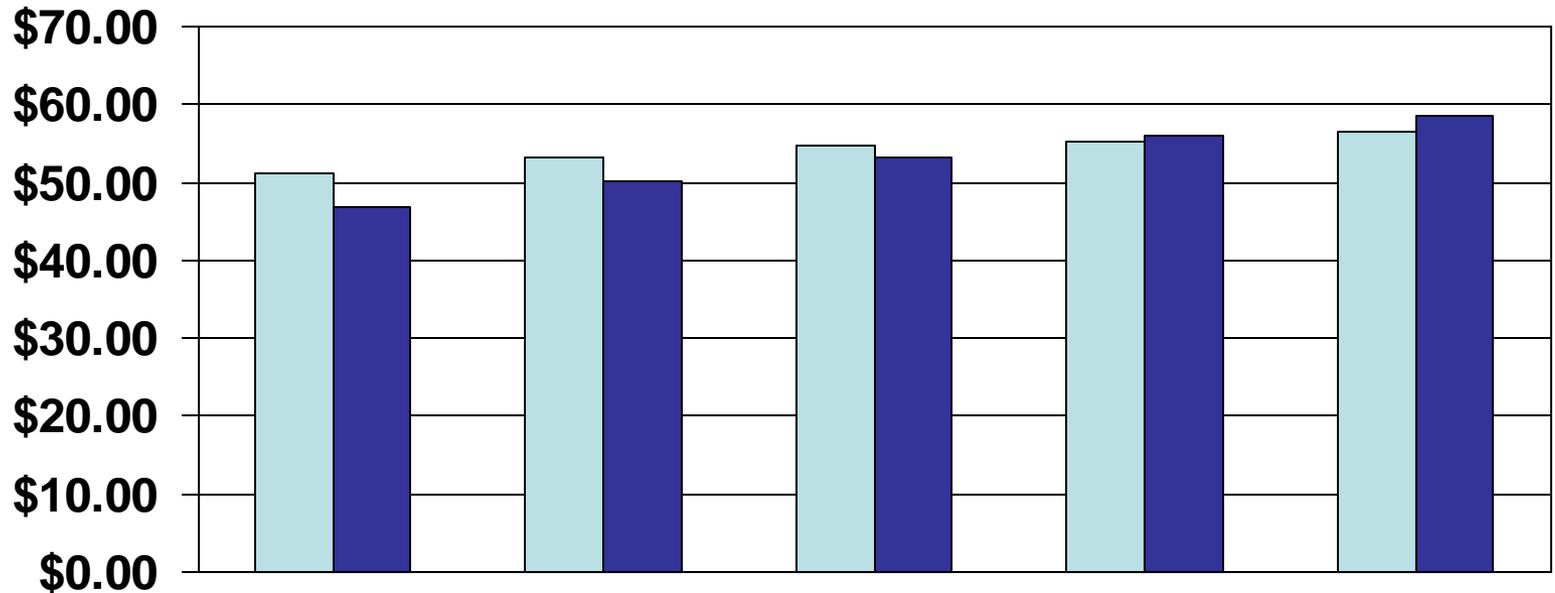
	7/1/2007	7/1/2008	7/1/2009	7/1/2010	7/1/2011
■ Lynchburg	\$14.94	\$15.47	\$16.00	\$16.60	\$17.07
■ State avg.	\$21.59	\$22.50	\$23.58	\$25.00	\$25.70

# Sewer Bill Comparison @ 5,000 gallons / month



	7/1/2007	7/1/2008	7/1/2009	7/1/2010	7/1/2011
■ Lynchburg	\$36.23	\$37.63	\$38.69	38.69	39.42
■ State avg.	\$25.32	\$27.74	\$29.56	31.03	32.88

# Water & Sewer Bill Comparison @ 5,000 gallons / month



	7/1/2007	7/1/2008	7/1/2009	7/1/2010	7/1/2011
■ Lynchburg	\$51.17	\$53.10	\$54.70	\$55.29	\$56.49
■ State avg.	\$46.91	\$50.24	\$53.14	\$56.03	\$58.52

# Contract Rates

	FY 2007	FY 2008	FY2009	FY2010	FY2011
Water Contract rates / HCF					(2)
Amherst	1.72	1.94	1.89	1.99	1.90
Bedford	1.67	1.90	1.93	2.00	1.91
CCUSA	1.65	1.79	1.80	1.98	1.90
Frito-Lay	0.90	0.97	1.086	1.18	1.24
Rock Tenn	0.95	0.97	1.086	1.18	1.24
Sewer Contract rates / 1,000 gallons					
Amherst (1)	0.98	1.27	1.47	1.27	1.50
Bedford (1)	0.98	1.27	1.47	1.27	1.50
CCUSA (1)	0.98	1.27	1.47	1.27	1.50
Frito-Lay	1.91	1.57	1.73	2.51	2.65
Rock Tenn	2.05	1.56	1.73	1.84	1.89

1. Volume rate only.

2. Per preliminary contract settlement calculations for counties.

# Annual Sewer Bill as a % of MHI

## Annual Sewer Bill

FY	Bill	MHI	%
1993	\$199.08	\$25,437	0.78%
1994	\$255.00	\$25,539	1.00%
1995	\$282.96	\$25,523	1.11%
1996	\$321.36	\$25,527	1.26%
1997	\$342.96	\$25,370	1.35%
1998	\$374.28	\$27,370	1.37%
1999	\$388.32	\$28,168	1.38%
2000	\$406.68	\$28,965	1.40%
2001	\$421.80	\$29,762	1.42%
2002	\$461.76	\$34,716	1.33%
2003	\$499.56	\$34,756	1.44%
2004	\$408.33	\$35,340	1.16%
2005	\$423.72	\$35,934	1.18%
2006	\$439.68	\$36,537	1.20%
2007	\$456.48	\$37,151	1.23%
2008	\$473.92	\$37,775	1.25%
2009	\$487.56	\$37,710	1.29%
2010	\$487.56	\$38,983	1.25%
2011	\$496.80	\$38,353	1.30%

Note - MHI based on 9 hcf of monthly use up to 2003; 7 hcf thereafter.

