



A Letter from the Water Commissioner. . . . . 1

Water Quality. . . . . 2

Water Environment. . . . . 4

Watershed Protection. . . . . 6

Asset Management. . . . . 8

Public Education and Outreach. . . . . 10

Management Discussion. . . . . 12

Financial Statements. . . . . 16



# A Letter from the Water Commissioner.



**As providers of one of life's ultimate essentials, we at the Philadelphia Water Department work together as leaders in service to our city and our region, providing clean, safe, drinkable water to the more than 1.7 million people who rely on us. It's this very idea that we carry into all that we do, driving our commitment to delivering maximum environmental benefits at the least cost to society.**

In every decision we make for the future of our organization and infrastructure, our people, and our customers, the vision is for our utility to meet the complex responsibilities and opportunities of our times and our environment. While doing this, we are focused every day on protecting public health and working at constant improvement, to maintain our position as America's most innovative utility.

At the core of it all remains our customer focus and our excellence in performance.

So around here, it's no surprise that our teams are nationally recognized for consistently delivering water that exceeds federal purity standards, 100% of the time. It's a big job, too -- an average of 255 million gallons of drinking water is treated at our plants every day, and our teams manage more than 465 million gallons of wastewater and stormwater, 365 days a year.

Along with making our infrastructure and stormwater management better, we're working hard to intelligently streamline our operations for reduced costs and minimized environmental impact.

Last year, full-scale production also began at PWD's new pelletization facility at our Biosolids Recycling Center. Other innovations we've made this year include a state-of-the-art Contaminant Warning System (CWS) to protect the public from acts of terrorism and other assaults on the water supply, by providing timely detection of water contamination events. The CWS has been recognized as a national model and its development was supported by a grant from the US EPA.

Our EPA partnership also helped us to launch our *Green City, Clean Waters* program, which restores local waterways and manages stormwater runoff through cost-effective green stormwater infrastructure practices and neighborhood beautification projects. Like the CWS system, *Green City, Clean Waters* has garnered national attention, and the program has become a model for other U.S. cities.

I'm pleased to share this annual report with you, to provide you with even more detail on the outstanding work that our PWD team of nearly 1,900 dedicated employees is doing 24 hours a day, 7 days a week. It's this non-stop commitment to quality and service that makes it possible for us to live up to our vision to be America's model water utility – and your safe, reliable supplier of the water that means so much to your quality of life.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. Neukrug', written over a light blue horizontal line.

Howard M. Neukrug, P.E.  
City of Philadelphia, Water Commissioner



## Partnership for Safe Water

The Philadelphia Water Department (PWD) consistently produces high quality drinking water, achieving Partnership for Safe Water quality standards that are far stricter than State and Federal water quality regulatory requirements. PWD voluntarily adopted the stricter water treatment quality goals, as a member of the Partnership for Safe Water\* in 1996. The average turbidity level (measure of water clarity) of PWD drinking water has been at or below 0.06 nephelometric turbidity units (NTU) since 1998.

The turbidity of Philadelphia's drinking water is 80 percent lower than the maximum of 0.30 NTU allowed by State and Federal regulations and is 40 percent less than the Partnership for Safe Water maximum turbidity goal of 0.10 NTU.

In 2008, the Baxter, Queen Lane and Belmont Water Treatment Plants were honored by USEPA and PaDEP with the Partnership for Safe Water 10-Year Director's Award in recognition of PWD's decade-long commitment to achieving and maintaining the highest possible drinking water quality.

PWD is committed to participation in this ongoing program, to assess and optimize treatment processes, operating and maintenance procedures and management practices to enhance and maintain our water system's ability to remove *Cryptosporidium*, *Giardia* and other microbial contaminants and ensure high quality drinking water.

*\*The Partnership for Safe Water is a voluntary optimization program conceived and initiated by the U.S. Environmental Protection Agency (USEPA), the American Water Works Association, the Association of Metropolitan Water Agencies and advocated by the Pennsylvania Department of Environmental Protection (PaDEP). Pennsylvania leads the nation in participation in this program and the Philadelphia Water Department is one of Pennsylvania's leaders.*





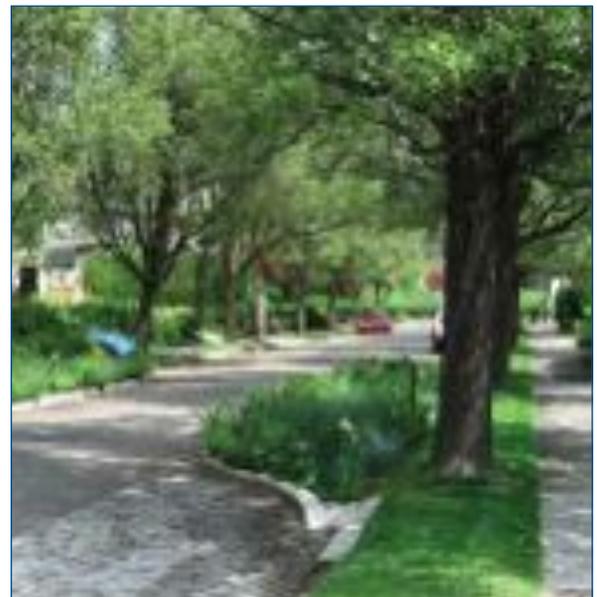
## Stormwater Management Service Charge

The Philadelphia Water Department is currently in the third phase of a parcel area based Stormwater Management Service Charge (stormwater fee), which went into effect on July 1, 2012. This charge is applicable to all non-residential parcels that are within the City's limits and is not a new charge to existing water/sewer customers.

The monthly fee is now assessed based on a parcel's gross area (lot size) and impervious area (compacted hard surface that prevents absorption of water) and is billed as a separate line item on the water/sewer/stormwater bills. In addition, properties that do not have water/sewer service are now assessed a monthly stormwater fee, as those properties also contribute stormwater runoff during rainstorms.

PWD has also established a credit program to provide an incentive to non-residential customers to implement stormwater Best Management Practices (BMPs). Properties that have BMPs that manage the first one inch of runoff are eligible to receive credits on their stormwater charges.

More information on our stormwater parcel based charge and credit program can be found at [http://www.phila.gov/water/stormwater\\_billing.html](http://www.phila.gov/water/stormwater_billing.html).





## Geothermal Energy Project

Early in 2012, PWD and Nova Thermal Energy participated in a pilot project at the Southeast Water Pollution Control Plant. Philadelphia became the first U.S. city to install a geothermal system that provides building heat using domestic wastewater.

Nova Thermal Energy's wastewater geothermal system dramatically reduces building heating and cooling costs by harnessing energy from municipal sewage. The technology combines a water source heat pump with a patented filtration device to transfer heat energy directly from sewage. By using the pipes already in the ground, the system eliminates the need to dig costly geothermal wells to achieve massive savings in building heating and cooling costs.

The system was tested for a short trial period in early 2012 and went into full operation during the 2012 - 2013 heating season. Detailed cost analyses and potential savings estimates will be determined using data gathered during the heating season. The project is managed jointly by PWD and Nova Thermal Energy.

Commercialization of this technology is designed to significantly reduce energy use in large commercial and industrial buildings throughout Philadelphia and the United States. This project is one example of the PWD's long-term plans to add resource recovery to its facilities environmental protection portfolio.

This project was made possible through funding provided by the City of Philadelphia's Greenworks Pilot Energy Technology Grant program (commercialization of technologies activity), which is supported by Federal Energy Efficiency and Conservation Block Grant funds.



## Southwest, Southeast and Northeast Water Pollution Control Plants

In calendar year 2011, the Water Department's three Wastewater Treatment Plants were selected to receive Awards from the National Association of Clean Water Agencies (NACWA). NACWA's Peak Performance Awards Program recognizes member agency facilities for excellence in wastewater treatment as measured by their compliance with National Pollutant Discharge Elimination System (NPDES) permits.

The Northeast and Southeast Plants were recognized with Platinum Awards. Platinum Awards pay special tribute to member agency facilities that have received five or more consecutive Gold Awards, which recognize perfect compliance for the calendar year. The Northeast and Southeast Plants have achieved perfect permit compliance for seven and 12 years, respectively.

The Southwest Plant received a Gold Award for perfect compliance in 2011. In February 2010, the Southwest Plant received a violation for one NPDES parameter, which qualified the plant for a Silver award. Historically high flows in February 2010 contributed to the monthly mass loading of the CBOD 20 limit being exceeded. The Southwest plant had recorded perfect compliance for the previous seven years.





## Contamination Warning System

The Contamination Warning System (CWS) has enhanced six areas of drinking water security: real-time remote online water quality monitoring; customer complaint surveillance; enhanced security monitoring such as video surveillance; public health surveillance through the Philadelphia Department of Public Health's Disease Control Division; rapid and accurate water quality analysis; and consequence management that include relationships with the Office of Emergency Management and Philadelphia's police, fire and related departments and units.

In 2012, PWD, along with State and local officials, participated in a functional exercise and a full scale exercise that provided valuable opportunities for PWD to implement CWS procedures and to work with a broad number of partners to support responses to a simulated water contamination incident. The program has improved and streamlined customer complaint response and integrated new systems such as Cityworks, an advanced work order management system.

The Contamination Warning System has enhanced water security by integrating data, resources and response capabilities; providing timely detection of any potential for water contamination; and protecting public health using currently available and well-characterized technologies. All of this is done in a sustainable way, taking advantage of dual-use benefits. Philadelphia's progress and successes have been featured nationally through the EPA, in publications and at national conferences.



## Schuylkill and Delaware River Source Water Protection Plans

The Schuylkill and Delaware River Source Water Protection Plans provide a comprehensive framework for implementing a watershed-wide effort to improve source water quality and quantity. The Plans prioritize and outline several approaches to reduce sources of contamination to Philadelphia's raw water supply. PWD has made exceptional progress accomplishing Plan goals, including prioritizing and promoting land for permanent protection; establishing a regional network of organizations, businesses and governments to work together to protect and enhance the Schuylkill River Watershed; supporting policies that preserve forests and emphasize water resource protection; and collaborating with the Commonwealth of Pennsylvania to ensure regulations are enforced for wastewater treatment plants and industries that discharge upstream of Philadelphia.

Much progress has been made addressing threats to our water supply within Philadelphia's own boundaries, including storm drain markings, improved buffers in Fairmount Park, a goose deterrent program at a number of Philadelphia schools and education about proper disposal of unused pharmaceuticals.

During the past year, the Source Water Program has conducted research to continue to improve PWD's knowledge of Philadelphia's water supplies and to help further define priorities for watershed protection. This research includes an analysis of flows needed to protect PWD's drinking water intakes on both the Schuylkill and the Delaware Rivers; evaluating natural gas development policies and activities to ensure continued protection of our drinking water supply; completing a one-year

comprehensive watershed characterization and monitoring program evaluating the presence of Iodine-131 in the water supply; and tracking of major sources of human infectious pathogens such as *Cryptosporidium*. Information from the latter study was used to develop a *Cryptosporidium* Watershed

Control Program Plan for the Schuylkill River watershed. The Watershed Control Plan will help ensure PWD compliance with the EPA's Long-Term 2 Enhanced Surface Water Treatment Rule at the Queen Lane Drinking Water Treatment Plant.

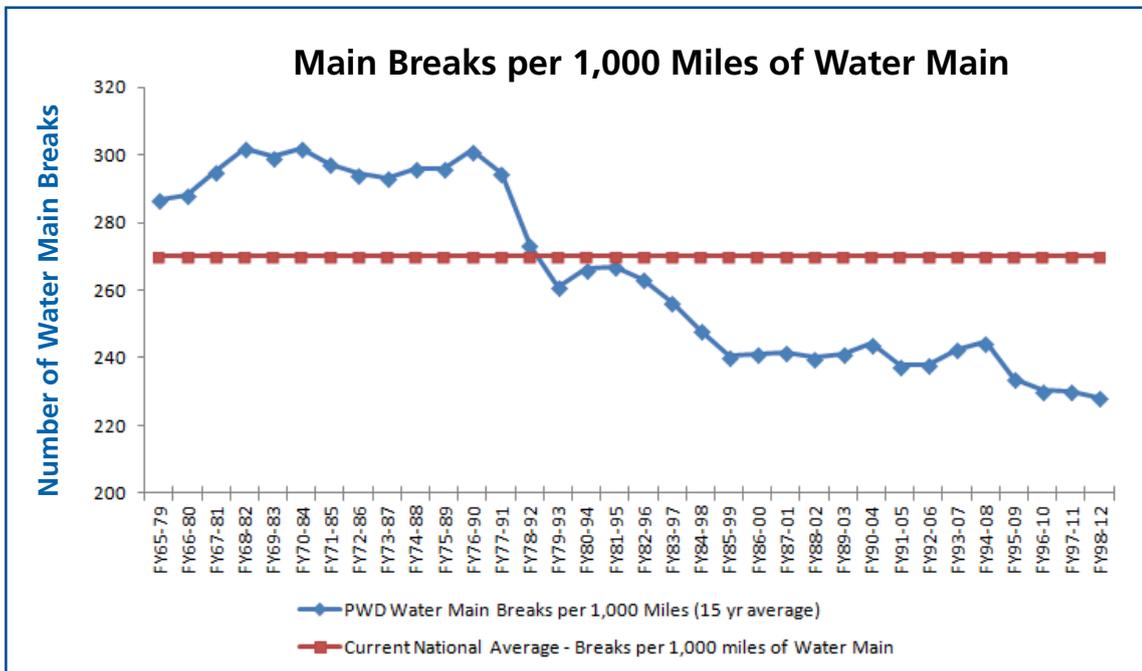


In the last year, PWD has also made significant progress toward upgrading, expanding and improving upon the Delaware Valley Early Warning System (EWS). PWD is currently implementing a 5-year Strategic Plan that identifies improvements and expansions that will enable the EWS to better fulfill its current roles and critical functions, while simultaneously supporting new functions that improve the system's monitoring and notification capabilities.

In 2011, PWD received grant-funding approval under the Delaware Bay Area Maritime Port Security Grant Program, which will further support system improvements. New mapping features and spill modeling components are being developed under the grant and will be available to the EWS user base in 2013.



**Asset**

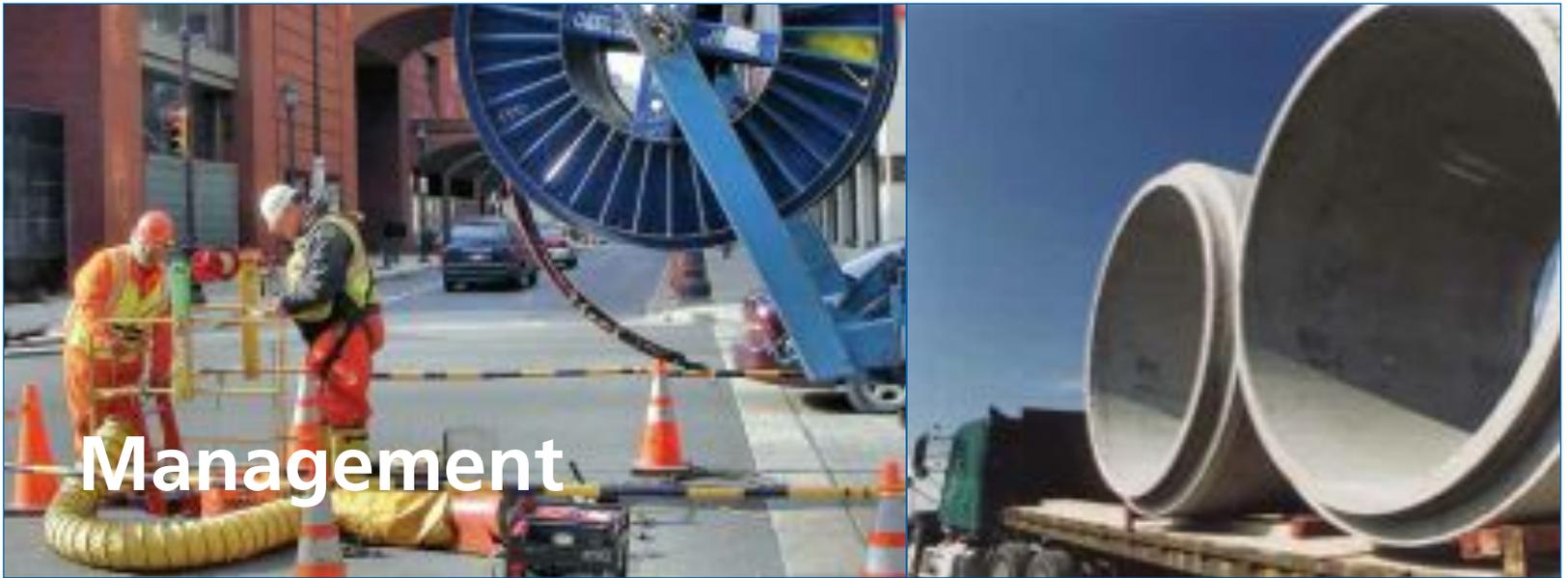


### Water and Sewer System Renewal Program

PWD provides annual dedicated funding for the replacement of our water distribution and wastewater collector systems. This pipe renewal program has been in place for over 30 years. The annual replacement goal is 21 miles of water main and seven miles of sewer main. When appropriate, the water and sewer main replacements are constructed concurrently in a street.

PWD averages 221 breaks per 1,000 miles of water main compared to the national average of 270 breaks per 1,000 miles. By reducing the emergency repairs required, we are better able to manage our crews and other resources, and continually provide better service to our customers. We also closely monitor the physical condition of our infrastructure to verify that the capital investment is adequate to assure the integrity of the water supply distribution and wastewater collector systems into the future.

PWD is improving its water distribution capital planning by applying improved statistical methods to assess pipe failure, and by incorporating risk-based planning, using the Innovyze software product CapPlan Water. These tools allow a better understanding of pipe probability and consequence of failure scenarios, and build on PWD's existing hydraulic model, to support both short and long range system planning. Through improved analysis of the probability and consequence of failure of each pipe, PWD can better manage the risk of service interruption and leakage. The new capital planning tools for pipe renewal allow PWD to continually improve system performance and reliability of service.



# Management

## Sewer Assessment Program

The Philadelphia Water Department is responsible for a wastewater and stormwater collection system that includes over 3,700 miles of sewers. The system is composed of sanitary, combined and storm sewers ranging in diameters from eight inches to 22 feet. Most of these sewers are constructed of brick, concrete, terra cotta or vitrified clay pipe and are circular, box or egg-shaped. PWD has developed and pilot-tested the Sewer Assessment Program (SAP) and this program has become an ongoing part of the Department's capital improvement, operations and maintenance efforts.

The SAP is a systematic methodology used to:

- inspect and evaluate the sewers within the PWD wastewater collection system
- capture and analyze the resulting information in computerized databases
- apply a uniform protocol to prioritizing sewers for repair and replacement

As part of the development of the SAP, PWD's collection system staff was trained in inspection and evaluation techniques using industry standard methods and state-of-the-art techniques and equipment. The development of an electronic database, and the handling of very substantive quantities of data, has also been an integral part of the SAP. The databases that were generated are currently integrated into PWD's GIS system. In its current form, the SAP serves as an evaluation and project prioritization technique for improvements to be made to the sewer collection system.

## Geographic Information System

The full-scale conversion of City-wide water and sewer assets into a Geographic Information System (GIS) database has been completed, and we continue to maintain and operate this system. The database spatially displays our infrastructure and links it to operations, maintenance, engineering and construction data.

Using GIS, we have converted all of our existing plans and specifications for all City-wide water and sewer assets into a much more manageable electronic information management system. Quick access to utility infrastructure data through GIS allows us to make timely management decisions, increasing productivity and reducing risk.

The GIS database is a key component of our new work order/asset management system, CityWorks Server. All operational units within the Department have been migrated to this new system. Using Cityworks, all of our work orders and service requests will be linked to a GIS feature in the database that will allow us to spatially track all aspects of our field operations and maintenance.

The GIS database has been modified over the past year to accommodate the installation of green infrastructure throughout the City. The GIS has been instrumental in planning, designing and tracking these projects.

Over the past three years, PWD has been in the process of implementing a parcel based stormwater billing program. GIS databases, methods and analysis are used on a daily basis in the calculation of customer bills, which are based on the amount of impervious surface on their property.



# Public Education

The Fairmount Water Works Interpretive Center (FWWIC) has grown since its opening in 2003, and will be celebrating its 10th anniversary in the Fall of 2013.

Water in Our World is the overarching theme that unites the exhibits at the Fairmount Water Works Interpretive Center. Continuing the legacy of the historic Fairmount Water Works, the Interpretive Center has become the premier urban watershed education center and is recognized by the Pennsylvania Department of Environmental Protection as the Delaware River Basin's Official Watershed Education Center and as a Gateway Center for the Schuylkill River National and State Heritage Area. With more than 450,000 visitors to date, the FWWIC has become the destination for innovative water and watershed education programming in the Delaware Valley.

Through the use of both high-tech interactive exhibits and user-friendly exhibits, visitors are engaged in learning about the many fascinating aspects of water:

- **View an award-winning film** that tells the story of the Fairmount Water Works history;
- **Fly on a virtual helicopter ride** up the Delaware Bay to the headwaters of the Delaware and Schuylkill Rivers and learn how our activities on the land affect water quality;

- **Witness a simulation** of the rise and fall of tides in the Schuylkill River with an actual working model of the Fairmount Water Works;
- **Go outside** to cast a discerning eye at the river and calculate where the river is in the tidal cycle and collect a sample of river water;
- **Experience *Seeing is Believing*** in the FWWIC's state-of-the-art Water Lab where you can observe the teeming "unseen" life in a water sample at 400 times magnification;
- **Visit Pollutionopolis**, America's dirtiest City;
- **Follow a flush** through the City's sewer system;
- **Make rain fall** and see the affects of rainfall on the watershed; and
- **View fish and animals migrating** up the Schuylkill River via a television camera installed in the Fairmount Dam Fishway Facility located on the riverbank opposite the Interpretive Center.

## School Programs:

Where can students go to learn about one of the most important issues of the 21st century? Students of all ages come to learn about water though these many exciting lessons:

- **Water In Our World**
- **Land and Water: A Delicate Balance**
- **From Street to Stream: Slow the Flow**





# and Outreach

- **Building as Machine: Water for the City**
- **Seeing is Believing: A Drop in the Bucket**
- **Green City, Clean Waters: Following Nature’s Lead**
- **Global Water Action: Engineering a 21st Century Solution**

## Public Programs:

**Sunday Cinema** presents documentaries on global water issues, infrastructure, water resources, climate change and other timely and sometimes controversial themes.

**Architectural Walking and Bus Tours:** Weekend tours led by seasoned Philadelphia Tour Developer Ken Hinde. (fee based)

**Special tours:** We offer a variety of themed programs for Questors, Alumni organizations, tour groups, engineering and public health professionals and other organizations. (fee based)

## Family Programs:

**Science Saturdays** are fun, hands-on activities that meld science and art in our laboratory. We test water, explore the wondrous beauty of diatoms, identify leaves and more. Open to all ages every Saturday afternoon from 2:00 to 4:00 pm.

**Pop Up Science** includes hands-on activities that meld science, technology, engineering, art/architecture and math throughout the facility. Open to all ages, weekdays from 2:00 to 4:00 pm.

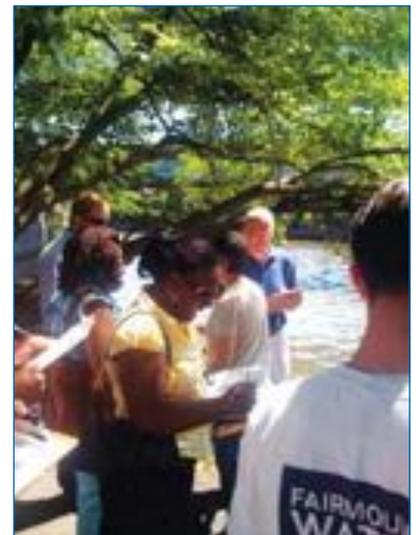
**Lifelong Learning:** To engage our adult audience, we offer guided group tours of both the historic Fairmount Water Works and the Interpretive Center’s exhibits. On an annual basis, we celebrate the United Nations’ World Water Day, Earth Day, Drinking Water Week and the Spring Shad Run. In addition, our collaboration with the Mayor’s Office of Sustainability is helping Philadelphia reach its goal of being the nation’s greenest City.

## Visit Us Soon!

The Interpretive Center is located at 640 Water Works Drive, nestled between Boat House Row and the Philadelphia Museum of Art. Hours are Tuesday through Saturday, 10:00 am to 5:00 pm, and Sunday from 1:00 pm to 5:00 pm. Closed on Mondays and City holidays. Admission is free.

Support our educational efforts! Make a donation to “The Fund for the Water Works—IC”

The Center is ADA accessible. To schedule classroom tours or to check out the Center’s Saturday Family Programs and for more information about our exhibits and programs, visit our website: [www.fairmountwaterworks.org](http://www.fairmountwaterworks.org). We also invite you to like us on Facebook, and to follow us on Twitter at @FWWIC.





# Management Discussion and Analysis

## The City of Philadelphia Water Department Management Discussion and Analysis

The Philadelphia Water Department is a municipal utility serving the citizens of the Philadelphia region by providing integrated water, wastewater and stormwater services. The utility's primary mission is to plan for, operate and maintain both the infrastructure and the organization necessary to purvey high-quality drinking water, to provide an adequate and reliable water supply for all household, commercial and community needs, and to sustain and enhance the region's watersheds and quality of life by managing wastewater and stormwater effectively.

The Water Department was established by the City pursuant to the City's Home Rule Charter with the power and duty to operate, maintain, repair and improve the water and wastewater systems. The Charter requires the Water Department to fix and regulate rates and charges for supplying water and for wastewater treatment service in accordance with standards established by City Council. Such standards must enable the City to realize from rates and charges an amount at least equal to operating expenses and debt service charges on any debt incurred or to be incurred for the water and wastewater systems, and proportionate charges for all services performed for the Water Department by all officers, departments, boards or commissions of the City. The Charter also authorizes the Water Department, with the authorization of City Council, to enter into contracts for supplying water service and sewer and sewage disposal service to users outside the limits of the City.

The operations of the Water Department are accounted for in the Water Fund, which is an enterprise fund of the City. The Water Fund is an accounting convention established pursuant to the Charter for the purpose of accounting for the assets, liabilities, revenues, expenses and Rate Covenant compliance on a legally enacted basis for the water and wastewater systems. The Water and Wastewater Funds are funds required by the 1993 General Water Revenue Bond Ordinance to be established and maintained with the Fiscal Agent for so long as the Revenue Bonds authorized under the ordinance are outstanding. Under the ordinance, Water Fund Bond proceeds and Project Revenues must be segregated from other funds of the City.

The Water Department, which began water system service in 1801, supplies water to the City and a portion of each of Montgomery, Delaware and Bucks Counties, Pennsylvania, and wastewater service to the City and to ten municipalities and authorities located in Montgomery, Delaware and Bucks Counties, Pennsylvania. The population served by the water system was approximately 1,738,000 as of the 2010 census, of which 1,526,000 were in the City, 155,000 were in Bucks County and approximately 57,000 in Montgomery and Delaware Counties. The population served by the wastewater system was approximately 2,283,000 as of the 2010 census, of which 1,526,000 were in the City and 757,000 were in the suburbs.

## Administration

The Water Department is managed by a Commissioner appointed by the Managing Director of the City with the approval of the Mayor. The Commissioner appoints deputies with the approval of the City's Managing Director; substantially all other employees of the Water Department are appointed under the provisions of the City's Civil Service Regulations.

The City's Department of Revenue performs all functions relating to meter reading, customer accounts and collections for the Water Department through the Water Revenue Bureau. The Department of Revenue and the Water Revenue Bureau are under the direction of the Director of Finance. The Director of Finance, as the chief financial, accounting and budget officer of the City, has overall responsibility for the fiscal administration of all City departments, including the Water Department. Audits of all City departments, including the Water Department, are performed annually by the Office of the City Controller. The Law Department of the City, headed by the City Solicitor, handles all legal matters affecting the Water Department.

## Water and Wastewater Systems

The water and wastewater systems of Philadelphia are owned by the City and operated by the City's Water Department. The water system provides water to the City (130 square mile service area), to Aqua Pennsylvania, Inc., formerly Philadelphia Suburban Water Company, and to the Bucks County Water and Sewer Authority. The City obtains approximately 57 percent of its water from the Delaware River and the balance from the Schuylkill River. The water system serves approximately 471,916 accounts through 3,175 miles of mains, three water treatment plants and 15 pumping stations, as well as providing fire protection through more than 25,200 fire hydrants.

The wastewater system services a total of 360 square miles of which 130 square miles are within the City and 230 square miles are in suburban areas. The total number of accounts is approximately 548,507. The wastewater and stormwater systems contain three water pollution control plants, a biosolids processing facility, 17 pumping stations and approximately 3,657 miles of sewers. Based on its current NPDES discharge permit, the City is required to achieve effluent limitations that are considered more stringent than those required to achieve secondary treatment levels as defined in the Federal Water Pollution Control Act, as amended.

PWD's three water treatment plants deliver approximately 250 million gallons of top quality drinking water each day. The Department performs more than 350,000 tests annually at these plants to ensure consistent, optimal treatment and a healthy water supply. In addition, thousands of samples of tap water are analyzed annually at the Department's state-of-the-art testing laboratory. These samples are collected from City reservoirs and from more than 65 locations throughout the Philadelphia area as well as monitoring water flows and pressures at 40 locations throughout the City.

The Department also treats wastewater at its three water pollution control plants. These plants treat approximately 461 million gallons of wastewater per day that meet or exceed Federal and State

standards, protecting and preserving our precious waterways. The Philadelphia Water Department also operates a central laboratory facility, and a range of technical and administrative support services.

The management of the Water Department has prepared this narrative overview and analysis of the financial statements of the City of Philadelphia, Pennsylvania Water Fund for the fiscal year. The information presented here should be read in conjunction with the financial statements immediately following the discussion and analysis.

## Financial Highlights

The Water Department met its bond coverage ratios for the year with a revenue bond coverage ratio of 1.20, a total debt service coverage ratio of 1.09, and a net operating revenue bond coverage ratio of 1.24 prior to the deduction of the transfer to the Rate Stabilization Fund.

At the end of the current fiscal year, the Water Fund's net assets totaled \$865.3 million resulting from an excess of its assets over its liabilities; its unrestricted net assets showed a balance of \$182.2 million.

The Water Fund's net assets showed an increase of \$87.3 million during the current fiscal year compared with \$22.8 million for the prior fiscal year.

## Net Assets

As noted earlier, net assets are useful indicators of a government's financial position. At the close of the current fiscal year, the Water Department's assets exceeded its liabilities by \$865.3 million.

Capital assets, such as land, buildings, meters, water mains and sewer lines, less any outstanding debt issued to acquire these assets, comprise \$244.0 million of the Water Department's net assets. Although these capital assets assist in providing services to our customers, they are generally not available to fund the operations of future periods.

In addition, a portion of the Department's net assets, \$439.1 million is subject to external restrictions as to use. The remaining component of net assets is the unrestricted net assets, which ended the fiscal year with \$182.2 million.

## Bond Issuance

On November 9, 2011, PWD settled on \$184,855,000 in new money and refunding revenue bonds. The bonds were issued as the City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds, Series 2011A and Water and Wastewater Revenue Refunding Bonds, Series 2011B.

## Authorized and Unissued Bonds:

During fiscal year 2011, the Department received authorization for up to \$450,000,000 in additional new money bonds under the 14th supplemental ordinance (no. 110375). The current capital spending plan calls for the issuance of these bonds beginning in early FY 2014. The Department was also authorized to refinance up to \$240,000,000 in existing Water Revenue bonds under the 13th supplemental ordinance (no. 110376).

## Pennvest Loans

During fiscal years 2009, 2010 and 2011, the Water Department settled on four Pennvest (the Pennsylvania State Infrastructure Financing Authority) Loans. Drawdowns on these loans continued during FY 2012.

These loans are more fully described in the "Pennvest Loans" section of the footnotes attached to the financial statements.

## Subsequent Financing Events

On November 1, 2012, PWD settled on \$70,370,000 in refinancing revenue bonds. The bonds were issued as the City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds, Series 2012A. These bonds were used to refinance the remaining series 2001a and 2001B City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds and to pay costs related to the transaction. The City refunded the Series 2001 Bonds with the proceeds of the Series 2012A Bonds as further described in the forepart of the Official Statement for this transaction.

This transaction is more fully described in the "Subsequent Events" section of the footnotes attached to the financial statements.

## Water and Wastewater Rates

In terms of rates, the Philadelphia Water Department continues to have some of the lowest rates in the region for water, wastewater and stormwater services. The PWD has had great success in containing costs, increasing employee productivity and improving services. The Department has initiated numerous measures to improve service, reduce costs and enhance revenues over the past decade. The cost of operating the wastewater facilities has been reduced. The refinancing of more than \$2 billion in revenue bonds has resulted in a cumulative net present value savings in excess of \$78 million in debt service expense. A Revenue Protection Unit created in fiscal year 2000 has recovered more than \$20 million in previously unbilled revenue to date. The Department has steadily improved the credit rating of the revenue bonds. All seven of the major plant facilities have been winning national performance awards on an annual basis.

Beginning July 1, 2011, a typical residential customer's bill increased by an additional \$3.49 a month, for a total monthly bill of \$62.94. A typical senior citizen's monthly bill increased by an additional \$2.05, or a total monthly bill of \$38.96, for those seniors who qualify for the Department's 25-percent senior citizen discount. The income test to qualify for this discount was increased to \$29,700 on July 1, 2010.

Unlike many neighboring communities where sewer bills are separate from water bills or assessed through an annual charge, Philadelphians receive a bill that combines water, wastewater and stormwater charges. Unfortunately, this combined billing sometimes leads to the impression that our water rates are high. In fact, even with the most recent revisions to rates, Philadelphia's water and sewer charges continue to be among the lowest in the region.

As shown on the table below, PWD’s water rates are less than half those charged by many neighboring investor-owned utilities.

2013 Regional Residential* Water and Sewer Charges		
	Monthly Water Bill	Monthly Sewer Bill
Aqua Pennsylvania+	\$59.90	N/A
Pennsylvania American Water+	\$54.60	N/A
New Jersey American Water+	\$37.26	N/A
North Penn Water Authority+	\$23.25	N/A
North Wales Water Authority+	\$20.16	N/A
Doylestown Township, PA	\$29.02	\$38.75
Lower Gwynedd Municipal Authority**	N/A	\$29.23
Cherry Hill Township, NJ	\$37.26	\$34.92
Trenton, NJ	\$28.11	\$25.69
<b>Philadelphia Water Department</b>	<b>\$27.50</b>	<b>\$21.14</b>

Rates in effect on January 1, 2013. Stormwater charges (\$12.10) are excluded from sewer calculations because many jurisdictions fund such services from the general tax base or a separate utility assessment.

\* Calculations based on 4,488 gallons/month (600 cu.ft.)  
 \*\* Sewer-only utility  
 + Water-only utility  
 Source: Philadelphia Water Department Local Rate Comparison

### Bond Ratings

As of the close of the current fiscal year, Moody’s, Standard and Poor’s, and Fitch rate the City and its enterprise fund bonds as follows:

City of Philadelphia’s Bond Ratings General Obligation and Revenue Bonds			
	Moody’s Investor’s Service	Standard & Poor’s Corporation	Fitch IBCA
General Obligation Bonds	A2	BBB	A-
<b>Water &amp; Sewer Revenue Bonds</b>	<b>A1</b>	<b>A</b>	<b>A+</b>
Aviation Revenue Bonds	A2	A+	A

The ratings of the Water and Wastewater Revenue Bonds are more fully described in the “Bond Ratings” section of the footnotes, attached to the financial statements.

### Fund Balances

During FY 2012, the Department deposited \$8.5 million to its Rate Stabilization Fund, bringing the cumulative fund balance to approximately \$166.0 million, all of which is available to provide necessary working capital to the Department and to offset future rate increases. In addition, approximately \$17.3 million was transferred to the Residual Fund. To date, the Department has transferred

in excess of \$308.4 million to its capital fund via its annual 1% transfer and \$87.4 million via additional discretionary transfers to capital from its Residual Fund.

### Awards and Recognition

In 2011, the Water Department’s three Water Pollution Control Plants (WPCPs) were selected to receive Awards from the National Association of Clean Water Agencies (NACWA). NACWA’s Peak Performance Awards Program recognizes member agency facilities for excellence in wastewater treatment as measured by their compliance with NPDES permits. The Northeast and Southeast WPCPs were recognized with Platinum Awards. Platinum Awards pay special tribute to member agency facilities that have received five or more consecutive Gold Awards, which recognize perfect compliance for the calendar year. The Northeast and Southeast WPCPs have achieved perfect permit compliance for seven and 12 years, respectively. The Southwest Plant received a Gold Award for perfect compliance in 2011. In February 2010, the Southwest Plant received a violation for one NPDES parameter, which qualified the plant for a Silver award. Historically high flows in February 2010 contributed to the monthly mass loading of the CBOD 20 limit being exceeded. The Southwest plant had recorded perfect compliance for the previous seven years.

While the three WPCPs have continued their high levels of performance, the costs of operating them have been contained to approximately 3% annual increase between fiscal years 2000 and 2012 despite wage and energy cost increases. Currently, as part of its strategy to reduce CSO frequency and volume, the Water Department is treating a greater quantity of collected stormwater in the combined sewers that at one time was discharged to tributaries, removing pollutants at little additional cost for treatment. Optimization in the dosage of treatment chemicals, electricity use, reduced staffing levels and improved maintenance management practices have all contributed to this cost containment.

The wastewater system has effectively and significantly improved the water quality of the Delaware River, thereby fostering both public and private development of the riverfront for commercial, residential and recreational uses.

### Long Term Control Plan for Combined Sewer Overflows

The PaDEP and the Water Department signed a consent order and agreement dated as of June 1, 2011 (the "COA") that will allow the Water Department to officially embark on the implementation of its landmark strategy that uses green practices to substantially eliminate combined sewer overflow to the City's waterways as set forth in the *Green City, Clean Waters Program*.

The City of Philadelphia has been recognized as a national leader in its approach to the management and reduction of combined sewer overflow. Its *Green City, Clean Waters Program* is the most innovative stormwater management program in the nation to date, markedly ambitious in its use of "green" infrastructure rather than undertaking a "grey" approach to the management of CSOs.

The green approach relies on the use of largely green technologies such as stormwater tree pits, vegetated bumpouts, porous asphalt, rain gardens and sidewalk planters as a means to transform manmade surfaces that repel the rain to green acres which capture rainwater runoff to infiltrate, store and manage the rain as a precious resource. By contrast, a grey approach relies on the construction of tunnels and holding tanks for storage of combined sewer overflow until it can be processed.

The *Green City, Clean Waters Program* is by far the most cost-effective way for the City to meet the requirements of the COA, the PaDEP, the Clean Water Act and its own laudable goal of protecting its waterways. The Water Department estimates that the City's use of green infrastructure in lieu of a grey approach will save the City approximately \$8.0 billion over the length of the Program, as discussed below.

The Water Department submitted the plan to the US EPA and the PaDEP in September 2009 after vetting the plan with the public. Our *Green City, Clean Waters Program* lays the groundwork for the Water Department to spend approximately \$2.4 billion over the next 25 years (\$1.2 billion in 2009 dollars) to use largely green technologies described above. The plan also includes wastewater treatment facility enhancements and pipe renewal and replacement. The *Green City, Clean Waters Program* works in tandem with the Mayor's Greenworks Philadelphia vision in order to reinvent Philadelphia into a green, sustainable City of the future. The Water Department projects that utilizing a grey approach to accomplish the same goals would cost the City approximately \$10 billion.

The Water Department has softly launched the plan over the last few years to develop green infrastructure designs that work best in the Philadelphia landscape. These early projects serve as public demonstrations to citizens and provide the Water Department and its many partners with early opportunities to monitor and improve the efficiencies of these practices.

The COA complies with Clean Water Act requirements by adopting the Presumption Approach to Combined Sewer Overflow (CSO) control. Under the Presumption Approach, the COA sets the

ultimate water quality goal as the elimination or removal of the mass of pollutants that otherwise would be removed by the capture of 85% by volume of the combined sewage collected in the City's combined sewer system during precipitation events.

To ensure this ultimate goal is met, the COA requires that interim water quality milestones at years 5, 10, 15 and 20 of the COA are achieved. The interim milestones require the City to achieve specific targets in four categories: (1) Total Greened Acres; (2) Overflow Reduction Volume; (3) Miles of Interceptor Lined; and (4) WPCP Upgrades: Design and Construction. A Greened Acre is described as an acre of impervious cover connected (tributary) to a combined sewer that subsequently is reconfigured to utilize green stormwater infrastructure to manage all or a portion of the stormwater runoff from that acre. Green stormwater infrastructure manages stormwater using one or more of the source control processes of infiltration, evaporation, transpiration, decentralized storage, alternative stormwater routing, reuse and others.

The COA includes financial protections in the event that the costs of complying with the COA exceed our projections. Should COA costs increase to the point where they exceed 2.27% of the Median Household Income, the City may petition the PaDEP for an extension of time to complete the COA so that the financial burden does not become excessive on ratepayers. The COA also includes stipulated penalties for violations of the COA. The only significant penalties involve non-compliance with the 5-year milestone targets. Penalties start at \$25,000 per month for each violation (for the first six months) and increase up to \$100,000 per month for uncured violations of 13 months or more. COA negotiations took almost two years. The negotiations resulted in a document memorializing the ultimate goal for the program and setting interim milestones that the Water Department believes are fair, reasonable, affordable and achievable.

### Requests for Information

This financial report is designed to provide a general overview of the City of Philadelphia Water Department's finances for all interested parties. Questions concerning any of the information provided in this report, or requests for additional information, should be addressed to the Philadelphia Water Department, Finance Division, Aramark Tower, 5th Floor, 1101 Market Street, Philadelphia, Pa. 19107.

## STATEMENT OF NET ASSETS, JUNE 30, 2012 AND 2011

(amounts in thousands)

	<b>2012</b>	<b>2011</b>
<b>ASSETS</b>		
<b>Current Assets:</b>		
Cash on Deposit and on Hand	\$ 30	\$ 30
Equity in Treasurer's Account	80,624	60,964
Due from Other Governments	519	230
Accounts Receivable	260,095	236,642
Allowance for Doubtful Accounts	(121,212)	(105,138)
Inventories	13,456	13,192
Prepaid Insurance – Surety Bond	--	--
<b>Total Current Assets</b>	<u>233,512</u>	<u>205,920</u>
<b>Noncurrent Assets:</b>		
<b>Restricted Assets:</b>		
Equity in Treasurer's Account	477,997	406,402
Sinking Funds and Reserves	152,570	130,299
Grants for Capital Purposes	--	--
Deferred Outflow–Financial Instruments Receivables	12,018	12,519
	<u>1,393</u>	<u>952</u>
<b>Total Restricted Assets</b>	<u>643,978</u>	<u>550,172</u>
Net Pension Asset	--	--
<b>Capital Assets:</b>		
Land	5,919	5,919
Infrastructure	2,087,956	2,055,254
Construction in Progress	314,162	270,769
Buildings and Equipment	1,572,818	1,514,322
Accumulated Depreciation	(2,042,854)	(1,959,538)
<b>Total Capital Assets</b>	<u>1,938,001</u>	<u>1,886,726</u>
<b>Total Noncurrent Assets</b>	<u>2,581,979</u>	<u>2,436,898</u>
<b>Total Assets</b>	<u><b>2,815,491</b></u>	<u><b>2,642,818</b></u>
<b>LIABILITIES</b>		
<b>Current Liabilities:</b>		
Vouchers Payable	6,871	7,529
Accounts Payable	12,304	8,080
Salaries & Wages Payable	3,947	4,044
Construction Contracts Payable	25,299	23,096
Accrued Expenses	21,470	22,465
Deferred Revenue	6,626	9,764
Funds Held in Escrow	2,095	1,906
Current Portion of Long-Term Obligations	121,769	109,942
<b>Total Current Liabilities</b>	<u>200,381</u>	<u>186,826</u>
<b>Noncurrent Liabilities:</b>		
Bond Payable - Net	1,698,122	1,629,237
Derivative Instrument Liability	12,018	12,519
Other Noncurrent Liabilities	27,849	35,710
Net Pension Liability	11,801	542
<b>Total Noncurrent Liabilities</b>	<u>1,749,790</u>	<u>1,678,008</u>
<b>Total Liabilities</b>	<u><b>1,950,171</b></u>	<u><b>1,864,834</b></u>
<b>NET ASSETS</b>		
Invested in Capital Assets, Net of Related Debt Restricted For:	243,997	254,798
Capital Projects	120,608	88,011
Debt Service	152,569	130,298
Rate Stabilization	165,907	157,050
Unrestricted	<u>182,239</u>	<u>147,827</u>
<b>Total Net Assets</b>	<u><b>\$865,320</b></u>	<u><b>\$777,984</b></u>

# STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS FOR THE FISCAL YEARS ENDED JUNE 30, 2012 AND 2011

(amounts in thousands)

	<b>2012</b>	<b>2011</b>
<b>Operating Revenues:</b>		
Charges for Goods and Services	\$591,571	\$553,169
Miscellaneous Operating Revenues	6,749	5,314
Operating Grants	<u>3,481</u>	<u>2,726</u>
Total Operating Revenues	<u>601,801</u>	<u>561,209</u>
<b>Operating Expenses:</b>		
Personal Services	105,448	104,323
Purchase of Services	73,962	70,964
Materials and Supplies	37,050	35,147
Employee Benefits	83,706	91,046
Indemnities and Taxes	663	10,831
Depreciation and Amortization	<u>92,113</u>	<u>86,924</u>
Total Operating Expenses	<u>392,942</u>	<u>399,235</u>
<b>Operating Income (Loss)</b>	<b><u>208,859</u></b>	<b><u>161,974</u></b>
<b>Nonoperating Revenues (Expenses):</b>		
Federal, State & Local Grants	479	2,038
Interest Income	3,334	4,659
Net Pension Obligation	(11,259)	(17,913)
Debt Service - Interest	(85,374)	(95,728)
Other Expenses	<u>(1,243)</u>	<u>(7,310)</u>
Total Nonoperating Revenues (Expenses):	<u>(94,063)</u>	<u>(114,254)</u>
Income (loss) before Transfers	114,796	47,720
Transfers Out	(27,460)	(24,930)
Capital Contributions	--	--
Change in Net Assets	<u>87,336</u>	<u>22,790</u>
Net Assets - Beginning of Period	777,984	755,194
Adjustment	--	--
<b>Net Assets - End of Period</b>	<b><u>\$865,320</u></b>	<b><u>\$777,984</u></b>

## STATEMENT OF CASH FLOWS, JUNE 30, 2012

(amounts in thousands)

	2012	2011
<b>Cash Flows from Operating Activities</b>		
Receipts from Customers	\$587,703	\$564,965
Payments to Suppliers	(108,742)	(125,583)
Payments to Employees	(194,763)	(190,006)
Claims Paid	(3,047)	(5,384)
Other Receipts (Payments)	--	--
<b>Net Cash Provided by Operating Activities</b>	<b><u>281,151</u></b>	<b><u>243,992</u></b>
<b>Cash Flows from Non-Capital Financing Activities</b>		
Operating Grants Received	3,481	2,726
Operating Subsidies and Transfers to Other Funds	(27,460)	(24,930)
<b>Net Cash Provided by Non-Capital Financing Activities</b>	<b><u>(23,979)</u></b>	<b><u>(22,204)</u></b>
<b>Cash Flows from Capital &amp; Related Financing Activities</b>		
Proceeds from Capital Debt	238,033	268,329
Capital Contributions Received	479	2,038
Acquisition and Construction of Capital Assets	(136,123)	(174,208)
Interest Paid on Capital Debt	(82,555)	(82,753)
Principal Paid on Capital Debt	(166,429)	(102,790)
Swap Termination Payments	--	(15,015)
Other Receipts (Payments)	(13,245)	(9,022)
<b>Net Cash Provided (Used) by Non-Capital Financing Activities</b>	<b><u>(159,840)</u></b>	<b><u>(113,421)</u></b>
<b>Cash Flows from Investing Activities</b>		
Interest and Dividends	(6,077)	(1,078)
<b>Net Cash Provided by Investing Activities</b>	<b><u>(6,077)</u></b>	<b><u>(1,078)</u></b>
Net Increase (Decrease) in Cash & Cash Equivalents	91,255	107,289
Balances - Beginning of the Year	467,396	360,107
<b>Balances - End of the Year</b>	<b><u>\$558,651</u></b>	<b><u>\$467,396</u></b>
<b>Reconciliation of Operating Income (Loss) to Net Cash Provided (Used) by Operating Activities:</b>		
Operating Income (Loss)	208,859	159,248
Adjustments to Reconcile Operating Income to Net Cash Provided (Used) by Operating Activities:		
Depreciation Expense	92,113	86,924
Change in Assets and Liabilities:		
Receivables, Net	(12,028)	4,734
Inventories	(264)	(279)
Accounts and Other Payables	3,469	(18,836)
Accrued Expenses	(7,861)	10,453
Deferred Revenue	(3,137)	1,748
<b>Net Cash Provided by Operating Activities</b>	<b><u>\$281,151</u></b>	<b><u>\$243,992</u></b>

# BUDGETARY COMPARISON SCHEDULE

## Water Operating Fund

### For the Fiscal Year Ended June 30, 2012

(amounts in thousands)

	BUDGETED AMOUNTS		Actual	FINAL BUDGET TO ACTUAL Positive (Negative)
	Original	Final		
<b>Revenues</b>				
Locally Generated Non-Tax Revenue	\$ 567,080	\$ 563,661	\$ 560,311	\$ (3,350)
Revenue from Other Governments	3,000	2,600	3,192	592
Revenue from Other Funds	70,160	57,675	28,985	(28,690)
<b>Total Revenues</b>	<b>\$ 640,240</b>	<b>\$ 623,936</b>	<b>\$ 592,489</b>	<b>\$ (31,448)</b>
<b>Expenditures and Encumbrances</b>				
Personal Services	113,259	111,292	100,907	10,385
Pension Contributions	52,672	52,809	48,613	4,196
Other Employee Benefits	43,130	42,993	38,395	4,598
Sub-Total Employee Compensation	209,061	207,094	187,915	19,178
Purchase of Services	144,339	144,339	129,135	15,204
Materials and Supplies	46,993	45,740	42,726	3,014
Equipment	5,263	6,516	3,187	3,329
Contributions, Indemnities and Taxes	6,603	6,603	3,047	3,556
Debt Service	196,177	196,177	192,423	3,754
Debt Service – Interest	--	--	--	--
Short-Term Interest	--	--	--	--
Payments to Other Funds	51,804	53,772	54,858	(1,086)
<b>Total Expenditures and Encumbrances</b>	<b>660,240</b>	<b>660,240</b>	<b>613,290</b>	<b>46,950</b>
<b>Operating Surplus (Deficit) for the Year</b>	<b>\$ (20,000)</b>	<b>\$ (36,304)</b>	<b>\$ (20,802)</b>	<b>\$ 15,502</b>
Fund Balance Available, July 1, 2011	--	--	--	--
<b>Operations in Respect to Prior Fiscal Years</b>				
Commitments Cancelled - Net	20,000	20,000	20,802	802
Prior Period Adjustments	--	--	--	--
Adjusted Fund Balance, July 1, 2011	20,000	20,000	20,802	802
<b>Fund Balance Available, June 30, 2012</b>	<b>--</b>	<b>\$ (16,304)</b>	<b>\$ --</b>	<b>\$ 16,304</b>

## BONDED DEBT FOR THE FISCAL YEAR ENDED JUNE 30, 2012

(amounts in thousands)

Series	ORIGINAL AUTHORIZATION		Outstanding June 30, 2012	Maturities	Interest Rates	Service Interest	FISCAL YEAR 2013		Outstanding June 30, 2013
	Date	Issued					DEBT	Principal Requirements	
<b>Revenue Bonds:</b>									
Series 1995	04/15/95	221,630	13,550	08/2007 to 08/2012	5.30 to 6.25	423	13,550	--	
Series 1997 (B)	11/25/97	100,000	70,100	08/2007 to 08/2027	Variable	114	3,100	67,000	
Series 1998	12/25/98	135,185	108,335	12/2011 to 12/2014	5.25	4,789	34,235	74,100	
Series 2001	11/15/01	285,920	90,445	11/2011 to 11/2028	3.800 to 5.500	4,385	8,030	82,415	
Series 2005 (A)	05/04/05	250,000	225,595	07/2007 to 07/2035	3.250 to 5.250	11,249	5,015	220,580	
Series 2005 (B)	05/04/05	86,105	82,445	08/2007 to 08/2018	Variable	3,725	450	81,995	
Series 2007 (A)	05/04/07	191,440	152,865	08/2007 to 08/2027	4.00 to 5.00	7,151	7,730	145,135	
Series 2007 (B)	05/04/07	153,595	152,680	11/2007 to 11/2031	4.00 to 5.00	6,942	225	152,455	
Series 2009 (A)	05/21/09	140,000	140,000	01/2017 to 01/2036	5.15 to 5.25	7,294	--	140,000	
Series 2010 (A)	04/15/10	396,460	343,645	06/2010 to 06/2019	0.500 to 4.110	16,409	44,860	298,785	
Series 2010 (C)	08/05/10	185,000	185,000	08/2016 to 08/2030	2.530 to 4.560	9,022	--	185,000	
Series 2011 (A)	11/16/11	135,000	135,000	01/2036 to 01/2041	4.50 to 5.00	7,579	--	135,000	
Series 2011 (B)	11/16/11	49,855	49,855	11/2016 to 11/2026	4.00 to 5.00	2,461	--	49,855	
Pennvest-1999	04/30/00	6,700	565	07/2007 to 04/2019	1.41 to 2.73	14	76	488	
Pennvest-2009 (B)	10/14/09	22,828	22,828	07/2013 to 06/2033	1.193 to 2.107	269	761	22,067	
Pennvest-2009 (C)	10/14/09	35,667	35,667	07/2013 to 06/2033	1.193 to 2.107	417	1,589	34,078	
Pennvest-2009 (D)	03/31/10	64,380	64,380	07/2013 to 06/2033	1.193 to 2.107	760	2,147	62,233	
Pennvest-2010 (B)	06/17/10	8,111	8,111	09/2013 to 09/2033	1.193 to 2.107	97	--	8,111	
<b>Total Revenue Bonds</b>		<b>\$2,467,876</b>	<b>\$1,881,066</b>			<b>83,100</b>	<b>121,769</b>	<b>1,759,297</b>	
<b>General Obligation Bonds:</b>									
Pennvest	06/15/93	20,000	--	07/2007 to 04/2012	1.00	--	--	--	
<b>Total Bonded Debt</b>			<b>\$ 1,881,066</b>			<b>83,100</b>	<b>121,769</b>	<b>1,759,297</b>	

## ANNUAL BONDED DEBT SERVICE REQUIREMENT: (amounts in thousands)

Fiscal Year	Interest	Principal	Total
2013	83,100	121,769	204,868
2014	76,377	129,021	205,398
2015	70,418	126,988	197,406
2016	65,640	132,152	197,792
2017	58,688	116,881	175,569

The First Series through the Thirteenth were refunded.

Capitalized Interest added to Construction in Progress in Fiscal 2012 was \$5,094,561. Interest Expense was reduced by the same amount.

## SUPPLEMENTAL SCHEDULE OF RATE COVENANT COMPLIANCE FOR FISCAL YEAR ENDED JUNE 30, 2012 (Legally Enacted Basis)

(amounts in thousands)

LINE NO.	2012
1. Total Revenue and Beginning Fund Balance	\$ 613,291
2. Net Operating Expense	(375,085)
3. Transfer (To) From Rate Stabilization Fund	<u>(8,526)</u>
<b>4. Net Revenues</b>	<b><u>229,680</u></b>
5. Revenue Bonds Outstanding	(191,400)
6. General Obligation Bonds Outstanding	--
7. Pennvest Loan	<u>(1,023)</u>
<b>8. Total Debt Service</b>	<b><u>(192,423)</u></b>
<b>9. Net Revenue after Debt Service</b>	<b>37,257</b>
10. Transfer to General Fund	(1,086)
11. Transfer to Capital Fund	(18,867)
12. Transfer to Residual Fund	<u>(17,304)</u>
<b>13. Total Transfers</b>	<b><u>(37,257)</u></b>
<b>14. Net Operating Balance for Current Year</b>	<b><u><u>--</u></u></b>

The rate covenant contained in the General Ordinance requires the City to establish rates and charges for the use of the water and wastewater systems sufficient to yield Net Revenues, as defined therein, in each fiscal year at least equal to 120% (coverage A) of the Debt Service Requirements for such fiscal year (excluding debt service due on any Subordinated Bonds). In addition, Net Revenues, in each fiscal year, must equal at least 100% (coverage B) of: (i) the Debt Service Requirements (including Debt Service Requirements in respect of Subordinated Bonds) payable in such fiscal year; (ii) amounts required to be deposited of Subordinated Bonds payable in such fiscal year; (iii) amounts required to be deposited into the Debt Reserve Account during such fiscal year; (iv) debt service on all General Obligations Bonds issued for the water and wastewater systems payable in such fiscal year; (v) debt service payable on Interim Debt in such fiscal year; and (vi) the Capital Account Deposit Amount for such fiscal year, less amounts transferred from the Residual Fund to the Capital Account during such fiscal year. To insure compliance with the rate covenant, the General Ordinance requires that the City review its rates, rents, fees and charges at least annually.

**Additional Rate Covenant.** As long as the Insured Bonds are outstanding, the City covenants to establish rates and charges for the use of the system sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) at least equal to 90% (coverage C) of the Debt Service Requirements (excluding debt service on any Subordinated Bonds) in such fiscal year.

Coverage A:	
Line 4	<u>\$229,680</u>
/Line 5	<u>\$191,400</u>
<b>= COVERAGE A:</b>	<b>1.20</b>

Coverage B:	
Line 4	<u>\$229,680</u>
/Line 8 + Line 11	<u>\$211,290</u>
<b>= COVERAGE B:</b>	<b>1.09</b>

Coverage C:	
Line 4 - Line 3	<u>\$238,206</u>
/Line 5	<u>\$191,400</u>
<b>= COVERAGE C:</b>	<b>1.24</b>

## 1. THE GOVERNMENT OF PHILADELPHIA

The City of Philadelphia was founded in 1682 and was merged with the county in 1854. The City of Philadelphia, Pennsylvania (the "City" or "Philadelphia"), was incorporated in 1789 by an Act of the General Assembly of the Commonwealth of Pennsylvania (the "Commonwealth") (predecessors of the City under charters granted by William Penn in his capacity as proprietor of the colony of Pennsylvania may date to as early as 1684). In 1854, the General Assembly of the Commonwealth, by an act commonly referred to as the Consolidation Act, made the City's boundaries coterminous with the boundaries of Philadelphia County (the same boundaries that exist today) (the "County"), abolished all governments within these boundaries other than the City and the County and consolidated the legislative functions of the City and the County. Article 9, Section 13 of the Pennsylvania Constitution abolished all County offices in the City and provides that the City performs all functions of County government and that laws applicable to Counties apply to the City.

Since 1952, the City has been governed under a Home Rule Charter authorized by the General Assembly of the Commonwealth (First Class City Home Rule Act, Act of April 21, 1949, P.L. 665, Section 17) and adopted by the voters of the City. The Home Rule Charter, as amended and supplemented to this date, provides, among other things, for the election, organization, powers and duties of the legislative branch (the "City Council"); the election, organization, powers and duties of the executive and administrative branch; and the basic rules governing the City's fiscal and budgetary matters, contracts, procurement, property and records. The Home Rule Charter, as amended, also provides for the governance of The School District of Philadelphia (the "School District") as a home rule school district. Certain other constitutional provisions and Commonwealth statutes continue to govern various aspects of the City's affairs, notwithstanding the broad grant of powers of local self-government in relation to municipal functions set forth in the First Class City Home Rule Act.

The City includes within its boundaries an area of approximately 134 square miles along the southeastern border of the Commonwealth of Pennsylvania (the "Commonwealth") and is located at the confluence of the Delaware and Schuylkill Rivers. Philadelphia is the largest city in the Commonwealth, coterminous with the County of Philadelphia. Philadelphia is the nation's fifth largest city, with 1.536 million residents, based on 2011 U.S. Census estimates. While modest, Philadelphia's population gain from 2000 to 2010 was its first in 60 years. This continued in 2011 with the City adding 10,465 residents, as estimated by the U.S. Census Bureau.

The City's Water Department supplies water and provides wastewater treatment services to residents of Philadelphia and portions of Bucks, Montgomery and Delaware Counties (G.O. rated Aa1, Aaa and Aa2, respectively), although over 90% of those served are residents of the City and approximately 9% are from Bucks County. In 2011, the total service area population for water was 1,747,371. Retail service is provided within the City limits to an average of 473,837 accounts. The suburban portions of the service area are wealthier and somewhat faster-growing than the City, but are much less significant to the system as they account for less than 10% of total customer revenues.

There are two principal governmental entities in Philadelphia: (1) the City of Philadelphia, which performs both the ordinary

Municipal functions and the traditional County functions; and (2) the School District of Philadelphia, which is part of the Public Education System of the Commonwealth of Pennsylvania. In addition to the School District of Philadelphia, there are a number of other governmental and quasi-governmental entities operating within the City. The financial statements as set forth herein present only the operations of the City of Philadelphia Water Fund.

The City is governed largely under the 1951 Philadelphia Home Rule Charter. In some matters, including the issuance of short and long-term debt, the City is governed by the laws of the Commonwealth of Pennsylvania.

The City Government is responsible for establishing, and the Water Department is responsible for maintaining, internal controls designed to protect the assets of the Water Department from loss, theft or misuse and to ensure that adequate accounting data are compiled to allow for the preparation of Financial Statements in conformity with Generally Accepted Accounting Principles. These internal controls are subject to periodic evaluation by management and the City Controller's Office in order to determine their adequacy.

The Philadelphia Water Department serves the Greater Philadelphia region by providing an integrated water, wastewater and stormwater system. The utility's primary mission is to plan for, operate and maintain both the infrastructure and the organization necessary to purvey high quality drinking water; to provide an adequate and reliable water supply for all household, commercial and community needs; and to sustain and enhance the region's watersheds and quality of life by managing wastewater and stormwater effectively. In fulfilling its mission, the utility seeks to be customer-focused, delivering services in a fair, equitable and cost-effective manner, with a commitment to public involvement. Having already served the City and region for nearly two centuries, the utility's commitment for the future includes an active role in the economic development of Greater Philadelphia and a legacy of environmental stewardship.

The Water Revenue Bureau of the Department of Revenue of the City gathers and processes meter readings of the Water Department's customers; issues the invoices for the services provided by the Water Department; and processes the revenue collected for these services, thus maintaining the accounts receivable of the Water Department. The Director of Finance performs general fiscal accounting and has overall responsibility for the fiscal administration of all City departments, including the Water Department. The audit requirements for the City, including the Water Department, are the responsibility of the Office of the City Controller. Legal matters affecting the Water Department are the responsibility of the Office of the City Solicitor.

In order to accomplish its mission and pursuant to the Philadelphia Home Rule Charter, the Water Department has the power and duty to operate, maintain, repair and improve the City's water and wastewater systems. The Water Department is managed by a Commissioner who is appointed by the City's Managing Director with the approval of the Mayor. The Commissioner appoints his deputies with the approval of the City's Managing Director and substantially all other employees are appointed under the provisions of the City's Civil Service Regulations. The executive offices of the Water Department are located at Aramark Tower, 1101 Market Street, Philadelphia, Pennsylvania 19107-2994.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Philadelphia Water Department have been prepared in accordance with Generally Accepted Accounting

Principles (GAAP) as they apply to governmental units. The Governmental Accounting Standards Board (GASB) of the American Institute of Certified Public Accountants is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. The more significant of the City's accounting policies are described below.

### A. Basis of Accounting

For purposes of rate setting, calculating rate covenant compliance, debt service coverage and budgeting, the Water Fund accounts are maintained on the modified accrual basis of accounting also referred to as the "Legally Enacted Basis." Under this basis, revenues are recognized in the accounting period in which they are received. Investment earnings are recorded when earned, as they are measurable and available. Expenditures are recorded in the accounting period in which the fund liability is incurred, if measurable, except expenditures for debt service, prepaid expenditures and other long-term obligations, which are recognized when paid. Expenditures for claims and judgments, compensated absences and other long-term obligations are accrued if expected to be liquidated with available resources.

At fiscal year-end, the Water Fund accounts are adjusted to the full accrual basis of accounting required by GAAP. The Water Fund is accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operation are included on the Statement of Net Assets. Fund equity (i.e., net total assets) is segregated into contributed capital and retained earnings components. In accrual basis accounting, revenues are recognized in the accounting period in which they are earned and expenses are recognized at the time the liabilities are incurred. Under GASB Statement No. 20, Accounting and Financial Reporting for Proprietary Activities, the Water Fund will continue to follow Financial Accounting Standards Board (FASB) pronouncements issued on or before November 30, 1989 unless those pronouncements conflict with or contradict GASB pronouncements and will follow FASB standards issued after that date which do not conflict with GASB standards.

Water revenues, net of uncollected accounts, are recognized as billed on the basis of scheduled meter readings. Revenues are accrued for unpaid bills at June 30 and for services provided, but not yet billed, at June 30.

### B. Legal Compliance

The City's budgetary process accounts for certain transactions on a basis other than GAAP.

In accordance with the Philadelphia Home Rule Charter, the City has formally established budgetary accounting control for its operating and capital improvement funds.

The operating funds of the City – consisting of the General Fund, five Special Revenue Funds (County Liquid Fuels Tax, Special Gasoline Tax, Hotel Room Rental Tax, Grants Revenue and Community Development Funds) and two Enterprise Funds (Water and Aviation Funds) – are subject to annual operating budgets adopted by City Council. These budgets appropriate funds for all City departments, boards and commissions by major class of expenditure within each department. Major classes are defined as: personal services; purchase of services; materials and

supplies; equipment; contributions; indemnities and taxes; debt service; payments to other funds; and miscellaneous. The appropriation amounts for each fund are supported by revenue estimates and take into account the elimination of accumulated deficits and the re-appropriation of accumulated surpluses to the extent necessary. All transfers between major classes (except for materials and supplies and equipment, which are appropriated together) must have Council approval. Appropriations not expended or encumbered at year-end are lapsed. Departmental comparisons of budget to actual activity are located in the City's Supplemental Report of Revenues and Obligations.

The City Capital Improvement Fund budget is adopted annually by City Council. The Capital Improvement budget is appropriated by project for each department. Due to the nature of the projects, it is not always possible to complete all bidding, contracts, etc. within a twelve-month period. All transfers between projects exceeding twenty percent for each project's original appropriation must be approved by City Council.

As part of the appropriation process, budget estimates of City-related revenues are adjusted and submitted to City Council for review. Changes in revenue estimates do not need City Council approval, but are submitted in support of testimony with regard to the appropriation adjustments.

The following schedule reconciles the differences between the Legally Enacted Basis and GAAP Basis:

### WATER FUND

Fund Balance-Legal Basis 6/30/12	\$	--
Assets omitted from the legal basis:		
(1) Receivables from Other Governments or Funds	\$	35,544
(2) Fixed Assets-Net of Depreciation		1,938,002
(3) Restricted Assets		643,747
(4) Proprietary Portion of Net Pension Obligation		(11,801)
	\$	<u>2,605,492</u>
Liabilities omitted from the legal basis:		
(5) Construction Contracts Payable	\$	(25,299)
(6) Other Current Liabilities		(150,311)
(7) Bonds Payable and Other Long-Term Debt		(1,737,989)
	\$	<u>(1,913,599)</u>
Fund Balance accounts included in the legal basis:		
(8) Reserve for Collectible Receivables	\$	103,858
(9) Reserve for Inventories		13,456
(10) Reserve for Purchase Commitments		56,113
	\$	<u>173,427</u>
Equity accounts omitted from the legal basis:		
(11) Invested in Capital Assets, Net of Related Debt		(243,997)
(12) Restricted for Capital Projects		(120,608)
(13) Restricted for Debt Service		(152,569)
(14) Restricted for Rate Stabilization		(165,907)
	\$	<u>(683,081)</u>
Unrestricted Net Assets – GAAP Basis – 6/30/2012	\$	<u><u>182,239</u></u>

### C. Water Account

The City has established a City of Philadelphia Water Account to be held exclusively for Water Department purposes, separate and apart from all other funds and accounts of the City, and not to be commingled with the City's Consolidated Cash Account or any other fund or account of the City not held exclusively for Water Department purposes.

The City has covenanted that it will not make temporary loans or advances of Bond proceeds or Project Revenues (even while temporarily held in the City's Consolidated Cash Account) from the Water Account, the Water Sinking Fund, the Water Sinking Fund Reserve or the Water Rate Stabilization Fund to any City account not held exclusively for Water Department purposes. The City has established subaccounts within the Water Account into which deposits and from which disbursements shall be made for operating and capital purposes.

## D. Pledge of Revenues

Section 4.02 and 4.04 of the Water bond ordinance of 1989, as amended in 1993, which authorized the issuance of Water and Sewer Revenue Bonds, pledges and assigns to the fiscal agent for the security and payment of all bonds, a lien on and security interest in all project revenues and amounts on deposit in or standing to the credit of the: 1) Revenue Fund; 2) Sinking Fund et.al.; 3) Subordinated Bond Fund; 4) Rate Stabilization Fund; 5) Residual Fund; and 6) Construction Fund et al. The fiscal agent shall hold and apply the security interest granted in trust for the holders of bonds listed above without preference, priority, or distinction; provided however, that the pledge of this ordinance may also be for the benefit of a credit facility and qualified swap, or any other person who undertakes to provide moneys for the account of the City for the payment of principal or redemption price and interest on any series of bonds (other than subordinated bonds), on an equal and ratable basis with bonds, to the extent provided by any Supplemental Ordinance or Determination.

## E. Grants from Other Governments

Grants from Federal, State and other governments are recognized as revenue when grant expenditures have been recorded. Grants are recorded as non-operating revenues.

## F. Property, Plant and Equipment

Property, plant and equipment are stated at cost. Where cost could not be developed from the records available, estimated historical cost was used to record the value of the assets. Upon sale or retirement, the cost of the assets and the related accumulated depreciation are removed from the accounts. Maintenance and repair costs are charged to operations.

Capital assets are defined by the City as assets with an initial individual cost of more than \$5,000 and an estimated useful life in excess of three years.

## G. Depreciation

Depreciation on fixed assets is provided on the straight-line method over their estimated useful lives as follows:

<b>Computer equipment</b>	<b>3 years</b>
<b>Automotive</b>	<b>5 years</b>
<b>Leasehold Improvements</b>	<b>8 years</b>
<b>General and monitoring equipment</b>	<b>10-20 years</b>
<b>Buildings</b>	<b>40 years</b>
<b>Reconstructed transmission and distribution lines</b>	<b>40 years</b>
<b>New transmission and distribution lines</b>	<b>50 years</b>

## H. Construction in Progress

Cost of construction includes all direct contract costs plus overhead charges. Overhead costs include direct and indirect engineering costs and interest incurred during the construction period on projects financed with revenue bond proceeds. Interest is capitalized by applying the average financing rate during the year to construction costs incurred. Interest earnings on bond proceeds reduce the amount capitalized. Capitalization of interest during construction for fiscal year 2012 was \$5,094,561.

## I. Amortization of Bond Discount

Bond discounts and issuance costs are deferred and amortized by the bonds outstanding method.

## J. Inventories

The materials and supplies inventory is priced using the "moving average cost" method.

## K. Revenues

All billings rendered to general customers through June 30, 2012 are included in accounts receivable. In addition, an amount for services rendered through June 30, 2012, but not billed, has been accrued. Historically, billings and collections for general customers remain relatively constant except for periods when there has been a rate change.

## L. Rates

Under the Charter, the Water Department is empowered and required to establish rates for water and wastewater service, in accordance with standards ordained by City Council, but without further authorization required by City Council, at levels which provide sufficient revenue to meet operating expenses of the water and wastewater systems, including interdepartmental charges for services provided to the Water Department, and debt service requirements on all obligations issued for the Water Department, as well as other specific covenants of the General Ordinance.

The City has covenanted in the General Ordinance that it has authorized the imposition of rates and charges by the Water Department sufficient to comply with the Rate Covenant and that it will not repeal or materially adversely dilute or impair such authorization.

The Philadelphia Code requires the Water Department to give written notice to City Council at least 30 days in advance of the filing of notice of any proposed change in water or sewer rates or charges and to submit with such written notice financial, engineering and other data upon which the proposed changes are based. After the filing of the proposed regulations providing for changes in rates or charges with the City's Department of Records, the Department of Records is required to give public notice that the regulations have been filed and that any person affected by the proposed regulations may request a public hearing before the Water Department and the City Solicitor. Revised rates and charges become effective ten days after filing of a decision by the Water Commissioner at the conclusion of hearings or at any time thereafter, at his discretion.

The Water Department filed a notice of request for new rates for the period fiscal year 2013 through fiscal year 2016 with City Council on February 3, 2012. The rate request was filed with the Department of Records on March 6, 2012. In accordance with the regulations, a hearing examiner and public advocate were appointed. Public hearings were held during the period from July 9 to July 31 and technical hearings were held during the week of August 7, 2012. The Department also proposed to change the way it charges customers for certain stormwater management services; this part of the case was concluded with the Water Commissioner's decision of December 21, 2012, and new stormwater rates and charges were effective on January 1, 2013.

The new rates will allow the Water Department to meet rapidly escalating costs of fuel, chemicals, employee benefits, regulatory demands and debt service, and to continue a variety of initiatives that are critical to protecting Philadelphia's drinking water quality, preserving its waterways and improving stormwater management programs. The continuing demographic changes in the City are causing the Department's fixed costs (to maintain water mains, sewer mains, pumping stations, treatment plants, sewer inlets, etc.) to be spread over fewer customers.

The legality of the 2008 Rate Determination had also been challenged in a civil action that commenced on December 17, 2009 upon the filing of a Complaint in Equity (the "Complaint") with the Court of Common Pleas. The Complaint contained seven counts that purport to state claims seeking declaratory relief under the Declaratory Judgments Act, 42 Pa. C.S. 7531, et seq., challenging the legality of parts of the Rate Determination and related

regulations (Sections 300, et seq.) issued by the Water Commissioner, effective November 1, 2009 (the "Rate Determination Regulations"), to the extent that the Rate Determination Regulations establish three successive increases in water and sewer rates implemented or to be implemented during the period including fiscal years 2010 through 2012. As part of the 2013 rate case, the parties to this litigation agreed to settle this case and in a letter dated November 2, 2012 the plaintiffs filed a request to remove the trial list.

### Historical Rates

The table below shows historical monthly water and sewer rates, based, in each case, on a typical general service customer with a 5/8 inch meter using 600 cubic feet or 4,488 gallons per month. Sewer charges include stormwater costs.

#### Philadelphia Water Department Monthly Water and Sewer Rate Charges July 1, 1993 to July 1, 2014

	Effective Date	Water	Sewer *	Total	% Increase
<b>5/8" Meter Residential 600 Cu. Ft. monthly</b>	07/01/93	\$9.46	\$ 22.33	\$ 31.79	-
	07/01/94	9.68	22.85	32.53	2.3
	07/01/95	9.98	23.55	33.53	3.1
	09/04/01	10.82	23.49	34.31	2.3
	07/01/02	12.23	23.11	35.34	3.0
	07/01/03	13.40	22.17	35.57	0.7
	02/01/05	15.68	24.36	40.04	12.6
	08/01/05	16.07	24.72	40.79	1.9
	07/01/06	17.29	26.24	43.53	6.7
	07/01/07	18.18	27.22	45.40	4.3
	11/01/08	19.84	28.58	48.42	6.7
	07/01/09	21.84	29.63	51.47	6.3
	07/01/10	23.85	30.47	54.32	5.5
	07/01/11	26.08	31.35	57.43	5.7
	01/01/13	27.50	33.24	60.74	5.8**
	07/01/13	28.71	35.52	64.23	5.7 **
	07/01/14	29.89	37.54	67.43	5.0**
<b>5/8" Meter Residential 500 Cu. Ft. monthly Senior Citizen (25% Discount)</b>	07/01/93	\$6.23	\$15.87	\$ 22.10	-
	07/01/94	6.37	16.23	22.60	2.3
	07/01/95	6.57	16.73	23.30	3.1
	09/04/01	7.11	16.67	23.78	2.1
	07/01/02	8.04	16.31	24.35	2.4
	07/01/03	8.81	15.55	24.36	0.0
	02/01/05	10.31	17.08	27.39	12.4
	08/01/05	10.56	17.34	27.91	1.9
	07/01/06	11.39	18.40	29.79	6.7
	07/01/07	12.00	19.09	31.09	4.4
	11/01/08	13.05	19.96	33.01	6.2
	07/01/09	14.35	20.68	35.03	6.1
	07/01/10	15.65	21.26	36.91	5.4
	07/01/11	17.10	21.86	38.96	5.6
	01/01/13	17.95	23.08	41.03	5.3 **
	07/01/13	18.75	24.68	43.43	5.8**
	07/01/14	19.49	26.05	45.54	4.9**

\* Sewer charges include stormwater costs.

\*\* Pending finalization of Joint Petition for Settlement.

### Proposed Revision to the Water Department's Rate Process

In April 2012, City Council introduced Ordinance #12770 and Resolution #12808 that would require a ballot referendum that will appear on the November ballot, which would amend the Charter to allow City Council to establish an independent ratemaking body to be responsible for fixing and regulating rates and charges for water and sewer services; and establish open and transparent processes and procedures for fixing and regulating said rates and charges. This Ordinance was enacted and the Resolution was adopted in June 2012, and the referendum question was included on the ballot for consideration by the voters in November 2012. The amendment of the Charter was approved by referendum and City Council is now authorized to adopt an ordinance to implement a new ratemaking agency. Prospective rates established by a new ratemaking agency would be subject to the Act and the covenants and requirements of the General Ordinance, including the Rate Covenant. Any revisions to the rate process are planned for future rate proceedings applicable to fiscal year 2016 and future years.

### M. Advance Service Charge

The City's Water Fund Regulations provide for the assessment of an "Advance Service Charge" (ASC) at the time a property is initially connected to the system. The initial charge is calculated to be the equivalent of three (3) monthly service charges. This long-standing practice of assessing an initial charge equivalent to the average of three monthly service charges has been consistent whether the billing period was semi-annually (through 1979), quarterly (1979-1994) or monthly (1994-2012). The Fund includes these charges in current revenues at the time they are received. Fund regulations also provide for a refund of any advance service charges upon payment of a \$100 fee and permanent disconnection from the system. During FY 2012, 353 disconnection permits were issued resulting in a refund or final credit of approximately \$201,674 and 2,530 new connection permits were

issued resulting in additional advance service charges of approximately \$894,865. As part of the 2013 rate case, the Department agreed to freeze advanced service charges at their then current levels starting on January 1, 2013.

#### N. Insurance

The City, except for the Gas Works, the Airport and certain other properties, is self-insured for most fire and casualty losses to its structures and equipment and provides statutory worker's compensation, unemployment benefits and health and welfare to its employees through a self-insured plan. Construction contractors are required to carry protective general liability insurance indemnifying the City and the Contractor. A reserve for payment of reported worker's compensation claims and incurred but unreported claims has been recorded in the accompanying financial statements as Other Long-Term Obligations.

#### O. Investments

All highly liquid investments (except for Repurchase Agreements) with a maturity of three months or less when purchased are considered to be cash equivalents.

The investments of the City are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on national or international exchanges are valued at the last reported sales price. The fair value of real estate investments is based on independent appraisals. Investments, which do not have an established market, are reported at estimated fair value.

#### P. Deferred Revenues

Deferred revenues represent funds received in advance of being earned. In the Water Fund, deferred revenues relate principally to overpaid water and sewer bills.

#### Q. Interfund Charges

In accordance with an agreement between the Finance Director and the Water Department, the Finance Director may transfer to the General Fund up to a limit of \$4,994,000 in any fiscal year in "excess interest earnings" as defined by the Rate Covenants under the Ordinance. In fiscal year 2012, excess interest earnings of \$1,086,165 were transferred to the General Fund of the City.

### 3. ACCOUNTS RECEIVABLE

Balances consisted of the following:

Balances consisted of the following:	
FISCAL YEAR ENDED JUNE 30, 2012	
<b>Accounts Receivable:</b>	
Billed in the Last Twelve Months	\$ 122,652,831
Billed in 15-year Cycle Billing	83,047,649
Penalties on Receivables	30,241,330
Other Receivables	24,153,089
<b>Total</b>	<b>\$ 260,094,899</b>
Bad Debts Written Off	\$8,974,475
<b>ALLOWANCE FOR DOUBTFUL ACCOUNTS:</b>	
Billed in the Last Twelve Months	\$ --
Billed in 15-year Cycle Billing	79,557,703
Penalties on Receivables	26,783,653
Other Receivables	14,870,645
<b>TOTAL</b>	<b>\$ 121,212,001</b>

Balances consisted of the following:	
FISCAL YEAR ENDED JUNE 30, 2011	
<b>Accounts Receivable:</b>	
Billed in the Last Twelve Months	\$ 117,632,542
Billed in 15-year Cycle Billing	72,712,071
Penalties on Receivables	24,767,472
Other Receivables	21,529,683
<b>Total</b>	<b>\$ 236,641,768</b>
Bad Debts Written Off	\$ 7,339,557
<b>ALLOWANCE FOR DOUBTFUL ACCOUNTS:</b>	
Billed in the Last Twelve Months	\$ --
Billed in 15-year Cycle Billing	48,584,676
Penalties on Receivables	31,730,041
Other Receivables	24,822,886
<b>TOTAL</b>	<b>\$ 105,137,603</b>

### 4. THE TEN LARGEST RETAIL CUSTOMERS OF THE PHILADELPHIA WATER DEPARTMENT DURING FISCAL YEAR 2012

Customer	Billings (millions)	% of total Billings	Consumption (MGD)	% of total Consumption
City of Philadelphia	\$ 33.707	6.02	4.66	6.23
Philadelphia Housing Authority	11.730	2.10	1.78	2.38
Philadelphia School District	6.248	1.12	0.57	0.76
Veolia Energy Philadelphia	4.208	0.75	0.99	1.32
University of Penna.	3.786	0.68	0.70	0.94
Federal Government	3.523	0.63	0.43	0.57
Temple University	2.740	0.49	0.55	0.73
SEPTA	2.244	0.40	0.20	0.26
Paperworks Industries Inc.	2.183	0.39	1.39	1.86
UPHS	1.919	0.34	0.41	0.54
<b>Total Top Ten</b>	<b>\$ 72.288</b>	<b>12.92</b>	<b>11.66</b>	<b>15.59</b>
<b>Total Retail Billings</b>	<b>\$559.689</b>		<b>74.82</b>	

## 5. WHOLESALE CUSTOMERS OF THE PHILADELPHIA WATER DEPARTMENT DURING FISCAL YEAR 2012

The Department is permitted, via ordinance, to provide wholesale water and sewer service to jurisdictions outside of the City's borders. This "wholesale" service is provided via agreement. Service is limited to delivery of water or acceptance of wastewater at the City border.

<b>Wastewater Customer</b>	<b>Revenues</b>
Delcora	\$ 8,440,530
Bucks County Water & Sewer Authority	7,820,704
Cheltenham Township	4,278,091
Upper Darby Township	3,451,100
Lower Merion Township	2,804,665
Lower Southampton Township	2,200,955
Springfield Township - Erdenheim	1,685,156
Springfield Township - Wyndmoor	232,623
Bucks (for Bensalem)	1,797,944
Abington Township	1,433,486
Lower Moreland Township	797,524
<b>Total</b>	<b>\$ 34,942,778</b>

<b>Water Customer</b>	<b>Revenues</b>
Bucks County Water & Sewer Authority	\$ 7,203,094
Aqua PA	3,797,974
<b>Total</b>	<b>\$ 11,001,068</b>

<b>Total Wholesale Revenues</b>	<b>\$ 45,943,846</b>
---------------------------------	----------------------

## 6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment at June 30, 2012 and 2011 consisted of the following:

<b>Fiscal Years Ended</b>	<b>June 30, 2012</b>	<b>June 30, 2011</b>
Land	\$ 5,919,160	\$ 5,919,160
Buildings and related improvements	1,502,631,912	1,446,222,750
Meters and other improvements	98,531,871	96,866,875
Equipment	70,186,352	68,098,745
Transmission and distribution lines	1,989,424,359	1,958,386,850
Construction in progress	314,162,257	270,769,067
Total	\$3,980,855,911	\$ 3,846,263,447
Less: Accumulated Depreciation	(2,042,853,872)	(1,959,538,121)
<b>Total</b>	<b>\$ 1,938,002,039</b>	<b>\$ 1,886,725,326</b>

## 7. IMPAIRED ASSETS

Government Accounting Standards Board (GASB) Statement 42 requires the disclosure of the impairment of any major capital assets. Over the years, there have been a number of PWD assets that were either damaged or destroyed, were abandoned or became functionally obsolete.

In the past, as these assets were removed from service, their cost was removed from Utility Plant in service. Assets that were removed from service include: the first Mixing & Receiving building at our Biosolids Recycling Center which was destroyed by fire in the early 1990s; the grit, scum and screenings incinerators and related handling equipment at our wastewater plants which were abandoned due to Clean Air act considerations; the chlorine facilities at our water and wastewater plants that were replaced due to safety and Clean Air act considerations; and the high pressure fire system which was removed from service in January 2005 when it was determined to be functionally obsolete.

One additional facility remains in service, which has become "functionally obsolescent"—the portion of our Biosolids Recycling Center which performs composting. Composting of our sludge products was stopped in approximately March of 2007 as an interim solution to the air management problems that have occurred at this site. A permanent solution for sludge processing that does not involve composting is still in development. PWD's engineering division estimates the value of the compost facilities that are "functionally obsolescent" (which were built in conjunction with the remaining BRC facilities which will remain in service such as the mixing/receiving building, administrative offices and the dewatering facility) to be in the area of \$20 million, including the value of any land acquisition and site preparation costs.

In the summer of 2003, the Water Department began a process to move to an entirely Class A biosolids process, and one that could operate in Philadelphia without odors. PWD entered into a contract with the engineering consultant firm Camp, Dresser & McKee to assist with procurement of facilities and services for Philadelphia to operate for 20 years the dewatering station, and to construct new facilities to produce Class A biosolids products. Alternative processes identified for this procurement process included fully-enclosed composting systems and heat-drying technologies.

The Request for Qualifications was released in August 2003, and, in response, the City received qualification statements from four teams, of which two were found qualified and invited to receive a Request for Proposals. One team, Philadelphia Biosolids Services, LLC ("PBS") submitted a proposal on November 24, 2004. This team offered to build a pair of sludge dryers. The Water Department has negotiated a long term contract with PBS for improvements to the Biosolids Recycling Center. The contract includes a provision for interim operation of up to five years, during which PBS will take over operation of the existing Biosolids Recycling Center. Within the first three to five years, PBS will finance, design, build, own and operate a thermal drying facility that will handle all of the sludge processed by the Water Department and make a Class A product in the form of pellets that can be used as fertilizer and has potential as a fuel. PBS will be responsible for the disposition of the Class A pellets, thus relieving the Water Department of this burden. The Class A period of operation will last twenty years, with a five-year renewal at the option of the Water Department. The project is estimated to result in a savings of approximately \$200 million over the contract life. On June 19, 2008, City Council passed enabling legislation to allow the proposed contract to proceed. Mayor Nutter approved the contract with PBS in October 2008 and PBS has been operating the facility since October 13, 2008. Since fiscal year 2009, payments consisted of the following:

FISCAL YEAR	AMOUNT
2009	12,609,352
2010	22,828,657
2011	21,418,021
2012	19,185,830
	<u>\$ 76,041,860</u>

The fiscal year 2013 proposed budget includes \$21,350,000 for payments to PBS.

As a result of the transfer of operations and the discontinuance of composting operations, a total of \$40.5 million of equipment and facilities were retired. The balance of the equipment and facilities being utilized by the contractor remains on the balance sheet.

No additional asset impairments occurred during FY 2012.

## 8. VACATION

Employees are credited with vacation at rates which vary according to length of service. Vacation may be taken or accumulated up to certain limits until paid upon retirement or termination. Employees' vacation time accrued in fiscal year 2012 was \$9,537,297 and in 2011 was \$9,413,414. The expense for vacation pay is recognized in the year earned.

## 9. SICK LEAVE

Employees are credited with varying amounts of sick leave per year according to type of employee and/or length of service. Employees may accumulate unused sick leave up to 200 days and union represented employees may convert up to 20 sick days per year to vacation days at a ratio of 2 for 1. Non-uniformed employees (upon retirement only) are paid 30% of unused sick time, not to exceed predetermined amounts. Employees who separate, for any reason other than indicated above, forfeit their entire sick leave. The City budgets for and charges the cost of sick leave as it is taken.

## 10. CAPITALIZED LEASES

Leases consist of \$1,540,722 in photocopier and computer equipment in fiscal year 2012. Capital leases are defined by the Financial Accounting Standard Board in Statement 13, Accounting for Leases.

## 11. RATE STABILIZATION FUND

The Rate Stabilization Fund was created with the sale of the Series 1993 Revenue Bonds on August 20, 1993. The purpose of the Fund is to maintain assets to be drawn down to offset future deficits (and corresponding rate increase requirements) in the Water Department Operating Fund.

**During fiscal year 2012 the Fund had the following activity:**

Balance at July 1, 2011	\$ 157,050,374
Deposit from Operating Fund	8,525,507
Interest Earning	330,719
Interest Transferred to Water Operating Fund	---
<b>Balance at June 30, 2012</b>	<b><u>\$ 165,906,599</u></b>

## 12. RESIDUAL FUND

The Residual Fund was created with the sale of the Series 1993 Revenue Bonds on August 20, 1993. The purpose of the Fund is to maintain the remaining assets after payment of all operating expenses, payment of all debt service obligations including payments under a swap agreement, scheduled transfers to the Rate Stabilization Fund, and required deposits to the Capital Account of the Construction Fund.

**During fiscal year 2012 the Fund had the following activity:**

Balance at July 1, 2011	\$ 53,515,938
Interest Income	186,110
Deposit from Operating Fund	18,390,190
Capital Payments for New River City Project	(3,801,347)
Transfer to General Fund	(1,086,165)
Transfer to Sinking Fund Reserve	(7,696,056)
<b>Balance at June 30, 2012</b>	<b><u>\$ 59,508,670</u></b>

Note: Currently \$14,801,594 is reserved for prior year encumbrances. (New River City Project)

## 13. DEBT RESERVE ACCOUNT

The General Ordinance establishes within the Sinking Fund a Debt Reserve Account which shall be funded from the proceeds of each series of Water and Wastewater Revenue Bonds; provided, however, that if the Supplemental Ordinance authorizing a series of Water and Wastewater Revenue Bonds shall so authorize, the deposit to the Debt Reserve Account in respect of such Water and Wastewater Revenue Bonds may be accumulated from project revenues over a period of not more than three fiscal years after the issuance and delivery of such Water and Wastewater Revenue Bonds. The moneys and investments in the Debt Reserve Account shall be held and maintained in an amount equal at all times to the Debt Reserve Requirement. If at any time the moneys in the Debt Service Account of the Sinking Fund shall be insufficient to pay as and when due the principal of (and premium, if any) or interest on any Water and Wastewater Revenue Bonds or other obligations payable from the Debt Service Account (including obligations arising in connection with Qualified Swap Agreements and Credit Facilities), the fiscal agent is required to pay over from the Debt Reserve Account, the amount of such deficiency for deposit in the Debt Service Account. With respect to any issue of Water and Wastewater Revenue Bonds, in lieu of the required deposit into the Debt Reserve Account, the City may cause to be deposited into the Debt Reserve Account a surety bond, an insurance policy or an irrevocable letter of credit meeting the requirements of the General Ordinance and the Bond Committee Determination relating to such issue.

The Debt Reserve Account Amendment authorizes (i) the Director of Finance to apply moneys currently on deposit in the Debt Reserve Account to purchase a surety bond or insurance policy complying with the terms of the General Ordinance (described below); (ii) the transfer of the resulting excess moneys in the Debt Reserve Fund to the Revenue Fund and from there, upon compliance with the provisions of the General Ordinance to a new account in the Residual Fund called the Special Water Infrastructure Account; and (iii) the application of the moneys deposited in the Special Water Infrastructure Account to the cost of renewals, replacements and improvements to the water and wastewater systems.

Under the terms of the General Ordinance, any surety bond, insurance policy or letter of credit provided by the City in lieu of required deposits within the Debt Reserve Account would have to meet the credit quality requirements of the General Ordinance. The insurer providing a surety bond or insurance policy is required to be an insurer whose municipal bond insurance policies insuring the payment of bond issues results in such issues being rated not lower than the second highest rating category (without regard to ratings subcategories) by either Moody's Investors Service Inc. ("Moody's") or Standard & Poor's Ratings Service ("S&P"). The letter of credit issuer providing a letter of credit is required to be a bank or trust company which is rated not lower than the second highest rating category (without regard to ratings subcategories).

On November 26, 2007, the City deposited a surety policy issued by AGM in a principal amount of \$67 million to replace a portion of the cash and investments then existing in the Debt Reserve Account. The balance of the Debt Reserve Account as of September 30, 2011, in the amount of \$130,182,797.74, was funded with Water and Wastewater Revenue Bond proceeds and earnings on the investment thereof. Transfers of \$7,696,056 from the Water Residual Fund to the Water Debt Service Reserve Fund were made during FY 2012 to cover additional reserve requirements related to the Water Department's Pennvest loans.

On March 5, 2010, Moody's affirmed the Aa3 insurance financial strength rating of AGM, with a negative outlook. On September 27, 2011, S&P placed its AA+ counterparty credit and financial strength ratings on AGM on credit watch with negative implications. On November 30, 2011, Standard & Poor's Ratings Services ("S&P") lowered its counterparty credit and financial strength ratings on Assured Guaranty Municipal Corp. ("AGM") to "AA-" from "AA+". In addition, on November 30, 2011, S&P removed the ratings on AGM from credit watch, where they had been placed on September 27, 2011, with negative implications, and stated the outlook as stable. S&P's rating of AGM reflects only the view of S&P; and any desired explanation of the significance of such rating should be obtained from S&P.

An explanation of the significance of any rating action should be obtained from the rating agency furnishing same. AGM currently meets the credit rating requirements prescribed by the General Ordinance with respect to eligible providers of surety policies for deposit in the Debt Reserve Account. The City and the Water Department are monitoring the financial condition and ratings of AGM in relation to such credit quality requirement. There can be no assurance as to any further ratings action that Moody's or S&P may take with respect to AGM.

The City filed an updated disclosure regarding the S&P AGM downgrade on December 8, 2011 as required by the continuing disclosure agreement.

## 14. ACCOUNTING FOR THE NEW RIVER CITY PROJECT FUNDS – WATER SINKING FUND RESERVE SUBSTITUTION

Pursuant to the Water Department's General Bond Ordinance, the Sinking Fund Reserve provides a reserve against default of the payment of principal and interest on Water Revenue Bonds when due.

The New River City Ordinance dated 1/23/07 (Bill No 060005) authorized the purchase and deposit of a surety bond that meets the requirements of the General Ordinance to replace \$67,000,000 of the Sinking Fund Reserve Balance. The \$67,000,000 will be used as follows:

<b>\$ 2,010,000</b>	<b>Cost of the surety bond</b>
<b>290,000</b>	<b>Legal and financial services</b>
<b>375,000</b>	<b>Management fees</b>
<b>64,325,000</b>	<b>Costs of certain water and sewer infrastructure components of the New River City Program</b>

The prepaid surety bond was recorded as an asset in the Sinking Fund Reserve and amortized over the lives of the outstanding bonds.

In connection with the New River City Program, the Water Department executed a program agreement with Philadelphia Authority for Industrial Development ("PAID") to provide program management and oversight for the program. To date, 12 projects totaling \$83,697,833 have been executed (actual disbursements will be limited to the \$64,325,000 currently available in the Special Water Infrastructure Account and may be supplemented with other grants and/or loans). Eight of the 12 projects are completed. As of June 30, 2012, \$14,801,594 of the project funds remain undisbursed for approved projects currently under construction and expected to be completed before June 30, 2013. As subsequently described, the transfer of the water and sewer utilities at Philadelphia Naval Business Center from PAID to the Water Department, including the projects outlined above, and occurred in November, 2009.

## 15. DEFERRED COMPENSATION PLAN

The City offers its employees a deferred compensation plan in accordance with Internal Revenue Code section 457. As required by the Internal Revenue Code and Pennsylvania laws in effect at June 30, 2007, the assets of the plan are held in trust for the exclusive benefit of the participants and their beneficiaries. In accordance with GASB Statement No. 32, Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans, the City does not include the assets or activity of the plan in its financial statements.

## 16. ARBITRAGE REBATE

The City has issued Water Revenue Bonds subject to Federal arbitrage requirements. Federal tax legislation requires the accumulated net excess of interest income on the proceeds of these issues over interest expense paid on the bonds be paid to the Federal government at the end of a five-year period. The arbitrage liability for the three most recent years is as follows:

<u>FISCAL YEAR</u>	<u>AMOUNT</u>
<b>2010</b>	<b>\$ 72,158</b>
<b>2011</b>	<b>76,295</b>
<b>2012</b>	<b>53,952</b>

## 17. DEBT PAYABLE

### Defeased Debt

In prior years, the Water Fund defeased certain bonds by placing the proceeds of new bonds in irrevocable trusts to provide for all future debt service payments on old bonds. Accordingly, the trust account assets and the liability for the defeased bonds are not included in the Water Fund's financial statements. As of June 30, 2012, \$200.0 million of bonds outstanding was considered defeased, however, subsequent to that date, approximately \$182.5 million of the above total has been redeemed.

### Financings

On August 23, 2011, the outstanding balance of \$70,100,000 of Water and Wastewater Revenue Bonds, Variable Rate Series 1997B, was remarketed under an irrevocable direct-pay letter of credit from TD Bank. The LOC will constitute both a credit facility and liquidity facility from TD Bank, N.A. The Bonds continue to have a weekly interest rate reset and mature in 2027.

On October 1, 2011, the City and Water Department agreed to an extension of the existing Letter of Credit from Bank of America, N.A., supporting the Water and Wastewater Revenue Refunding Bonds, Series 2005B. The Bonds were not remarketed, nor was the existing amortization changed. The Bonds continue to have a weekly interest rate reset and mature in 2018.

On November 9, 2011, PWD settled on \$184,855,000 of new money and refinancing bonds, the City of Philadelphia Water and Wastewater Revenue Bonds, Series 2011A and Water and Wastewater Revenue Refunding Bonds, Series 2011B. Net proceeds of the \$135,000,000 Series A bonds will be used to fund a portion of the Water Department's Capital Budget and to pay costs of issuance. Net proceeds of the \$49,855,000 Series 2011B were used to refinance certain outstanding Water and Wastewater Revenue Bonds, to capitalize interest, and to pay costs of issuance. The bonds were issued at a true interest cost of 4.556%. The final bond matures in 2041 at a yield of 4.60%.

### Pennvest Loans

On April 20, 2009, the Water Department received notice that Pennvest (the Pennsylvania State Infrastructure Financing Authority) had approved three traditional water and sewer applications, totaling \$184.893 million. These applications were approved for funding through low interest loans of 1.193% during the construction period and for the first five years of amortization (interest only payments are due during the construction period, up to three years) and 2.107% for the remaining fifteen years. In addition, a \$30,000,000 "green infrastructure" application was also approved for funding through a low interest loan on the same terms. Debt service for these loans has been included in the Department's fiscal year 2011 and 2012 budgets, the Department's five-year plan projections and the Engineering Report. These loans are being provided on an "interest only" basis during the construction period of up to three years, after which they are amortized on a 20-year basis at 1.193% for the first five years and 2.107% for the next fifteen years. A supplemental ordinance to the Restated General Ordinance authorizing \$350,000,000 in new borrowing (the Twelfth Supplemental Water Bond Ordinance No. 090321) was introduced and approved by City Council in May, 2009. The City and Pennvest finalized loan documents on the three traditional loans described above during FY 2010.

During fiscal year 2012, Pennvest drawdowns totaled \$43.7 million, which represents an increase in bond issuances. Individual loan information is as follows:

DATE	SERIES	MAX LOAN AMOUNT	ESTIMATED PROJECT COSTS	AMOUNT REQUESTED THRU 6/30/12	AMOUNT RECEIVED YES/NO
OCTOBER 2009	2009B	42,886,030	42,339,199	22,827,986	Y
OCTOBER 2009	2009C	57,268,193	56,264,382	35,666,542	Y
MARCH 2010	2009D	84,759,263	84,404,754	64,380,070	Y
JULY 2010	2010B	30,000,000	31,376,846	8,111,482	Y
		<u>214,913,486</u>	<u>214,385,181</u>	<u>130,986,081</u>	

Additional debt service for these loans was included in the Department's fiscal year 2013 budget, the Department's five-year plan projections and the Engineering Report. These loans are being provided on an "interest-only" basis during the construction period of up to three years, after which they are amortized on a 20-year basis at 1.193% for the first five years and 2.107% for the next 15 years. The Pennvest loans were authorized through a supplemental ordinance to the Restated General Ordinance (the Twelfth Supplemental Water Bond Ordinance No. 090321).

### Subsequent Events

On November 1, 2012, PWD settled on \$70,370,000 in refinancing revenue bonds. The bonds were issued as the City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds, Series 2012A. These bonds were used to refinance the remaining series 2001a and 2001B City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds and to pay costs related to the transaction. The City refunded the Series 2001 Bonds with the proceeds of the Series 2012A Bonds as further described in the forepart of the Official Statement for this transaction.

The bonds were issued at total average interest cost of 3.369232%. The final bond maturity in FY 2029 was not changed. Debt service savings of \$13,184,062.50 (\$12,665,864.14 NPV) were realized and were used to reduce debt service in FY 2013, FY 2014 and FY 2015. The 2012A issue included only uninsured bonds. The Department received confirmation of its existing bond ratings from each of the three major bond rating agencies. (MOODY'S: A1 Stable S&P: A Stable FITCH: A+ Stable)

### Future Financings

Approximately 80% of the costs of the Capital Improvement Program are expected to be funded with the proceeds of debt during the FY 2013-2018 Capital Improvement Program. The City expects most of such debt to be in the form of Water and Wastewater Revenue Bonds issued under the Act and the General Ordinance. A portion of the debt may be evidenced by loans to the City from Pennvest, established by the Commonwealth to provide low interest cost financing for water and wastewater projects within the

Commonwealth. Such loans are expected to be evidenced by Water and Wastewater Revenue Bonds. Any additional loans received by the Water Department from Pennvest will reduce the amount of future Water and Wastewater Revenue Bonds to be issued.

In addition to the \$215 million of Pennvest Loans described earlier, the emphasis of the Capital Improvement Program is on the renewal and replacement of the water conveyance and sewage collection systems along with improvements to the water and wastewater treatment plants. Additional Revenue bond issues are anticipated during or after fiscal year 2013 as necessary to fund the approved capital program.

Black & Veatch Corporation has made certain assumptions in its Engineering Report with respect to inflation which are not reflected in the formal Capital Improvement Plan of the Water Department.

Currently, a \$200 million issue is planned for fiscal 2013 - 2014 and a \$160 million issue is planned for 2015, both issues were authorized under Ordinance #110376 in 2011.

#### City of Philadelphia Water & Sewer Swap Interest Rates

City Entity	Water
Related Bond Series	2005 Refunding
Initial Notional Amount	\$86,105,000
Current Notional Amount	\$82,445,000
Termination Date	8/1/2018
Product	Fixed Payer Swap (1)
Rate Paid by Dealer	Bond Rate/ 68.5% of 1-month LIBOR
Rate Paid by City Entity	4.53%
Dealer	Citigroup Financial Products, Inc.
Dealer Rating	Baa2/A- (Citigroup, Inc.)
Fair Value (2)	(\$12,018,430)

#### Notes:

(1) The City received an upfront payment of \$4,000,000 for the related swaption. Citigroup exercised its option to enter into the swap on 5/4/2005. Under the swap, the City receives the bond rate or 68.5% of 1-month LIBOR in the event of an Alternative Floating Rate Date. An Alternative Floating Rate Date has been triggered and the City is currently receiving the LIBOR-based rate.

(2) Fair values are shown from the City's perspective and include accrued interest.

#### City of Philadelphia, 2005 Water & Sewer Swap

**Objective:** In December, 2002, the City entered into a swaption that provided the City with an up-front payment of \$4.0 million. As a synthetic refunding of all or a portion of its 1995 Bonds, this payment approximated the present value savings, as of December 2002, of a refunding on May 4, 2005. The swaption gave Citigroup (formerly of Salomon Brothers Holding Company, Inc), the option to enter into an interest rate swap to receive fixed amounts and pay variable amounts.

**Terms:** Citigroup exercised its option to enter into a swap May 4, 2005, and the swap commenced on that date. Under the terms of the swap, the City pays a fixed rate of 4.53% and receives a variable payment computed as the actual bond rate or alternatively, 68.5% of one-month LIBOR, in the event the average rate on the Bonds as a percentage of the average of one-month LIBOR has exceeded 68.5% for a period of more than 180 days. Citigroup exercised its option during this fiscal year to pay 68.5% of one-month LIBOR under the swap. The payments are based on an amortizing notional schedule (with an initial notional amount of \$86.1 million), and when added to an assumption for remarketing, liquidity costs and cost of issuance were expected to approximate the debt service of the refunded bonds at the time the swaption was entered into.

As of June 30, 2012, the swap had a notional amount of \$82.4 million and the associated variable-rate bond had an \$82.4 million principal amount. The bonds' variable-rate coupons are not based on an index but on remarketing performance. The bonds mature on August 1, 2018 and the related swap agreement terminates on August 1, 2018.

**Fair value:** As of June 30, 2012, the swap had a negative fair value of (\$12.0 million). This means that the Water Department would have to pay this amount if the swap terminated.

**Risk:** As of June 30, 2012, the City is not exposed to credit risk because the swap had a negative fair value. Should interest rates change and the fair value of the swap become positive, the City would be exposed to credit risk in the amount of the swap's fair value. Since the City is now receiving 68.5% of one-month LIBOR, the City is exposed to (i) basis risk, as reflected by the relationship between the variable-rate bond coupon payments and 68.5% of one-month LIBOR received on the swap, and (ii) tax risk, a form of basis risk, where the City is exposed to a potential additional interest cost in the event that changes in the Federal tax system or in marginal tax rates cause the rate paid on the outstanding bonds to be greater than the 68.5% of LIBOR received on the swap. The swap includes an additional termination event based on credit ratings. The swap may be terminated by the City if the ratings of Citigroup or its Credit Support Provider fall below A3 and A-, or by Citigroup if the rating of the City's Water and Wastewater Revenue Bonds falls below A3 or A-. There are 30-day cure periods to these termination events. However, because the City's swap payments are insured by Assured Guaranty Municipal Corporation (formerly FSA), no termination event based on the City's Water and Wastewater Revenue Bond ratings can occur as long as Assured is rated at least A or A2.

As of June 30, 2012, rates were as follows:

Terms	Rates	
Interest Rate Swap		
Fixed payment to Citi under swap	Fixed	4.53000%
Variable rate payment from Citi under swap	68.5% of one-month LIBOR	(0.16834)%
Net interest rate swap payments		4.36166%
Variable rate bond coupon payments	Weekly resets	0.22000%
Synthetic interest rate on bonds		4.58166%

Swap payments and associated debt: As of June 30, 2012, debt service requirements of the variable-rate debt and net swap payments for their term, assuming current interest rates remain the same, were as follows:

Fiscal Year Ending June 30	Variable Rate Bonds		Interest Rate Swaps Net	Total Interest
	Principal	Interest		
2013	450,000	181,379	3,595,972	3,777,351
2014	14,820,000	180,389	3,576,344	3,756,733
2015	15,535,000	147,785	2,929,964	3,077,731
2016	16,315,000	113,608	2,252,362	2,365,970
2017	17,145,000	77,715	1,540,757	1,618,472
2018-2019	18,180,000	40,359	800,147	840,506
<b>Total</b>	<b>82,445,000</b>	<b>741,235</b>	<b>14,695,528</b>	<b>15,436,763</b>

#### “KEY RATING DRIVERS

- **Essential Service:** The city’s combined water and wastewater system (the system) provides an essential service to a large and diverse service area.
- **Ample Capacity:** Water supply and overall system treatment capacity are sufficient for the foreseeable future.
- **Sound Management and Stable Operations:** Consistent operating results, sound liquidity, and the ability of management to establish rates independent of city council approval offsets narrow debt service coverage levels.

- **Below-Average Economic Characteristics:** The service area exhibits weak income levels and above-average unemployment, which contributes to chronically poor collection rates.
- **Elevated Debt Levels:** The system has above-average debt levels with sizeable additional borrowing plans expected over the medium term.
- **Large Capital Plan:** The capital program remains sizeable, although required projects stemming from a consent order do not appear onerous.”

## 18. BOND RATINGS, AS OF JUNE 2012:

As of June 30, 2012, the City’s Water and Wastewater Revenue Bonds had underlying ratings of “A1” from Moody’s Investor’s Service, “A” from Standard & Poor’s Rating Services, and “A+” from Fitch Ratings.

#### Subsequent Events

In November 2012, pursuant to the sale of the City’s Water and Wastewater Revenue Bonds, Series 2012, all three rating agencies affirmed the above ratings, with stable outlooks.

Moody’s listed the following strengths and challenges of the Water Revenue credit:

#### “STRENGTHS

- Large system serving a stable, diverse population of 1.7 million
- Legal authority to raise rates without city or council approval
- Strong reserve position

#### CHALLENGES

- Moderately weak legal structure that allows for use of reserves to meet coverage
- Typically below average coverage ratios
- Above average debt profile with significant additional debt planned”

Pursuant to the sale of the Bonds, Standard & Poor’s Rating Services affirmed the underlying “A” rating and stable outlook. In the report, S&P commented that:

“The ‘A’ long-term rating and SPUR are based on the following characteristics:

- A broad service area that covers the city of Philadelphia and several suburbs, but with an overall weak economic profile when comparing income levels and unemployment rates with state and national averages;
- Rates we consider competitive, even with the weaker economic profile, along with management’s historical willingness to raise rates annually;
- Stable financial performance, albeit with ongoing reliance on its rate stabilization fund to support operations; and
- A sizable capital improvement plan (CIP) combined with an already high system ratio of debt to capital, in our opinion.”

Pursuant to the sale of the Bonds, Fitch Ratings affirmed the underlying “A+” rating and stable outlook. In their report, Fitch mentions the following:

CITY OF PHILADELPHIA’S (WATER) BOND RATINGS			
YEAR	MOODY’S INVESTOR’S SERVICE	STANDARD & POOR’S CORP.	FITCH ICBA
2012	A1	A	A+
2011	A1	A	A+
2010	A1**	A	A+**
2009	A3	A	A-
2008	A3	A	A-
2007	A3	A-	A-
2006	A3	A-	A-
2005	A3	A-	A-
2004	A3	A-	A-
2003	A3	A-	A-
2002	A3	A-	A-
2001	A3	A-	A-
2000	Baa1	BBB+	A-
1998	Baa1	BBB+	BBB+
1997	Baa1	BBB	BBB+
1995	Baa	BBB	BBB+
1993	Baa	BBB-	BBB
1991	B	BBB	BBB
1990	Baa	BBB	
1974	A	A	

\*\* these ratings reflect the changes due to the global “recalibration” of municipal debt

## 19. PENSION PLAN

The City, via the Municipal Pension Plan, maintains the following employee retirement system:

### (1) City Plan

#### (a) Plan Description

The Philadelphia Home Rule charter (the Charter) mandates that the City maintain an actuarially sound pension and retirement system. To satisfy that mandate, the City's Board of Pensions and Retirement maintains the single-employer Municipal Pension Plan (the Plan). The Plan covers all officers and employees of the City and officers and employees of five other governmental and quasi-governmental organizations. By authority of two Ordinances and related amendments passed by City Council, the Plan provides retirement benefits as well as death and disability benefits. Benefits vary by the class of employee. The Plan has two major classes of members – those covered under the 1967 Plan and those covered under the 1987 Plan. Each of these two plans has multiple divisions. In fiscal year 2011, a third plan was recently enacted that features a defined benefit and a defined contribution component.

#### Retirement Benefits

An employee who meets the age and service requirements of the particular division in which he participates is entitled to an annual benefit, payable monthly for life, equal to the employee's average final compensation multiplied by a percentage that is determined by the employee's years of credited service. The formula for determining the percentage is different for each division. If fund earnings exceed the actuarial assumed rate by a sufficient amount, an enhanced benefit distribution to retirees, their beneficiaries and their survivors shall be considered. A deferred vested benefit is available to an employee who has 10 years of credited service, has not withdrawn contributions to the system and has attained the appropriate service retirement age. Members of both plans may opt for early retirement with a reduced benefit. The **Deferred Retirement Option Plan (DROP)** was initiated on October 1, 1999. Under this plan, employees who reach retirement age may accumulate their monthly service retirement benefit in an interest bearing account at the Board of Pensions for up to four (4) years and continue to be employed by the City of Philadelphia.

#### Death Benefits

If an employee dies from the performance of duties, his/her spouse, children, or dependent parents may be eligible for an annual benefit ranging from 15% to 80% of the employees final average compensation. Depending on age and years of service, the beneficiary of an employee who dies other than from the performance of duties will be eligible for either a lump sum benefit only or a choice between a lump sum or an annual pension.

#### Disability Benefits

Employees disabled during the performance of duties are eligible for an immediate benefit equal to contributions plus a yearly benefit. If the employee subsequently becomes employed, the benefit is reduced by a percentage of the amount earned. Certain employees who are disabled other than during the performance of duties are eligible for an ordinary disability payment if they apply for the benefit within one year of termination. If the employee

subsequently becomes employed, the benefit is reduced by a percentage of the amount earned.

#### Membership

Membership in the plan as of July 1, 2011 was as follows:

<b>Retirees and beneficiaries currently receiving benefits</b>	<b>34,966</b>
<b>Terminated members entitled to benefits but not yet receiving them</b>	<b>2,712</b>
<b>Active Members</b>	<b>26,671</b>
<b>Total Members</b>	<b>64,349</b>

The Municipal Pension fund issues a separate annual financial report. To obtain a copy, contact the Director of Finance of the City of Philadelphia.

#### (b) Funding Policy

Employee contributions are required by City Ordinance. For Plan 67 members, employees contribute 3.75% of their total compensation that is subject to Social Security Tax and 6% of compensation not subject to Social Security Tax. Plan 87 contribution rates are defined for the membership as a whole by Council Ordinance. Rates for individuals are then determined annually by the actuary so that total individual contributions satisfy the overall rate set by Council.

The City is required to contribute the remaining amounts necessary to fund the Plan, using an acceptable actuarial basis as specified by the Home Rule Charter, City Ordinance and State Statute. Court decisions require that the City's annual employer contributions are sufficient to fund:

- The accrued actuarially determined normal costs;
- Amortization in level dollar payments of the changes to the July 1, 1985 liability due to the following causes over the stated period:
  - Non-active member's benefit modifications (10 years)
  - Experience gains and losses (15 years)
  - Changes in actuarial assumptions (20 years)
  - Active members' benefit modifications (20 years)

Under the City's current funding policy, the total required employer contribution for the current year amounted to \$706.3 million or 50.9% of covered payroll of \$1,387.1 million. The City's actual contribution was \$539.5 million. The City's contribution did not meet the Minimum Municipal Obligation (MMO) as required by the Commonwealth of Pennsylvania's Acts 205 and 189.

In fiscal year 2011, the City made several changes to the pension plan based on Act 44, which provided a new method of determining municipal distress levels and alternative funding relief in response to the 2008/2009 market decline. The City adopted fresh start amortization, alternating to 30 years and lowered the assumed rate of interest from 8.15% to 8.10% assuming a partial deferral of the pension payments in fiscal years 2010 and 2011 of \$150 million and \$80 million respectively, which must be repaid by fiscal year 2014. The change in amortization period and the partial deferral were approved by the Commonwealth of Pennsylvania General Assembly's Act 44. Act 44 also allowed the City to temporarily impose an additional local sales tax of 1.0% to fund future MMO Payments.

The Annual Pension Cost and related percentage contributed for the three most recent fiscal years are as follows:

(Millions of USD)

Fiscal Year Ended June 30	Annual Pension Cost	Percentage Contributed	Net Pension Obligation
2010	597.0	81.47%	(456.0)
2011	721.7	52.36%	(171.6)
2012	719.6	65.14%	80.0

The actuarial valuation to compute the current year's required contribution was performed as of July 1, 2011. Methods and assumptions used for that valuation include:

- The individual entry age actuarial cost method
- A ten-year smoothed market value method for valuing investments
- A level percentage closed method for amortizing the unfunded liability
- An annual investment rate of return of 8.10%
- Projected annual salary increases based on new age based scale
- Payroll growth rate is 3.5%
- No post-retirement benefit increases

Administrative costs of the Plan are paid out of the Plan's assets.

#### (c) Annual Pension Cost and Net Pension Obligation

The City and other employers' annual pension cost and net pension obligation (NPO) for the Municipal Pension Plan for the current year were as follows:

(Thousands of USD)

Annual Required Contribution (ARC)	722,491
Interest on Net Pension Obligation (NPO)	6,521
Adjustment to ARC	(9,435)
Annual Pension Cost	719,577
Contributions Made	(555,690)
Increase in NPO	163,887
NPO at Beginning of Year	80,011
NPO at End of Year	243,898
Interest Rate	8.15%
15-Year Amortization Factor (EOY)	8.48%

#### (d) Summary of Significant Accounting Policies

Financial statements of the Plan are prepared using the accrual basis of accounting. Contributions are recognized as revenues when due, pursuant to formal commitments, as well as statutory or contractual requirements. Benefits and refunds paid are recognized when due and payable in accordance with the terms of the Plan.

## 20. OTHER POST EMPLOYMENT BENEFITS (OPEB)

### Primary Government

**Plan description:** The City of Philadelphia self-administers a single employer, defined benefit plan and provides health care for five years subsequent to separation for eligible retirees. Certain union-represented employees may defer their coverage until a later date but the amount that the City pays for their health care is limited to the amount that the City would have paid at the date of their retirement. The City also provides lifetime insurance coverage for all eligible retirees. Firefighters are entitled to \$7,500 coverage and all other employees receive \$6,000 in coverage. The Plan does not issue stand alone financial statements, and the accounting for the Plan is reported within the financial statements of the City of Philadelphia.

**Funding Policy:** The City funds its retiree benefits on a pay-as-you-go basis. To provide health care coverage, the City pays a negotiated monthly premium for retirees covered by union contracts and is self-insured for non-unionized employees. For fiscal year 2012, the City paid \$76.3 million for retiree healthcare.

**Annual OPEB Cost and Net OPEB Obligation:** The City's annual other post-employment benefit (OPEB) expense is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB statement 45. The ARC represents a level of funding, which if paid on an ongoing basis, is projected to cover normal costs each year and amortize any unfunded actuarial liabilities over a period not to exceed thirty years. The following table shows the components of the City's annual OPEB cost for the year, the amount actually contributed to the Plan and changes in the net OPEB obligation (dollar amount in thousands).

(Thousands of USD)

Annual Required Contribution	105,369
Interest on Net OPEB Obligation	3,577
Adjustment to ARC	(3,064)
Annual OPEB Cost	105,882
Payments Made	(76,344)
Increase/Decrease in net OPEB Obligation	29,538
Net OPEB Obligation – Beginning of Year	79,481
Net OPEB Obligation – End of Year	109,019

**Funded Status and Funding Progress:** As of July 1, 2011, the most recent actuarial valuation date, the City is funding OPEB on a pay-as-you-go basis and accordingly, the unfunded actuarial accrued liability for benefits was \$1.2 billion. The covered annual payroll was \$1.469 billion and the ratio of the UAAL to the covered payroll was 82.5 percent.

**Actuarial Methods and Assumptions:** Costs were determined according to the individual entry age actuarial cost method with the attribution period ending at each decrement age. This is consistent with the cost method used for the City of Philadelphia Municipal Retirement System. Unfunded liabilities are funded over a 30-year

period as a level percentage of payroll, which is assumed to increase at a compound annual rate of 4% per year. The actuarial assumption included a 5.0% compound annual interest rate on the City's general investments.

## 21. CLAIMS, LITIGATION AND CONTINGENCIES

Generally, claims against the City are payable out of the General Fund, except claims against the City Water Department, City Aviation Division or Component Units which are paid out of their respective funds and only secondarily out of the General Fund which is then reimbursed for the expenditure. Unless specifically noted otherwise, all claims hereinafter discussed are payable out of the Water Fund. The Act of October 5, 1980, P.L. 693, No. 142, known as the "Political Subdivision Tort Claims Act," established a \$500,000 aggregate limitation on damages arising from the same cause of action or transaction or occurrence or series of causes of action, transactions or occurrences with respect to governmental units in the Commonwealth such as the City. The constitutionality of that aggregate limitation has been upheld by the United States Supreme Court. There is no such limitation under federal law.

Various claims have been asserted against the Water Department, and in some cases, lawsuits have been instituted. Many of these claims are reduced to judgment or otherwise settled in a manner requiring payment by the Water Department. At year-end, the aggregate estimate of loss deemed to be probable is \$6.4 million.

In addition to the above, there are other lawsuits against the Water Department in which some amount of loss is reasonably possible. The aggregate estimate of the loss, which could result if unfavorable legal determinations were rendered against the Water Department with respect to these lawsuits, is \$3.0 million.

## 22. LONG TERM AGREEMENTS

The Department has entered into several long term agreements with third parties through the Philadelphia Municipal Authority as follows:

### Automatic Meter Reading

In September 1997, the Water Department and the Water Revenue Bureau began the implementation of the Automatic Meter Reading Program (the "AMR Program") involving the replacement of all residential water meters with new meters equipped with radio transmitter meter reading devices ("ERT"). The AMR Program is the largest and most significant municipal water automatic meter reading endeavor to be implemented in the country. Installation commenced on schedule on September 11, 1997. By June 30, 2012, more than 482,841 new meters had been installed. This program has greatly improved the accuracy of billing and has resulted in fewer billing disputes, which has had a positive effect on customer service and collections. In addition to the increased revenue that results from such billing program improvements, the AMR Program significantly reduced the costs of meter reading and related support. As of June 30, 2012, more than 99.5% of the Water Department's customers have AMR

meters, drastically improving the Water Department's ability to initiate and enforce collection of delinquent accounts. The Water Department's AMR vendor, ITRON, has also begun the process of a wholesale battery replacement. The Water Department is also working on the purchase and installation of upgraded AMR devices for all commercial customers that have ERTs. The AMR Program agreement term ends in 2017. The Department has two one-year renewal options. Under the agreement, Itron is paid a fixed amount for each monthly meter reading actually obtained.

### Biosolids Treatment and Utilization

The City is required by Federal and Commonwealth law, administered by the EPA and the PaDEP, respectively, to treat and dispose of biosolids captured during wastewater treatment at the City's WPCPs. Biosolids from the three WPCPs are treated at the Biosolids Recycling Center (the "BRC"). The BRC had historically produced two grades of biosolids, as defined by State and Federal regulations. These were Class A biosolids compost and Class B dewatered biosolids cake. Class B biosolids were used on farmlands and at mine reclamation sites and co-disposed with trash at municipal solid waste landfills. Class A compost, which was produced at the BRC until October 2007, was put to a variety of local and regional uses, including garden and horticultural applications and recreation sites.

Biosolids processing and distribution is governed at the national level by EPA regulations published at 40 CFR Part 503 regulations in February 1993 (the "Part 503 Regulations"). The Part 503 Regulations require, among other things, certain record-keeping and monitoring procedures and compliance with technical standards for pathogen reduction, vector attraction reduction and pollutant limits. These regulations are self-implementing and directly enforceable, in that the EPA can initiate enforcement actions for non-compliance even in the absence of the EPA's issuance of permits under the NPDES permitting program. The Water Department is in full compliance with the technical standards in the Part 503 Regulations.

While the Water Department has administered a successful Class A and B biosolids program over the last 25 years, the nation has witnessed continuing health and environmental concerns raised by the public with Class B biosolids recycling. As such, in the summer of 2003, the Water Department began a process to move to an entirely Class A biosolids process, which could operate in Philadelphia without odors. It entered into a contract with the engineering consultant firm Camp, Dresser & McKee to assist with the procurement of facilities and services for Philadelphia, to operate the dewatering station for 20 years and to construct new facilities to produce Class A biosolids products. Alternative processes identified for this procurement process included fully-enclosed composting systems and heat drying technologies. The Request for Qualifications was released in August 2003, and, in response, the City received qualification statements from four teams, two of which were found qualified and invited to receive a Request for Proposals.

One team, Philadelphia Biosolids Services, LLC ("PBS") submitted a proposal on November 24, 2004. This team offered to build a pair of sludge dryers to produce Class A pellets. On June 19, 2008, City Council passed enabling legislation to allow the proposed contract with PBS to proceed. Mayor Nutter approved the contract with PBS in October 2008 and PBS has been operating the facility since October 13, 2008. The Water Department entered into a contract and lease with the Philadelphia Municipal Authority ("PMA")

to operate the Water Department's existing BRC, including a dewatering station, and to construct new thermal drying facilities to produce Class A biosolids pellets. The contract term is up to 25 years, including a five-year renewal option. PMA has contracted with PBS for these services.

The contract included a provision for an interim period of up to five years, during which PBS took over operation of the existing Biosolids Recycling Center. Within the first four years, PBS financed \$68,275,000 through the Pennsylvania Economic Development Finance Authority, designed, built and now owns and operates a thermal drying facility that handles all of the sludge processed by the Water Department and makes a Class A product in the form of pellets that is used as fertilizer and has potential as a fuel. PBS is responsible for the disposition of the Class A pellets, thus relieving the Water Department of this burden. The Class A period of operation will last 20 years with a five-year renewal at the option of the Water Department. The project is estimated and remains on track to result in savings of approximately \$200,000,000 over the contract life.

When the contract was executed, the Water Department transferred the remaining 60 employees at this facility to other assignments. Subsequently, the Water Department has also transferred to other units, certain vehicles and equipment that had been part of the existing BRC operation but were no longer needed by the contractor. At this time, most of the fixed assets associated with the facility, except for those related to the discontinued composting operations remain in service.

Fiscal year 2009 payments to PBS totaled \$16,387,368.08 for nine months. Fiscal year 2010 payments totaled \$20,792,641 for this contract. Fiscal year 2011 payments were \$22,493,502, including a one time payment of \$1,009,000 to Philadelphia Gas Works for an upgrade to the Texas Eastern natural gas pipeline that will serve the BRC. Fiscal year 2012 payments totaled \$21,835,872, which included partial year operation of the new Class A pellet facility. The upcoming year of operation will be full operation of the Class A facility with an estimated budget of \$26,425,440.

### Northeast Water Pollution Control Plant Digester Gas Cogeneration Facility

On December 23, 2011, the Department entered into a contract for the construction and leaseback of a 5.6 MegaWatt digester gas (biomethane, which is a renewable energy source) cogeneration facility at the Water Department's Northeast Water Pollution Control Plant ("WPCP"). Once operational, this project is expected to produce over 40 million kWh per year, which is approximately 15% of the Water Department's current annual electricity usage. To date, no payments have been made by the Department for this facility.

The parties to the agreement were the Philadelphia Water Department (City), Ameresco Energy and Bank of America finalized an agreement that will bring green power to the Northeast Water Pollution Control Plant. Ameresco (the Developer) will build the biogas combined heat and power system that runs on methane gas produced on site and incorporates a small amount of natural gas to optimize engine performance. Bank of America (the facility owner and lessor) has formed a special purpose entity "BAL Biogas 1" and the City pays a monthly fee through PMA (lessee). The Philadelphia Water Department will operate the facility. Under a separate but related agreement, AMERESCO will maintain the equipment. The structure of the deal allows for Bank of America to apply for

the IRS code section 1603 grant in lieu of tax credit under the ARRA and ITC rules that amount to 30% of the qualified cost. The facility lease payments are anticipated to be approximately \$254,000 per month for 16 years and are anticipated to start in FY14. Maintenance fees vary per year based on the amount of work required and are paid separately. The Northeast Biogas Co-Gen project is the largest green energy project in the City.

## 23. COMBINED SEWER OVERFLOW PROGRAM

The fundamental goal of the Water Department's Long Term Combined Sewer Overflow Program, referred to as the *Green City, Clean Waters Program*, is to improve and preserve the water environment in the Philadelphia area and to fulfill the Water Department's obligations under the Clean Water Act and the Pennsylvania Clean Streams Law by implementing technically viable, cost-effective improvements and operational changes and utilizing numerous green alternatives.

The present NPDES permits require the Water Department to implement a combined sewer overflow program. In older sections of the City, both wastewater and stormwater are conveyed in one pipe to the sewage treatment plant. This is known as a combined system. Combined systems were designed so that during dry weather all wastewater is conveyed to the sewage treatment plant. However, during certain rain events, additional stormwater exceeds the capacity of the collection system and/or wastewater treatment plant. During these rain events, the combined system was designed to discharge, or overflow, the excess stormwater/wastewater mix directly to local waterways. The Water Department has 164 Combined Sewer Overflow (CSO) points in its collection system.

In 1997, the Water Department submitted its Combined Sewer Overflow Long Term Control Plan ("CSOLTCP") to the PaDEP. This Plan required that the Water Department continue implementation of the Nine Minimum Controls ("NMCs"), which are industry accepted best practices to efficiently operate and maintain the sewer system, and identify \$48,000,000 (1997 dollars) of capital improvement projects that would ensure localized capture and storage of wet weather flows within the existing sewer collection system. These two efforts successfully reduced overflow volume by five to ten percent or roughly two billion gallons per year.

Initial efforts were focused on detecting and eliminating overflows during dry weather, obtaining the most storage possible in the sewer system, and stepping up inspections and monitoring at sites where overflows occur. The final component of the CSOLTCP embraced the development of regional watershed partnerships and comprehensive watershed-based planning and analyses that would identify additional, priority actions to further improve water quality in Philadelphia area water bodies. The Water Department committed to the development of Integrated Watershed Management Plans ("IWMPs"), which are guided by a 20-year vision to restore the region's waterways to fishable, swimmable and beautiful rivers and streams that are life-sustaining and are an amenity to nearby communities.

Included within the NPDES permit issued by the PADEP on August 15, 2007, the Philadelphia Water Department was the requirement to update the original CSOLTCP by September 1, 2009. This CSOLTCP Update ("LTCPU"), or what is also referred to as the *Green City, Clean Waters Program*, can best be described by listing the basic underlying principles:

- Utilizing rainwater as a resource by recycling, re-using and recharging long neglected groundwater supplies,
- Maintaining and upgrading one of the nation's oldest water infrastructure systems,
- Transforming rivers and streams into recreation destinations and green open space for visitors and citizens,
- Preserving and restoring habitat for aquatic species within urban stream corridors,
- Collaboration to revitalize the City with an emphasis on sustainability, and
- Energizing citizens, partnerships, public and regulatory partners to adopt and join in this watershed-based strategy.

The PaDEP and the Water Department signed a consent order and agreement dated as of June 1, 2011 (the "COA") that will allow the Water Department to officially embark on the implementation of its landmark strategy that uses green practices to substantially eliminate combined sewer overflow to the City's waterways as set forth in the *Green City, Clean Waters Program*. The City of Philadelphia has been recognized as a national leader in its approach to the management and reduction of combined sewer overflow.

Its *Green City, Clean Waters Program* is the most innovative stormwater management program in the nation to date, markedly ambitious in its use of "green" infrastructure rather than undertaking a "grey" approach to the management of CSO. The green approach relies on the use of largely green technologies such as stormwater tree pits, vegetated bumpouts, porous asphalt, rain gardens and sidewalk planters as a means to transform manmade surfaces that repel the rain to green acres which capture rainwater runoff to infiltrate, store and manage the rain as a precious resource. By contrast, a grey approach relies on the construction of tunnels and holding tanks for storage of combined sewer overflow until it can be processed. The *Green City, Clean Waters Program* is by far the most cost-effective way for the City to meet the requirements of the COA, the PaDEP, the Clean Water Act and its own laudable goal of protecting its waterways. The Water Department estimates that the City's use of green infrastructure, in lieu of a grey approach, will save the City approximately \$8.0 billion over the length of the Program, as discussed below.

The Water Department submitted the plan to the US EPA and the PaDEP in September 2009 after vetting the plan with the public. The *Green City, Clean Waters Program* lays the groundwork for the Water Department to spend approximately \$2.4 billion over the next 25 years (\$1.2 billion in 2009 dollars) to use largely green technologies described above. The plan also includes wastewater treatment facility enhancements and pipe renewal and replacement. The *Green City, Clean Waters Program* works in tandem with the Mayor's Greenworks Philadelphia vision in order to reinvent Philadelphia into a green, sustainable City of the future. The Water Department projects that utilizing a grey approach to accomplish the same goals would cost the City approximately \$10 billion.

The Water Department has softly launched the plan over the last few years to develop green infrastructure designs that work best in the Philadelphia landscape. These early projects serve as public demonstrations to citizens and provide the Water Department and its many partners with early opportunities to monitor and improve the efficiencies of these practices.

The COA complies with Clean Water Act requirements by adopting the Presumption Approach to Combined Sewer Overflow (CSO) control. Under the Presumption Approach, the COA sets the ultimate water quality goal as the elimination or removal of the mass of pollutants that otherwise would be removed by the capture of 85% by volume of the combined sewage collected in the City's combined sewer system during precipitation events. To ensure this ultimate goal is met, the COA requires that interim water quality milestones at years 5, 10, 15 and 20 of the COA are achieved.

The interim milestones require the City to achieve specific targets in four categories: (1) Total Greened Acres; (2) Overflow Reduction Volume; (3) Miles of Interceptor Lined; (4) WPCP Upgrades: Design and Construction. A Greened Acre is described as an acre of impervious cover connected (tributary) to a combined sewer that subsequently is reconfigured to utilize green stormwater infrastructure to manage all or a portion of the stormwater runoff from that acre.

Green stormwater infrastructure manages stormwater using one or more of the source control processes of infiltration, evaporation, transpiration, decentralized storage, alternative stormwater routing, reuse and others. The COA includes financial protections in the event that the costs of complying with the COA exceed our projections. Should COA costs increase to the point where they exceed 2.27% of the Median Household Income, the City may petition the PaDEP for an extension of time to complete the COA so that the financial burden does not become excessive on ratepayers.

The COA also includes stipulated penalties for violations of the COA. The only significant penalties involve non-compliance with the 5-year milestone targets. Penalties start at \$25,000 per month for each violation (for the first six months) and increase up to \$100,000 per month for uncured violations of 13 months or more. COA negotiations took almost two years. The negotiations resulted in a document memorializing the ultimate goal for the program and setting interim milestones that the Water Department believes are fair, reasonable, affordable and achievable.

The EPA participated in negotiations of the COA and is fully informed on its status. The EPA has delegated authority over the COA to the PaDEP but has reserved the right to take future action if it deems so necessary. On September 27, 2012, EPA Region 3 and the Water Department agreed to an "ADMINISTRATIVE ORDER FOR COMPLIANCE ON CONSENT" which incorporates the Water Department's COA with PaDEP.

Information about our *Green City, Clean Waters Program* can be found at the Water Department's website: <http://www.phillywatersheds.org>.

**Philadelphia  
Water  
Department**

**2012  
Annual Financial  
Report**



**Honorable Michael Nutter**  
Mayor

**Darrell Clarke**  
President of City Council

**Richard Negrin**  
Deputy Mayor  
Administration and Coordination  
Managing Director

**Rob Dubow**  
Finance Director

**Rina Cutler**  
Deputy Mayor  
Transportation and Utilities

**Howard M. Neukrug, P.E.**  
Water Commissioner

**Mami Hara**  
Chief of Staff

**Joseph S. Clare III**  
Deputy Water Commissioner  
Finance and Administration

**David A. Katz, Esq.**  
Deputy Water Commissioner  
Environmental Policy

**Debra A. McCarty**  
Deputy Water Commissioner  
Operations

**Christopher S. Crockett, Ph.D., P.E.**  
Deputy Water Commissioner  
Planning and Environmental Services

**Scott Schwarz, Esq.**  
General Counsel to the  
Water Department

**Gerald Leatherman, Esq.**  
Deputy Commissioner  
Administration and Human Resources

**Michelle Bethel**  
Deputy Revenue Commissioner  
Water Revenue Bureau

**Stephen J. Furtek, P.E.**  
General Manager  
Planning and Engineering

**Joanne Dahme**  
General Manager  
Public Affairs

**Geoffrey Brock**  
General Manager  
Information Science and Technology